

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE SUCCEED

AGRICULTURE; STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE.

Vol. XXXIV. LONDON, ONTARIO. SEPTEMBER 1, 1899. WINNIPEG, MANITOBA. No. 485

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CONTENTS OF THIS NUMBER.

ILLUSTRATIONS.	PAGE.
BARON'S PRIDE (9122); HIAWATHA (10067)	476
CLYDESDALE STALLION, "MACGREGOR" (1487); HARD LINES	477
CORNER STONE (63406); ROYAL JUDGE; GENERAL MARIGOLD 45486	478
FIG. I.—TYPICAL BACON PIGS	479
FIG. II.—HOGS TOO FAT AND SHORT FOR BACON	479
GROUP OF YOUNG SOWS OF BACON TYPE	480
MAGIE 333; A PIGS' PARADISE ON ANNANDALE FARM	481
ARTFUL BELLE 21ST; PROUD VICTOR	482
BROME GRASS IN STOOK; MERINO RAM	483
ROSSEAU PERFORMER (5391) (34)	484
GROUP OF SHROPSHIRE SHEARLING RAMS; FILLPAIL	484
GROUP OF SHROPSHIRE RAM LAMBS	485
COL. D'ARBRES, No. 11 (3875); HAMPSHIRE YEARLING EWES	486
BEE YARD OF MR. S. T. PETTIT, BELMONT, ONT.	487
LINCOLN RAM LAUGHTON 235 GUINEAS 4613	487
SOUTHDOWN SHEARLING EWES	488
AYRSHIRE COWS; SPOTLESS OF INGLESIDE AND ISABEL	489
A GROUP OF THOROUGHBREDS	489
LADY ELLEN AND THE GEM PRINCE	490
A GOOD MOTHER	490
POPLAR GROVE FARM OF J. E. MARPLES, DELEAU, MAN.	494
"A SINGING LESSON"	475
EDITORIAL.—PRIZES FOR HOUSE PLANS	475
A GOOD AMERICAN CORN CROP ASSURED	475
PURE-BRED LIVE STOCK INTERESTS; PROSPERING	475
CREAM SEPARATION; THE FRUIT CROP AND PRICES	475
REVIVAL OF THE SHEEP INDUSTRY	476
LESSONS FROM A SEASON'S SCANT PASTURES	476
DOMINION AGRICULTURAL STATISTICS	476
THE CALL FOR WEIGHTIER CLYDESDALES; APPRECIATED ABROAD	477
STOCK.—OUR SCOTCH LETTER	477
JUDGING HORSES INSIDE AND OUTSIDE THE SHOWING	478
LIGHT AND HEAVY MEAL RATIONS FOR STEERS AT THE ONTARIO AGRICULTURAL COLLEGE	478
CAUSE OF GOITRE IN LAMBS; THE IMPOTENT RAM	478
A CONTRAST IN PIG FORM—SOFT BACON	479
MR. H. DUDDING'S SALE OF SHORTHORNS AND LINCOLNS	479
THE HORSELESS AGE; LINCOLN RAM SALE	479
RAISING BACON PIGS ON ANNANDALE DAIRY FARM	479
CASTRATION WITHOUT THE KNIFE	480
FARM.—SPRAYING FOR MUSTARD; WINTER WHEAT	480
FILLING THE SILO—SLOW FILLING FAVORED	481
WHY DO WE TAKE THE "FARMER'S ADVOCATE?"	481
A LIGHT CROP OF FALL WHEAT	481
IMPROVEMENTS IN CROP GROWING	482
FALL CULTIVATION IN NOVA SCOTIA	483
FALL CULTIVATION OF SOD, STUBBLE, AND ROOT LAND	483
WORTH ANNEXING: FALL CULTIVATION OF THE SOIL	483
FALL FALLOWING—RIBBING BEFORE WINTER	483
THE SAUNDERS-ROBERTSON CONTROVERSY	483
DON'T WANT EMBALMED BACTERIA	484
MANITOBA CROP REPORT	484
HOW A MAGNIFICENT CROP OF CORN WAS GROWN AND HARVESTED	489
"SAN FRANCISCO OR BUST"—BUSTED	491
FAIRS OF 1899	484
DAIRY.—A CHALLENGE FROM THE HOLSTEIN CAMP	484
TO PREVENT A COW FROM SUCKING HERSELF (ILLUSTRATED)	484
THE PRINCIPLE OF CREAM SEPARATION, AND A COMPARISON OF THE DIFFERENT METHODS OF CREAMING MILK	484
"SEPARATORS," SO CALLED; DEATH OF MR. JAMES COOPER	485
AN ILLINOIS STOCK-BREEDER'S TESTIMONY	485
LOOKING FOR EACH ISSUE	485
APIARY.—A MODEL BEE YARD PORTRAYED AND DESCRIBED	486
COMB-HONEY HIVE AND ITS ARRANGEMENT (ILLUSTRATED)	486
POULTRY.—LICE, AND HOW TO FIGHT THEM	487
POULTRY HOUSE FOR ONE HUNDRED HENS (ILLUSTRATED)	487
RELIABLE AND FAKE U. S. ADVERTISERS	487
BIRDS FOR THE BRITISH MARKET	488
GARDEN AND ORCHARD.—PREPARING APPLES FOR EXPORT	488
PLANTING HARDY BULBS IN THE FALL	489
ENTOMOLOGY.—SAN JOSE SCALE	489
QUESTIONS AND ANSWERS.—VETERINARY.—INDIGESTION; GREASE IN YOUNG HORSE; PERSISTENCE OF THE URACHUS	490
MISCELLANEOUS.—SALT IN SWINE FEEDING; MOST UP-TO-DATE FARM JOURNAL—MAYNOURING FALL WHEAT—BUILDING UP LAND; REGISTERING SHIRE HORSES; ASHES AS FERTILIZER—VALUE OF SLACKED LIME; TREATING BUGGY PEAS—IT SHOULD BE DONE THIS FALL; RULES IN PRIZE FLOWING; CAN MILLFEEDS BE PROFITABLY FED TO MILCH COWS IN SUMMER?; COMMERCIAL FERTILIZERS FOR FALL WHEAT	490-491
MARKETS.—FARM GOSSIP:—HURON COUNTY; OXFORD COUNTY; P. E. ISLAND; KENT COUNTY, ONT.; FRUIT AND GRAIN CROPS IN ONTARIO COUNTY; HIGH-GRADE MANITOBA AND N.-W. T. WHEAT; QUEBEC CROPS	491-492
CHATTY STOCK LETTER FROM CHICAGO; MONTREAL MARKETS	492
BRITISH MARKETS; DAIRY SHIPMENTS; CHEESE BOOMING	492
TORONTO MARKETS; TORONTO MARKET NOTES	492
BUFFALO SPECIAL MARKET REPORT	492
HOME MAGAZINE.—FAMILY CIRCLE; THE QUIET HOUR; THE CHILDREN'S CORNER	493-495
UNCLE TOM'S DEPARTMENT; PUZZLES	495 to 506
GOSSIP.	498
NOTICES.	473 and 474, 495 to 508
ADVERTISEMENTS.	

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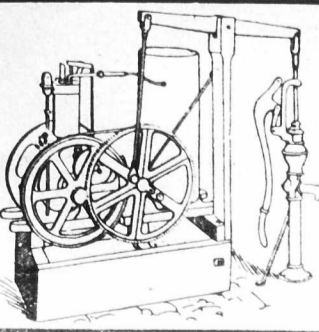
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* AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE.*

VOL. XXXIV.

LONDON, ONT., AND WINNIPEG, MAN., SEPTEMBER 1, 1899.

No. 485

EDITORIAL.

Prizes for House Plans.

On the preceding page of this issue appears an announcement that will interest every owner of an improved farm dwelling. In order to encourage the erection of a superior and more comfortable class of farm homes, we have set apart the sum of \$45 to be divided into three handsome cash prizes for the best and most complete written description, with plans and photos or drawings, as set forth in the conditions on the opposite page. This competition will be open for one month to come, viz., till October 1st, and the liberal prizes offered should bring us plans and descriptions of not a few model residences. Read over carefully the conditions, and at once prepare and send to us, as directed, the description, etc., for the competition, in order to obtain one of these valuable prizes.

A Good American Corn Crop Assured.

The permanent success of Canadian farming is dependent on live stock rearing and feeding. The long-continued drought in many sections has made serious inroads upon the supply of fodders, and present prospects are that hay and coarse grains will be high priced for a considerable time to come. It is, therefore, satisfactory to note that the United States is assured of an abundant corn crop for 1899, on which the Canadian feeder can draw to supplement the home-grown supply of foods. The August crop report from Washington estimates the yield at 2,138,244,000 bushels, as compared with 1,924,184,000 in 1898, and the largest grown since 1896.

Pure-bred Live Stock Interests Prospering.

A careful review of the whole situation, from East to West, indicates that the pure-bred live stock industry of the Dominion is now enjoying an era of very great prosperity. From all parts of Canada and points in the United States the demand for good pure-bred stock for breeding purposes is remarkably strong. It is peculiarly gratifying to note that it comes not only from men known as breeders, but from farmers generally. Prices, too, are satisfactorily strong and steady, but without the intermittent sensational figures that sometimes precede a relapse. Breeders have been compelled, through the steady drain upon their "studs, herds, and flocks," to import from Great Britain to a greater extent than for probably a quarter of a century past. All this is due to no organized effort to work up "a boom," but to a real known scarcity of stock over wide areas, the increasing demand for animal products, a more general recognition of the success of farming with live stock, and the great gulf of difference between the values of common and high-class quality, which is sustained by consumers constantly becoming more critical in their tastes. This fortunate condition of affairs for the breeder has the substantial backing of higher prices for farm stock generally, good horses being from thirty to fifty per cent. higher than three years ago, and the best export beef cattle bringing from \$5 to \$5.25 per cwt. in Toronto and up to \$6.50 in Chicago, bacon hogs selling around \$5.00, the country being scoured for sheep, which are moving out weekly in carloads and in smaller lots at paying prices, eggs and broilers high, July cheese at no less than 10½c. per pound, and butter in proportion! The outlook is indeed encouraging to those who are strengthening their sails to catch the breezes that are coming their way. The healthy condition of the live stock trade in Canada should serve as an inspiration to all breeders to further improve and to raise the standard of the quality of their herds and flocks by selection and the introduction of fresh blood from reliable sources through sires and dams of strong

individual merit. If we are to hold our own, or take a higher stand in the competition for the best prices in the markets that are open to us, we must improve the quality of our offerings. Both the demand and the prices encourage us to do so.

That Canadian breeders are alive to the need of sustaining the supply is evidenced by the rapid increase in the number of animals imported within the past year, the records of the quarantine station at Quebec alone showing that since September, 1898, no fewer than 216 pure-bred cattle and 690 sheep of various breeds for Canadian breeders have passed through that port; and we have knowledge of several other consignments which came through the Maritime Provinces ports during the winter season, when Quebec is closed to this trade. Another satisfactory feature in the business is that more than ordinary discrimination has been observed by importers in regard to the quality of the stock brought out; and we believe the character of the importations this year will rank higher than those of any period in the last decade, which speaks well for the enterprise of Canadian breeders, and will tell for good in the improvement of the stock of the country. The present is an opportune time for founding herds and flocks of pure-bred stock and for grading up the general stock—a course which, if generally adopted now, will in a few years add millions to the value of Canadian farm products.

Cream Separation.

To defective methods in cream raising or cream separation, as it is called, can be traced the most constant and serious of all the losses that occur in buttermaking. Dollar after dollar is steadily running away just as certainly as if they were slipping through a hole in the dairyman's pocket. And the aggravating feature of it all is that the losses are easily and cheaply preventable by the application of a little knowledge. Getting practically all the cream out of the milk in good condition is at the foundation of success in buttermaking, and we therefore gladly give space in this issue to the comprehensive, practical and clear-headed communication from Mr. J. W. Mitchell, Superintendent of the Dominion Government creameries, Assiniboia, N. W. T., which is a valuable contribution to the dairy literature of the day. The raising of cream by deep-setting cans, shallow pans and centrifugal separation is forcibly presented and contrasted, and we look for another letter from Mr. Mitchell dealing further with separator management in order to obtain the best results.

The Fruit Crop and Prices.

The peripatetic apple-buyer has already been abroad in the land, contracting in some cases, we are told, for whole orchards in the lump, and in others at so much per barrel. The prices quoted for the latter appear very small when crop prospects are considered, together with the upward tendency of all farm products. A recent official report from the statistical department at Washington indicates a general decline in the condition of apples throughout the Republic, most of the States being considerably below the average of the last fifteen years. In many cases marketable apples will not be half a crop, Missouri, for instance, only reporting about one-fourth of a full crop. Michigan, New York and Maine are also reported far below the average. In the Province of Ontario the Bureau of Industries' Report for August indicates the likelihood of a scarcity of fruit of all kinds, the apple crop being very light. Peaches are reported practically a failure, but plums and pears have done better, notably the former, and there will be an abundant yield of fine grapes. The extraordinary long spell of dry weather in many districts has hastened the maturing of fruit to some extent at the expense of size, consequently apples good enough for export

should bring higher prices than last year. Fall fruit and any that will not fill the bill for shipping and which is in excess of local demand should be evaporated or canned. Mr. John B. Pettit elsewhere in this issue rings out a clear note of warning on the subject of packing for the English market. Last year some Canadian farmers received only \$1.25 per barrel for apples that would sell for probably \$4 in the English market, sometimes one barrel being taken from a tree and four or five rejected as culls. With other buyers in the same district for the same class of fruit, that order of things was reversed. Let the fruit-grower be paid a first-class price for first-class fruit, and there will be less cause for complaint. The Dominion Department of Agriculture is paying a vast amount of attention to studying the requirements of the British market and the facilities for reaching it. The FARMER'S ADVOCATE would suggest that the needs of the people of Manitoba and the Northwest, with a rapidly-growing population, who relish and are willing to pay well for the apples of Eastern Canada, be given greater consideration than they have received in the past. Why not cultivate this great home market by better and more liberal transportation facilities?

Revival of the Sheep Industry.

Not for many years have so large a number of sheep of the different breeds been imported to Canada as have been brought out this summer. This may safely be regarded as an indication of the existence of an active demand for this class of stock. Indeed, it is well known by those in touch with the business that so heavy have been the drafts upon Canadian pure-bred flocks in the last two or three years that they have been reduced in numbers to a lower point than has been touched in the last thirty years; and the importation of fresh blood on a larger scale than usual has been felt to be a necessity if we would maintain the standard of our stock and hold the markets which the high-class character of our sheep has won for us. It is gratifying to know that so many Canadian breeders have the courage and the enterprise to assume the risk of importing on so large a scale; and we are glad to learn that commendable care has been exercised in the selections made for importation this year, and that a larger proportion of high-class stock than usual has been brought over. The magnificent display of sheep of all the principal breeds at the leading exhibitions in Canada amply demonstrates that we have a country admirably adapted to the production of this class of stock in the highest degree of perfection, and that we have practical shepherds not a few who are well qualified by training and experience to bring them out in the pink of condition and in robust health and vigor. The splendid record made by our flockmasters in winning honors at the great international exhibitions in which they have competed, notably at the Columbian in 1893, with Canadian bred and fitted sheep in their own hands, and those of others to whom they had sold, furnishes abundant evidence of the high-class character of our sheep, the undoubted skill of our shepherds, and the suitability of our climate, our soil, and our stock foods for the growth and development of sheep and the production of mutton and wool of the very best quality.

In view of these facts, it is unaccountable that so few sheep, comparatively, are found on Canadian farms, that by a very large proportion of our farmers they are entirely neglected, and that the aggregate number of sheep in the Dominion has been steadily decreasing for the last fifteen years. We are confident this fact is not due to any general disability affecting the industry. We believe it is absolutely safe to say that in no other country are sheep liable to so few diseases or disadvantages of any kind. The climate is as near an ideal one for the successful raising of this class of stock as can

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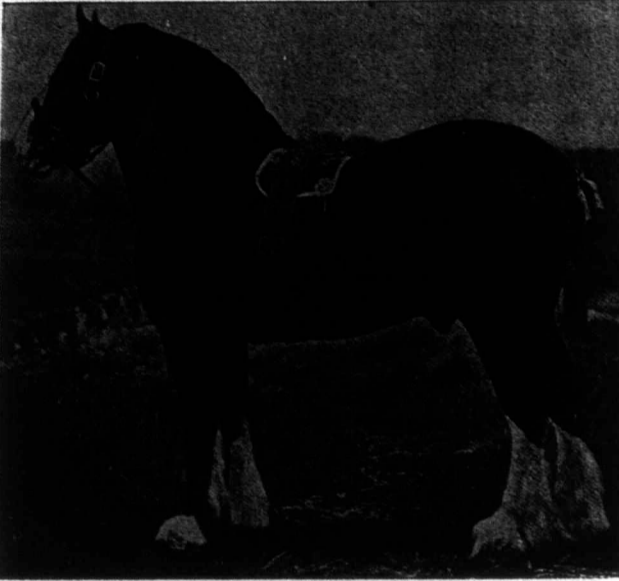
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THE WILLIAM WELD CO.,
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be found anywhere in the world. All the principal mutton breeds do well with us. There is no class of farm stock the raising and care of which requires so little labor or expense as this inoffensive and unpretentious money-maker. Sheep will live in summer largely upon pickings in the lanes and by-places of the farm, and will eat many of the weeds which infest the pastures, and thus help to clean the farm and keep it clean. No stock is so little affected by protracted drouths—they prefer a short nibble, and thrive better in a dry season than in a wet one when feed is over-flush. The fleece of wool—a volunteer crop, which never fails—which no other farm stock yields, and which is perennial during the life of the animal, amply pays for its winter's keep even when liberally fed, and anywhere from fifty to one hundred per cent. of an annual increase from the ewes may reasonably be expected, and with a little care and good management, may be realized. We doubt if any other investment in farming will pay as liberal dividends as those semi-annually declared by a well-bred and well-cared-for flock of sheep. There is generally a good steady demand for mutton sheep or lambs in the meat market at all seasons of the year, at good paying prices, considering the cost of production; while the demand for breeding stock for improving and replenishing the flocks on the farms and in the range territories of Canada and the United States is such as to make it decidedly profitable to cater to that trade, and Canadian farmers are peculiarly well situated for taking advantage of the increasing trade in this line which is bound to come our way. Many United States flockmasters look to Canada for rams for the improvement of their flocks, knowing from experience that sheep bred and raised in our climatic conditions possess the requisite stamina and quality to improve the stock they are brought into contact with, and they will continue to come here for fresh blood. The Americans are fast becoming a mutton-eating people, and it is hard to understand why the same cannot be

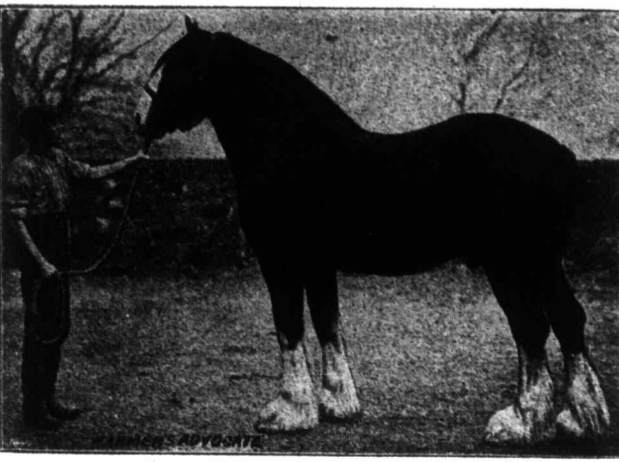
said of our own people, for there is certainly no more wholesome meat that can be placed upon our tables. Lamb is rapidly growing in favor as an article of diet, and brings highly remunerative prices, considering its cost of production, and gives quick returns to the producer; and we may look for a steady increase in this trade, in sympathy with the prevailing preference for young meat in all lines.

While it is true that the quality of our best breeding flocks has been well maintained, thanks to the skill and pluck of the breeders of pure-bred flocks, who have nobly held the fort through times of depression without adventitious aid from outside sources, while kindred industries have been boomed by Government agencies and aided by special favors at the public expense, yet it is also true, as we have intimated, that sheep are being



BARON'S PRIDE (9122).
The most successful Clydesdale sire of the day.

neglected by a very large proportion of our farmers, we believe to their own direct loss. There are few farms in the Dominion on which a small flock could not be profitably maintained. The expense of starting a flock on a small scale is very moderate, and may soon be repaid by the sale of surplus stock, while by retaining the best of the young females and purchasing, at intervals of two years, a new ram, which may often be sold at the end of his term of service for nearly if not quite the original cost, a flock can in a very few years be built up and maintained to the profit and satisfaction of the owner. We know many farmers who find their little flock of good grade sheep the most profitable asset on their farms; and from our extended experience and observation, we feel safe in counselling the keeping of more sheep by the



HIAWATHA (10067).
Clydesdale stallion. Winner of the male championship at the Highland Society's Show, 1899.

farmers of Canada, believing, as we do, that this is a field in which our people can continue to excel. The best season in all the year to buy sheep for a foundation flock, or to replenish, is in the early autumn, when the lambs have been weaned and the ewes are generally in good condition. If deferred to a later period, breeders will, as a rule, have sold what they intended to dispose of, and have reduced their flocks to the number they aim to keep through the winter, and will then only sell for tempting prices, if they consent to sell at all. Those who buy early generally get the best selections. The sheep pens at the fairs this fall will be of more than ordinary interest, as the indications are that the number and quality of exhibits will exceed that of any year in the past, and we anticipate an unusual amount of business in that department both at the exhibitions and afterwards.

Lessons from a Season's Scant Pastures.

An expensive, but perhaps profitable, lesson has been taught a great many dairymen and stockmen in south-western and central Ontario during the last two months of drought. Pastures have become so completely parched, except in moist valleys, that dairy cows that were not fed a supplemental ration have dropped one-half or more in their milk flow and have failed seriously in flesh. This has been costly experience: first, because of the immediate loss of milk while dairy products are selling well, and, second, because a man dislikes to have to apologize to a visitor for the appearance of his cows; and he also realizes what it means to have winter overtake the stock in thin condition. Young stock, including steers intended for the fall market, have not only ceased to gain, but in many cases have fallen off in flesh more than several weeks' good feeding will recover.

In order to prevent this semi-starvation and its effects where no special provision for supplemental feeding was made, men have dipped heavily into their hay and other winter feed, which will have a pinching effect throughout the coming season, or mean the disposal of some of the stock.

It is often argued that at least partial soiling is most profitable in any season; and perhaps it is under certain circumstances; but the question of extra labor, etc., has to be reckoned with.

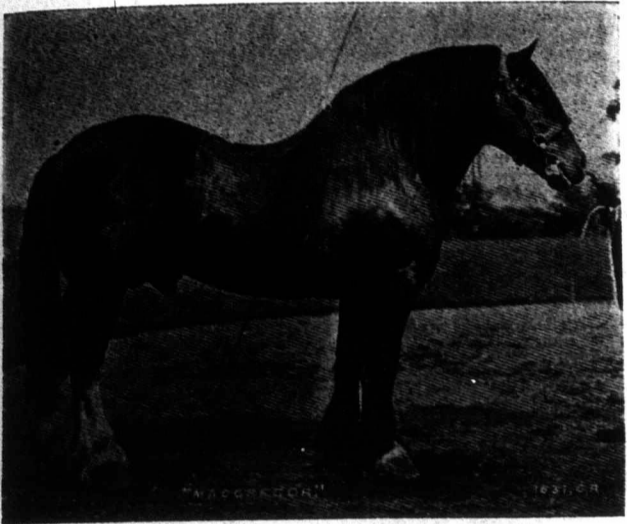
Where one has considerable suitable pasture land that in ordinary seasons will answer general requirements, the extra crop should be chosen that can be turned to good account in the winter season if it is not used before. Whether it be green oats, tares, corn or millet, the crop can be made into winter feed, which, if fed at that season, will save hay to sell or feed to extra stock bought in. These foods are frequently grown and are probably well enough, but, according to our observation and the testimony of those who have given it a trial, a summer silo filled with corn is away in advance of any other provision. We could name probably a score of thorough farmers who have sworn by ensilage for winter feed for many years who think just as much of the summer silo as they do of the winter supply, and we find these men preparing for both these seasons at this season of the year. While it may answer in a measure to fill the one large silo extra full, or feed from it lightly enough in winter to leave some silage over for summer feeding, it is a much better plan to put up a silo of smaller superficial dimensions, especially for feeding in warm weather, when a greater depth requires to be taken off each day to prevent waste or undue acidity. In the case of a square silo the necessary conditions can be met by putting a wall through the center. Under ordinary conditions we find the greatest satisfaction from the use of a special round stave silo, 9 or 10 feet in diameter, and 18 to 24 feet high. This can be cheaply and quickly put up any time previous to filling time, and if its contents are not needed next summer, the silage will be none the worse for being held over for one or two seasons. In fact, it is not uncommon on some farms for the silo not to be entirely emptied for several years in succession. Now is the time to prepare for next summer's drought, which preparation need not be lost in any case, and will, in all probability, prove to be the most profitable outlay on the farm, while for economy of time and convenience of feeding, ensilage largely discounts any other system of soiling stock.

Dominion Agricultural Statistics.

As announced by an Ottawa correspondent in our last issue, Hon. Mr. Fisher, the Minister of Agriculture, has promised to undertake during the coming year a much-needed reform in the collection of Dominion agricultural statistics. As Senator Ferguson very forcefully pointed out in discussing this subject during the late session of Parliament, successive Ministers of Agriculture have promised to deal with this subject, but it seems ever after another failed to accomplish anything. Accurate statistics promptly collected and issued regarding crop prospects, and yields of grains, fruits, etc., and condition and numbers of live stock in all the various Provinces, along with information as to foreign requirements, would be of very great service in connection with the marketing of products. It would also tend to bring the scattered Provinces of the Dominion still more closely into touch with one another. At present, apart from the census every ten years, about all that is done is to publish annually a Statistical Yearbook, in which crop reports are reprinted from provincial

sources where this matter is attended to. In discussing this subject, Senator Ferguson said: "With regard to the action the provinces are taking, I may say that I am aware that in the Province of Ontario a rather efficient system of preparation, compilation and distribution of crop statistics is in operation. I read in the FARMER'S ADVOCATE, the leading agricultural paper of Canada, in its March issue, the following:—

Methods of collecting information: About fifty years ago in the Province of Ontario the Board of Agriculture began to collect and publish through the press and otherwise such information, and the celebrated Royal Agricultural Commission of 1880 recommended the regular collection and publication of agricultural statistics. The Government wisely adopted the suggestion and Mr. Archibald Blue mapped out a plan and was made secretary of the "Bureau of Industries," which he con-



CLYDESDALE STALLION, "MACGREGOR" (1487).
Died July, 1899, in his twenty-second year.

ducted with great ability until called to take charge of another department, being succeeded by Mr. C. C. James, the present secretary and Provincial Deputy Minister of Agriculture, whose great executive abilities have further improved the service. We find that: 1. Information is collected on crop, stock and food conditions from regular correspondents three times every year—1st of May, August, and November. Occasionally a fourth request is made, if special weather conditions, such as frost, too much rain, drought, etc., demand it. 2. These are got from a list of permanent correspondents numbering 800 to 1,000, the list constantly being revised, negligents being dropped, and newly-found competent ones being added; 600 to 800 are counted on replying on all occasions. 3. The statistics are obtained by sending out blank cards or schedules to every farmer whose name and address is secured through the school teachers. Returns are received from 6,000 to 15,000 persons. 4. Correspondents are pretty evenly distributed over the Province, from 25 to 30 in each county. 5. To regular correspondents are sent all published reports and special pamphlets, no money is paid. 6. In June of each year a large card is sent to every farmer in the Province, returnable first week in July, for details as to acreage of farm crops, timber, etc.; orchard, stock, implements and their value.

Senator Allan and Senator Mills also bore testimony to the excellence of the Ontario system of collecting agricultural statistics, and conceded the importance of this work from a national point of view.

The Call for Weightier Clydesdales.

A noteworthy contribution in this issue is the letter of our Scottish correspondent in the Stock Department, dealing with the question of size or substance in Clydesdale horses. This important matter was brought to the front in our July 15th issue by the letter of Mr. David Burns, who suggested for discussion by our readers the Shire cross. Mr. Wm. Hendrie, Jr., of Hamilton, Ont., and others have since discussed the subject in vigorous fashion, and now we have the communication of "Scotland Yet," who speaks as a man having authority. As might be supposed, he gives no countenance whatever to the admixture of any "alloy," but intimates that anything needed can be attained within the established Scottish breed of draft horses, well conserved by the authentic stud books. He touches the delicate question of the fashionable blood lines, because it has been hinted that a too rigid adherence to these may be the real kernel of the problem. His letter will be read with widespread interest among horsemen. Horse-breeding has wonderfully revived, and now is the time to preserve it upon safe and profitable lines. We cannot have too much light upon the subject.

Appreciated Abroad.

Under the heading, "Creamery Butter," we note the following in the Elgin (Ill.) Dairy Report: "We find in our esteemed contemporary, the FARMER'S ADVOCATE, an article on creamery butter by Mr. F. J. Sleightholm, of Ontario. We reproduce it in part, as it contains so much of good, sound, practical, everyday common sense as applied to the problems that are confronting our manufacturers of creamery butter in this country as well. It shows what has been done in Canada to produce the best results."

STOCK.

Our Scottish Letter.

DEATH OF MACGREGOR.

July 31st witnessed the death of the best-known Clydesdale stallion of the past ten years—Mr. Andrew Montgomery's "Macgregor" 1487. He died at Montrave, where he has been located for two seasons as stud horse with Sir John Gilmour, on Monday morning, of acute inflammation. He was a wonderful old horse, having during his long life of 21 years 3 months never had a "tout," and his last illness was his first. Macgregor was bred by Mr. Robert Craig, when tenant of Flashwood, in Dalry parish, Ayrshire, and was purchased from him when a yearling, by Mr. Andrew Montgomery, for £65. He was first at Dalry in that year, and at Kilmarnock a few weeks later he was placed second, for the first and only time in his long life, to Cete-way 1400. Thereafter he was not shown until Dalbeattie Show, in October of the same year, when he was again first, and in the following year he was unbeaten, although exhibited at all the leading shows, including the Royal and the Highland. In 1881 he was first at Glasgow, and at the Royal, Derby, and in 1882 he was first at the H. & A. S. Show at Glasgow. Thereafter he competed only as sire of groups of five yearlings or two-year-olds, and for more than a dozen years was invincible in this capacity, being only once placed second, viz., at Glasgow, in 1885. In fact, until the stock of Baron's Pride 9122, most of them out of Macgregor mares, appeared on the scene, the stock after Macgregor in such competitions was practically invincible.

Possibly no stallion furnished a greater number of horses to the American and Canadian markets, and his sons, like himself, are good-tempered, sound, healthy animals, while his daughters are proving to be amongst the best breeding mares in the country. Next to his singular healthfulness, Macgregor's great characteristic was his good temper. We have seen him, when twelve years old, led round the courtyard, at Threave Mains, by the mane, and he was to the last as tractable and placid in temper as a lamb. Too much stress cannot be laid on this point, and too little importance is attached by some men to sound constitution and good temper in a stallion. Generally the produce of Macgregor were distinguished by the same characteristics as their sire. We have never heard of an ill-tempered Macgregor horse or mare, and during the past twenty years we only once heard of an unsound colt by him. He was individually a typical Clydesdale—sound in the feet, clean and free from all kinds of disease or greasiness in the limbs, with a magnificent crest and splendid shoulders, rising nobly at the withers. His back was straight and his ribs well sprung and deep, and he had great leverage behind. He was, like his sire, Darnley, a magnificent walker, and could keep the best man living going for all he was worth, at a swinging walking pace. Adverse criticism confined itself to these points in Macgregor: His head was rather small and ponylike—in this he resembled Darnley; his hocks were rather much set, and, in consequence, his hind pasterns were possibly not as long and springy as Clydesdale fancy demands. This peculiar formation of hind leg was possibly more apparent in some of his produce than in himself, but it is generally recognized as the "Macgregor hind leg." It in no way hindered the usefulness of his stock, commercially or in everyday work; on the contrary, experts frankly avowed their preference for a hind leg formed in the fashion indicated; it gives a horse great leverage, especially in backing, and the Scottish two-wheeled cart, balanced on the horse's back, calls for the exercise of strength when being pressed in that direction. Macgregor was a right good Clydesdale horse, and his kind are "too thin sown."

SIZE AND SUBSTANCE IN CLYDESDALES.

Mr. David Burns' letter, in your issue of 15th July, suggests an important question, and one in which the fame of Macgregor is more or less involved. The chief criticism passed by the average buyer of cart horses on Macgregor's stock, is that the stallions are somewhat undersized. This is by no means a criticism of universal application. For example, the biggest two-year-old colt of this season—Drumflower—which won at the H. & A. S., at Edinburgh, is a son of the old horse, and there have been many other horses after him in which weight and substance were conspicuous. Still, there were amongst his colts undoubtedly a considerable number of neat, compact, short-legged, round-ribbed animals, with heads rather ponylike, and not too indicative of growth. This is a criticism which also applied to the produce of this famous sire, Darnley, and the greatest admirers of both will not deny that to some extent it is a valid criticism.

Mr. Burns' explanation of the alleged increasing fineness and lack of size, as well as slowness of growth in Clydesdales, is hardly likely to be accepted by Clydesdale breeders, and his suggested remedy—a Shire cross—would, so far as past experience has gone, be of no use at all. He attributes this increasing fineness to inbreeding, but draws an important distinction between "closely related" and "inbred." Many Clydesdale stallions are undoubtedly closely related. For example, all the Prince of

Wales-Darnley crosses may be so criticised, and possibly the Baron's Pride-Macgregor crosses are open to the same criticism. But what does it amount to? The dams of Prince of Wales and Darnley were half-sisters (got by the same sire, Samson 741). What relationship would Mr. Burns say subsisted between Prince of Wales and a daughter of Darnley? Then take the other very popular cross at the present time, Baron's Pride was by Sir Everard, he by Top Gallant, and he by Darnley. Baron Pride's dam was by Springhill Darnley, and he by Darnley 222. What relationship subsisted between the sire and dam of Baron's Pride? Obviously they were related—it may be closely—but what would the connection be called in the human family? If Baron's Pride be mated with a daughter of Macgregor, as has often been done, what relationship subsists between the two, seeing that Macgregor is also a son of Darnley? The late Mr. Drew experimented with the cross suggested by Mr. Burns as probably no man before or after him ever did. He selected Shire mares purposely to mate them with Prince of Wales 673, and he achieved many notable results. But he died in 1884, and no one continued his work. We are, therefore, able in some measure to form a judgment on the success of the cross in subsequent generations, so far as securing increase of weight and size is concerned. The most strenuous supporters of the Merryton colt will not affirm that Mr. Drew did not breed quite as heavy, if not heavier, horses from Prince of Wales and Clydesdale mares than he ever bred from Shire mares. Whatever advantage Mr. Drew's work has been to horse-breeding, there is nothing to show that it has resulted in the addition of any weight or substance to the Scottish breed.

But Mr. Burns may argue that he is not suggesting Mr. Drew's cross, but a cross the other way—that is, the use of the Shire stallion on Clydesdale mares. That, also, is not an untried cross in Scotland. Hendrie's Farmer's Glory and Galbraith's Tintock (your Canadian "Conqueror," imported by Simon Beattie) had a fair trial on Clydesdale mares—the former in Ayrshire and the latter in Stirlingshire; and although their vogue was before my day, I am disposed to think that Mr. Burns would find some basis for his theory in their history. When mated with the smaller, undersized farmers' mares, these horses undoubtedly left very notable stock, but the full benefit of their services has been secured to the Clydesdale breed. Their fame rests on their female progeny, and, without exception, all of them that were available were taken into the earlier issues of the Clydesdale Stud Book. If in spite of this the breed shows the characteristics alleged by Mr. Burns, there is small encouragement, even from his own standpoint, to resort to further experiments of that kind.

The truth is, what Mr. Burns complains of is not a matter of breeding at all, but of showyard fancy. There are plenty, and have always been plenty, of big, handsome, powerful mares in the Clydesdale breed; but the trend of public sentiment has for years been in favor of the very thing which Mr. Burns condemns as a defect—slow maturing. How that can be a defect in a bullock is intelligible, but it passes my comprehension to see how a big, rapidly-grown, soft-boned animal can for one moment compare for draft purposes with a hard-boned, wiry, slowly-maturing, short-legged horse.



HARD LINES.

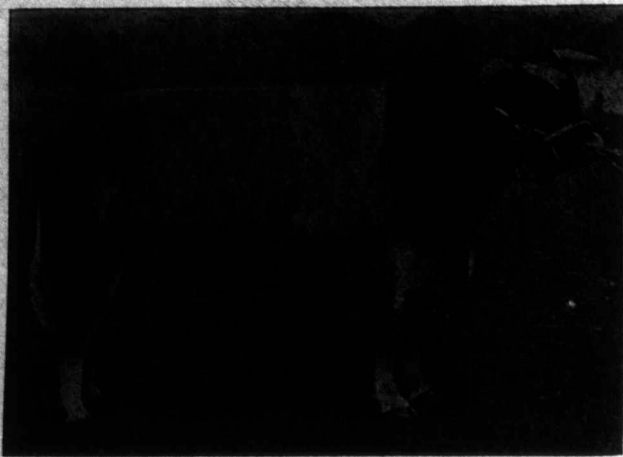
Imported Thoroughbred stallion, exhibited by R. I. M. Power, Carberry, Manitoba, at the Winnipeg Industrial Exhibition, 1899.

The big, overgrown boy, who is a man at seventeen, is by no means, as a rule, the healthiest and most durable subject. You want draft horses to wear, and if that is admitted, the less the breeder has to do with a Shire the better. Letters like Mr. Burns' serve a useful purpose. There is a tendency in all kinds of breeding to separate the fancy from the utilitarian, and writers who advance views like those of Mr. Burns render admirable service by emphasizing the utilitarian side of things. Clydesdale breeders can never afford to forget that they are breeding cart horses, not van or express horses with hair on their legs. If they do this, they have plenty material in their own breed to enable them to produce horses of the right size and weight, and of the best wearing material.

"SCOTLAND YET."

Judging Horses Inside and Outside the Showring.

As a rule, at the live stock shows, we find five or six spectators around the horse ring to one witnessing the judging of cattle or other stock. It is at the side of the horse ring, too, that the most adverse criticisms of the judges' decisions are heard. It must be admitted that occasionally such decisions are given as to warrant complaint, but, as a rule, there is room for more charity than is exercised, as the selection of the men to do the work is made from their believed fitness for the task. There are so many little, yet important, points connected with the judging of the horse, that affect his position in the eyes of the judge, which may be altogether unobserved by those outside the ring, and many little



CORNER STONE (68406).

Champion Shorthorn at the Highland Society's Show, at Edinburgh, 1899.

faults and failings that his owner may have never detected. We see, perhaps, standing, a beautifully-moulded stallion or mare, colt, filly or foal, in the hands of a showman who has trained his favorite many times to set itself in the most attractive form and position, and we go away saying, "That was a grand animal." Later on we learn that our favorite was left out of the place we had selected for it, and we can't see why. The trouble was we did not see the animal trotted out, and of course failed to notice that it travelled wide and awkward behind, or curved its fore toes dangerously near the other leg, or some such defect, which the judges in doing their duty conscientiously and carefully had easily detected, and very rightly placed the animal in its proper place, though to outside opinion decidedly wrong. Even when we see the competitors put through their various gaits, we are more likely than not to be standing broadside of the animals, which prevents us detecting faults that may entitle him to a place several points below a less likely-looking candidate. When we consider these points it will be seen how easy it is to condemn our judges unjustly.

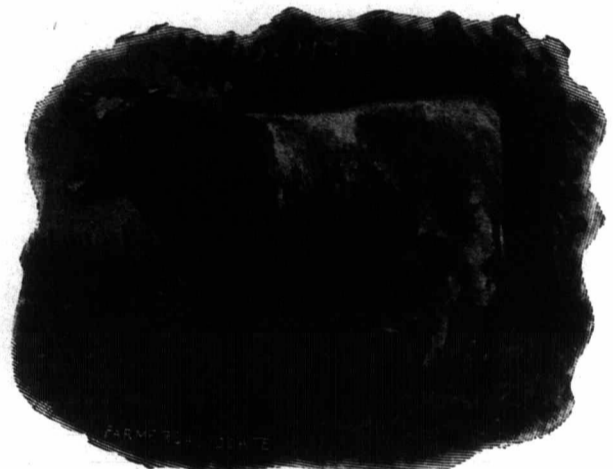
"There are points, however," says the *Stock-breeders' Magazine*, in discussing this subject, "in which one can scarcely feel so charitably disposed or place such a pleasant construction upon what takes place. It may be that we are looking at a class of heavy draft horses being judged, where we see a subject of the most representative character placed at the top; a real weighty, heavy fellow, full of bone and feather, and big in general make-up. For the second place the selection falls upon what is generally termed a quality animal, smaller, with beautifully fine joints, silky hair, more action too, perhaps altogether a very different type from the first. The third horse again we have many times found to be of a very similar type to the first. This does not often please, unless the third horse has an outstanding fault, and it is not teaching the public or amateurs anything at all regarding the most desirable type of the breed before them. We must not forget, however, that it may be the action, the twisted fore leg, or the wide going of the hocks that keeps the third below the second, or excellence in these points that placed the first one ahead."

Variations and awards made as indicated, it will therefore be seen, are often unavoidable, and therefore must of necessity be excused. It occasionally happens, however, that a distinctly superior animal is placed below a more inferior one on the score of some apparent unsoundness. It may be a sidebone or a tendency to curbiness, and where such is the condition, if it debars the candidate from first honors, it certainly should deprive him of a prize at all. To grant that a horse is sufficiently unsound for the first prize, and yet sound enough for second, is absurd on the face of it. If a horse is too conspicuously, or even suspiciously, unsound to be awarded the first prize, surely he ought not to be awarded the second; and where judges are so fixed, the *Stock-breeders' Magazine* recommends that the proper course would be to let the veterinary surgeon determine the extent of the unsoundness, and that not verbally, but by a certificate. In doing this the judges would remove the onus of rejecting the animal from its proper place, and the animal, if from a "clean bill," would be allowed to occupy what was his perfect right—the top place; but if rejected by the veterinary, he would of necessity be out of the competition, or at least ought to be.

Light and Heavy Meal Rations for Steers at the Ontario Agricultural College.

During the past winter there has been completed at the Ontario Agricultural College the third of a series of experiments in fattening steers. The object of the experiments has been to study the relative economy of feeding light, medium and heavy meal rations to fattening steers, when the feeding extends over a period of five or six months. In this third experiment no ensilage was fed. The meal used was composed of equal parts by weight of corn and oats. In addition to the meal, the animals were given a limited quantity of roots, together with what hay they would eat. The hay was of very inferior quality, and was cut and mixed with pulped roots a day in advance of feeding. The roots and hay were mixed in the proportion of 20 pounds of roots to 15 pounds of hay, and each animal was fed all it would eat of the mixture. All fodders were carefully weighed and recorded. The object was to feed only such foods as are available on practically every farm. Had ensilage been fed, or had a better quality of hay been used, no doubt the gains would have been larger.

The steers of the light-ration group were started on about one-third of a pound of meal per day per 100 pounds live weight, and this quantity was increased as deemed advisable. With the medium-ration steers the aim was to feed about two-thirds of a pound of meal per day per 100 pounds live weight. With the heavy-ration steers an effort was made to feed one pound of meal per day per 100 pounds live weight. It was found impossible, however, to keep all the steers up to this limit, so they were kept as near it as was deemed safe. The manner in which the rations were increased can be most easily shown by means of a table. The following table shows approximately the average daily meal ration per steer for each group during the different periods:



ROYAL JUDGE.

First-prize Shorthorn bull calf under one year, Winnipeg Industrial Exhibition, 1899. PROPERTY OF JOHN S. ROBSON, MANITOU, MAN.

PERIOD.	Meal ration per steer per day.		
	Heavy ration	Med. ration	Light ration
	Lbs.	Lbs.	Lbs.
December 6th to January 3rd.....	10	8	4
January 3rd to February 1st.....	11	8	5
February 1st to March 1st.....	12	9	6
March 1st to April 1st.....	12.5	9	8
April 1st to May 23rd.....	12.5	9	9

The meal consumed by the heavy-ration group amounted to nearly nine-tenths of a pound of meal per day for every 100 pounds of the average live weight of the animals throughout the feeding period. The medium-ration group averaged two-thirds, and the light-ration group slightly over one-half of a pound of meal per day per 100 pounds of the average live weight of the animals during the feeding period.

The results, briefly stated, are as follows: The heavy-ration group made an average gain of 1.77 pounds per day, at a cost of 7.68 cents per pound of gain.

The medium-ration group made an average gain of 1.74 pounds per day, at a cost of 7.22 cents per pound of gain.

The light-ration group made an average gain of 1.62 pounds per day, at a cost of 7.21 cents per pound of gain.

It will be seen that while the heavy-ration group made the largest gain, the light-ration group made most economical gain, though the light and medium ration groups were practically equal in the latter respect.

It is a significant fact that in each of the three experiments, the heavy ration group made the most expensive gain. The average cost of a pound of gain in the three experiments is as follows: Heavy ration, 7.25 cents; medium ration, 6.69 cents; light ration, 6.53 cents.

It would seem, therefore, that when the fattening period extends over six months or more, the animals should be started on a very light meal ration, which should be increased as gradually as circumstances will allow. In this matter the feeder

must be guided by the rate at which his animals are gaining. The aim should be to have the animals ready for market on the day they leave the stable, and not the day before, if it can be helped. After a steer is finished he is fed at a loss, so that an effort should be made not to have him finished long before he is shipped.

No fixed rule can be given as to the amount of meal a steer should receive at the beginning, as much depends upon the condition of the steers. It is probable, however, that in any case it is not advisable to start animals on more than half a pound of meal per day per 100 pounds live weight. For a short feeding period no doubt this quantity would be small enough, and would need to be increased somewhat rapidly. For longer feeding periods the experiments described would indicate that a lighter ration to begin with, somewhat gradually increased throughout the feeding period, is the most economical.

It must also be borne in mind that the more attention paid to making the coarse fodders palatable, the better the results obtained. G. E. DAY, Ontario Agri. College, Guelph, Aug. 14th, 1899.

Cause of Goitre in Lambs.

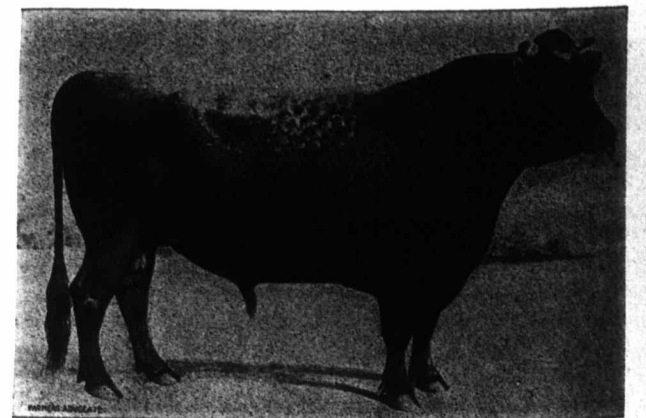
To the Editor FARMER'S ADVOCATE:

SIR,—From experience I find that goitre in lambs is due to three causes. The greatest mistake is in the rams being too fat at mating time. Keep the rams thin, but see they are kind and in good health; also the ewes the same. Don't feed too free with roots in the winter. A little bran and oats and oil cake, just before they start to lamb, is far ahead of a lot of roots; but after the lambs come a few turnips are good. I put some hot lime round all of the trees—just dust it around for the sheep to lie down in; also put some coal tar round the edge of the trough that I put salt in, it is good to keep the grub out of the sheep's heads. If sheep are properly handled, we can get as good sheep in Canada as in England. E. L. Beaconsfield, Que.

The Impotent Ram.

That the cause of impotence ascribed to the ram is not infrequently due to the ewes, the following instances cited by the *Live Stock Indicator* show:

Here are a couple of instances, says this journal, where rams were thought to be impotent which were afterwards found to be potent. A man sent for a ram of a reputable breeder, but he did not have the kind he described. He knew who did have, and he sent the order to another breeder and asked him to ship a certain ram to his customer. The ram arrived, and was put to work, and the breeder was dissatisfied with him because he believed him to be impotent. He sent him to the man from whom he bought, but who was not the man who bred him, who bred several ewes to him and had neighbors breed to him, and found him to be an excellent breeder. The other case was that of a ram lamb. He was put with a few ewes, and left there three weeks, when all of them were supposed to have been served, and he was sold to a neighbor. At lambing time the first purchaser of the ram failed to get lambs, and reported the fact to the seller and breeder of the ram. The neighbor who bought the ram had plenty of lambs, and good ones at that. Now, it is often the case that the condition of the ewes has as much to do with success in breeding as that



GENERAL MARIGOLD 45486.

Jersey bull sold at Mr. Cooper's sale, Coopersburg, Pa., May 1899, for \$800.

of the ram. As a rule, sheep are not required to mate like certain birds, but there is a sort of an acquaintance they have to make in order to obtain the best results. Then, ewes may not be in such a condition of flesh as to breed readily and promptly, and all service of the most potent ram in the world would come to naught. Be sure that all conditions are right before making a kick. We know of a man who owned a few fat ewes with long tails who bought several rams and failed to get lambs. The rams were potent, but the ewes were fat and tailed, both of which are hindrances to successful breeding. We believe in doing the square thing, and if the purchaser wants the seller to do what is square, he should at least do what he knows to be square himself. If you are sure you're right, then go ahead.

A Contrast in Pig Form--Soft Bacon.

The term "bacon type" has a significance which hog-raisers are gradually coming to recognize, for when the buyer comes round "form" is one of the characteristics he looks for. Fig. 1 represents the form or type that approaches the packer's fancy, although the specimens represented do not satisfy the breeder's eye as well as the blocks in Fig. 2. The two lots were selected from among four double-deck carloads at the Canadian Packing Co.'s yards in London, Ont., by the manager of that concern, as typifying pigs of the bacon form, and those too short, thick and fat for that purpose. We were not able to learn much about the history of the two lots, but we were told that those represented in Fig. 1 are grade Yorkshires that were fed and shipped

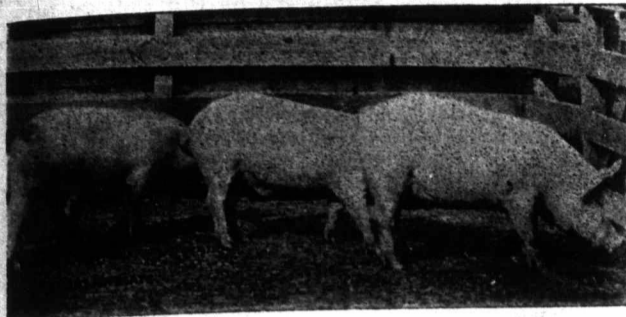


FIG. 1.—TYPICAL BACON PIGS. SELECTED BY CANADIAN PACKING COMPANY.

by Messrs. White Bros., of St. Mary's. They were fed in large runs on skim milk and buttermilk from St. Mary's Creamery, together with shorts, corn and oat chop. They are about seven months old, and weigh about 180 pounds each. While they do not appear to represent rapid and economical thrivers, they carry the desired class of meat to suit the English market, for which they are destined.

The pigs shown in Fig. 2 have the appearance of possessing Poland-China, Essex, and possibly some Berkshire blood, and look more like American cornfeds than what Canadian bacon-curers desire to handle; in fact, such pigs are bought at a lower figure when brought to the factory.

There is, however, a worse feature than fatness in many of the pigs received at the factories at the present time. We were taken through the rooms where the boxes are packed to be shipped, and shown the cured sides just out of the cold curing chambers, and the proportion of soft sides among those examined was alarmingly large. The fat and flesh on the edge of a firm side feels almost as firm to the touch as if frozen, while a soft side has a mushy, greasy feel, not much firmer than when newly killed. There were all degrees of this condition to be seen, which, of course, have to be graded and sent forward under three different brands. Mr. Ginge, the manager for the Company, showed us the record of shipments since last March, which showed that fully one-third of all the bacon shipped since then has been graded "soft." The cause of this condition is evidently not well understood by pig feeders, who doubtless could prevent such a loss if they knew how, and were paid the better price a firm quality would warrant. While several experiments have been conducted, and reported in the FARMER'S ADVOCATE, there is still need of repeated and very thorough investigation in this direction.

Mr. H. Dudding's Sale of Shorthorns and Lincolns.

This event, which is one of the most noted of the annual sales of cattle and sheep in England, took place at Mr. Dudding's farm, at Riby Grove, Stallingsboro, Lincoln, on the 25th ult. Upwards of 500 visitors attended the sale, which was throughout most successful both for cattle and for sheep, the former this year being the most successful. Amongst those who attended the sale were Mr. P. L. Mills, who presided, the principal export buyers, the leading English and Scotch and Irish breeders, and the representative of the FARMER'S ADVOCATE, who was privileged to enjoy the generous hospitality of Mr. Dudding.

There was a strong demand for females, no less than seven being taken at high values for Argentine, including the cow that made top price; whilst for bulls the demand was beyond strong for the best specimens, and they were fairly scrambled for. Of the fifteen, no less than ten went to the Argentine, including all the highest priced ones. The sale of the bulls, especially, will be of great benefit to Mr. Dudding, whose grand herd of Shorthorns, numbering upwards of three hundred head, has never yet been so fully known and appreciated as it is worthy of. The highest price for a bull was \$1,800, and for a cow, \$430. Twenty-nine cows, heifers and calves sold for £1,184 8s., an average of £40 17s. 6d.; 15 bulls brought £1,535 2s., an average of £102 6s. 10d.; 44 head, in all, sold for £2,719 10s., an average of £61 16s.

The demand for the sheep was a useful one, and though there was no thousand-guinea ram nor nearly so many high individual prices as last year, the whole sale was a thoroughly good one, the top price for a ram being £231, and the average for the whole of the fifty sold was £33 5s. 6d.; whilst the ewes sold at prices from £26 5s. per head for the three unbeaten show ewes, downward, the whole 34 yearling ewes making an average of £8 4s. 10d.

The Horseless Age.

A writer in the *Saturday Evening Post*, of Philadelphia, tells of a bright genius in that city who sees a fortune for capitalists in buying up horses to distribute at different points to haul off the streets the automobiles that are continually breaking down. He will have them at stations all ready harnessed, and when the motor collapses the millionaire owner will telephone to the nearest station for help. "Talk about the horseless age! Why," he exclaimed, "horses are just entering upon a new sphere of usefulness."

Lincoln Ram Sale.

The first sale of Lincoln Long-wool rams of the present year took place at Lincoln on the 21st of August. The entry comprised 374 yearling rams, many of capital merit, but there were some considerable number hardly up to that standard that one would have expected to find at a sale where the reserve or upset price was \$28 per head, below which no ram was sold. Without doubt there is a check in the Argentine demand, and hence the present time is a most favorable opportunity for Canadian buyers to step in and take advantage of the lower values now ruling, before a shorter supply and increased prices again take effect. This certainly will be the case, for unless the newer ram breeders find remunerative sales they will revert to their former practice and castrate their lambs, and thus the supply of rams will be so reduced that the value will assuredly rise again, as the Argentine demand, even though it continues in reduced form, will be strong enough to keep prices, especially for those of tiptop quality, at a very high level. The great average of \$165, made by Mr. H. Dudding at his home sale, followed by the average secured by him at this sale for his five rams of \$372, shows that the value of the best rams is still very high. Mr. Tom Carswell's consignment, which numbered twenty-one, is still further evidence of this fact, for these rams were eagerly competed for at prices from \$1,000, and averaged for the entire consignment \$200 per head. Then, again, Messrs. Wright, whose flock is noted throughout the world as one of rare merit and quality, secured for their twenty an average of \$145 per head, and equally satisfactory was that secured by Messrs. S. E. Dean & Sons, whose



FIG. 2.—HOGS TOO FAT AND SHORT FOR BACON

twenty averaged \$126 per sheep; whilst the two best rams from Mr. Goodyear's flock made \$365 per head. Mr. Herd sold one at \$300, and Mr. Pears one at \$325. All demonstrate the high value of selected sheep.

VENDOR.	No. Sold.	Highest Price.	Lowest Price.	Average per head.
H. Dudding	5	\$ 800 00	\$100 00	\$355 00
Tom Carswell	21	1,000 00	70 00	200 50
Messrs. Wright	20	270 00	52 20	138 00
Messrs. Dean & Sons	20	250 00	40 00	120 25
H. Goodyear	10	375 00	40 00	112 00
T. Herd	7	300 00	40 00	90 70
J. Pears	15	325 00	37 50	75 75
F. Scorer	1	75 00	...	75 00
G. T. Melbourne	6	250 00	37 50	73 33
C. Clarke & Sons	8	160 00	37 50	64 27
T. Brown	10	110 00	37 50	55 41
J. T. and A. W. Needham	7	105 00	40 00	50 00
C. Clarke	5	110 00	37 50	48 57
J. Anderson	5	45 00	37 50	41 00
J. B. Nelson	8	40 00	37 50	39 70
E. W. Howard	2	40 00	37 50	40 50
W. Drakes	3	40 00	37 50	38 33
Taylor Sharpe	9	40 00	37 50	38 05
W. C. Tong	2	37 50	...	40 50
J. Brocklebank	3	37 50	...	37 50
G. Hoyles	3	37 50	...	37 50
T. Atkinson & Son	1	37 50	...	37 50
Sir J. H. Thorold (Bart.)	1	37 50	...	37 50
173 averaged	\$102 50

Raising Bacon Pigs on Annandale Dairy Farm.

Annandale Farm, owned by Mr. E. D. Tillson, Tilsonburg, Ont., has become famous for its extraordinary working dairy herd of 55 cows, that in 12 months and 3 days made the phenomenal average record of producing 11,472 pounds of 3 1/2 per cent. milk. It may be remarked, too, that this wonderful herd of largely grade cows were not selected from other herds and paid for at extreme prices, but it has been very largely built up from a foundation stock of grade Shorthorns, intelligently selected and crossed with Holstein sires of high-producing ancestry until the present results have been secured. Our readers are also aware that the development of the heifers and the breeding of the cows have been directed with the same intelligence and enterprise

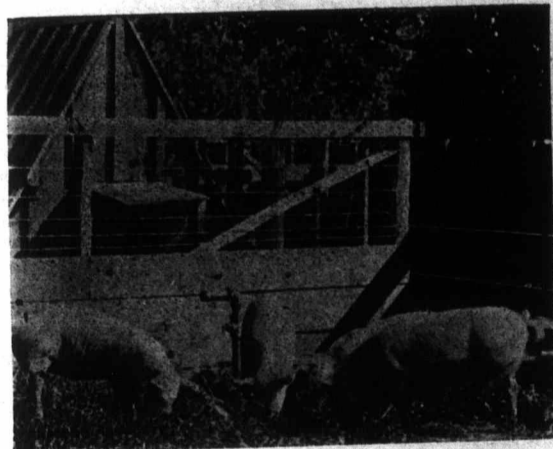
as characterized the selection and mating of the breeding stock.

Nor is it the dairy herd alone that absorbs the attention of the management of the Annandale Farm, as the bacon hog is here produced in as perfect and profitable a form as the dairy herd. In our issue of Feb. 15th, 1898, we portrayed and described Mr. Tillson's newly-constructed, elaborate and very complete piggery, but the bacon-producing industry soon outgrew even these extensive quarters, which are now chiefly used for brood sows and their young litters in the winter season, and the finishing hogs at all seasons of the year. The production of ideal bacon was recognized by Mr. Tillson and the farm manager, Mr. MacLeay, to require pig-growing as well as pig-fattening, and to this end a system of outdoor ranges of one-sixth of an acre were set apart, and provided with movable 8x8 foot board pens, shown in the photographic illustration, giving a bird's-eye view of a portion of the yards. These pens have board floors, are battened up, and answer well for either summer or winter. The illustration, taken from the south, shows the door or entrance, which swings on a pivot at the top, so that the pigs can pass in and out by shoving the swinging door ahead of them. At the back of the pen is a window, and near the peak is a 6-inch round ventilator, which can be closed if desired. Even in the very cold weather of last winter it was not found necessary to use much straw in order to keep the pens plenty warm enough. In fact, before the ventilating holes were put in the pens were too close. Each pen is banked around in the winter time a foot or two high with barnyard manure.

Especially for the summer season this plan of yarding and housing pigs is an ideal one, as there is no "piggy" smell noticeable, and the most healthful conditions prevail. Some of the yards have apple trees growing in them, providing shelter from the sun, which is secured by the others in their pens and along the fences. The yards have a complete watering system, and some of them were sown with rape, tares, oats, etc., for green food, which provided a valuable supplemental food.

The brood sows used to produce the stock are 30 in number, which will be increased probably by five or six within the next year. Their breeding is an admixture of Poland-China, Chester White, and Yorkshire, with Yorkshire blood predominating. They are all very lengthy, deep-bodied sows, and were selected because of their favorable form and vigor. The boars used are pure-bred Yorkshire, of the best obtainable type, and from the form and thrifty condition of the litters, it would seem as though little improvement could be made upon the mating practiced. The bunch of four sows portrayed represents selections from the herd that are to be put into the breeding pens. They are about three months old. The illustration hardly does them justice, but it shows their length and thrifty look. They are in nice growing condition and should prove satisfactory as matrons. Two of them are pure-bred Yorkshire and the others are from a half-bred Yorkshire and Poland-China sow and Yorkshire boar.

Two Litters a Year.—While sows farrow twice a year and at all seasons, it is arranged, as far as possible, to have a large number of litters farrowed in February and March, so as to be ready for market in August, when the price is usually high. During the first two weeks of August, this year, there was shipped from the farm \$500 worth of pigs, averaging 180 pounds, and before September 1st \$500 worth more will have gone out from the pens. They were sold alive, at 5 1/2 cents per pound. Besides these, there were some 300 young growing pigs in the



GROUP OF YOUNG SOWS OF BACON TYPE. IN THE HERD OF MR. E. D. TILLSON, TILSONBURG, ONT.

paddocks and pens, which will be ready to go forward at six to seven months old. It is found that the sows that are allowed their liberty during pregnancy farrow large, strong litters, as the litters suckling at the time of our visit averaged about 10 living pigs, which is quite enough for a sow to rear well.

How the Pigs are Grown.—As already mentioned, the sows farrow in the large new piggery, which can be heated by a stove in the cold weather. From May 1st to October the litters are turned out outside yards, when two weeks old, to get earth, exercise and freedom. They are weaned when from six to eight weeks old, according to the way they are eating. They are kept in the one-sixth-acre

paddocks to grow until about five months old, when they are put into the main piggery with fair-sized yards attached. During the finishing two weeks they are housed in roomy pens, without yards, but Mr. Tillson would prefer a little outdoor exercise even then, if it could be conveniently secured. When a shipment is made the pigs of different ages are moved up, so that some are always in preparation for the block and approaching that destiny.

The feed the pigs receive varies somewhat, according to the season and the condition of the feed market, but Mr. MacLeay believes firmly in the virtue of a balanced ration for all classes of stock, and compounds his rations with that in view. The brood sows get slop made from bran, shorts and a little corn, mixed twelve hours ahead, and fed warm in winter. They also get mangels in



MAGGIE 333.

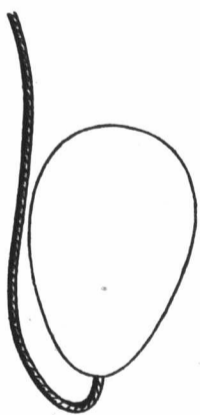
First-prize Tamworth sow at the Winnipeg Industrial. OWNED BY L. A. BRADLEY, PORTAGE LA PRAIRIE, MAN.

winter, and such green food in summer as alfalfa, green oats and peas, tares, rape, etc. During the coming winter cut clover hay will be steamed and fed along with the slop. When the litters are weaned they get skim-milk slop with shorts, bran, pea and corn meal, fed four times a day. The aim is to keep the pigs growing as rapidly as possible, without putting on too much fat. All the growing pigs are fed liberally with green food along with the grain feed, and as the finishing period approaches, the feed is made more concentrated by additions of peas and corn. During the last three weeks they are rushed as fast as possible, when they make rapid gains. The young sows are bred so as to farrow their first litters when 14 to 16 months old. They make good mothers of large litters, with strong constitutions. If they prove thoroughly satisfactory breeders and sucklers they are retained in the herd, raising two litters a year, till it is considered wise to replace them by selections from among their daughters. The system of raising bacon pigs of the most desirable type in the way we have outlined is within the reach of every farmer who has good judgment, and will set himself to the task with becoming energy. The cheapness, simplicity and healthfulness of the outdoor pens must appeal to everyone as far superior to the ordinary foul-smelling pig sty, or other extreme of allowing the swine to roam the farm, dooryard and garden at their sweet will, as we sometime witness on Canadian farms.

Castration Without the Knife.

In buying feeding lambs one is very apt to get among them a few ram lambs, or in his own flock he may have been so careless as to allow some late-dropped lambs to go uncastrated until fall, or he may have a ram that he does not wish to use again. These cases call for emasculation in some way. Castration, be it ever so carefully performed, is dangerous in the sheep after his lambhood is passed. The operation of turning is not difficult—is safe, sure, and makes nearly as nice a wether as does castration. While it is easier to learn this process by personal instruction, yet anyone can do it who will follow closely these directions.

The assistant holds the sheep in a sitting position. The operator grasps the scrotum or bag, and by squeezing it firmly forces the testicles clear out of it and up into the sheep's groin, one on each side. Be sure that the testicles are entirely free of the scrotal membranes; it requires a little force to produce this separation. Now bring down one testicle and turn it squarely upside down, as shown in the cut. The cord is now alongside the testicle and attached to the (now) lower end. Holding it very carefully so that it will not slip, you must turn the testicle three times around the cord, or the cord around the testicle, and when this is done, keeping very careful, hold that it may not untwist, you push the testicle back up into the groin, where it will remain. Repeat the operation with the other side. This cannot be done with young lambs. There is nothing more to be done to the sheep. He will be very stiff for three days and then will do very much better than he would as an entire sheep. The secret of this is that the twisted cord contracts and holds the testicle from coming down into the scrotum, and the circulation being cut off from the testicle it withers away to a large extent and the scrotum also becomes somewhat smaller.



FARM.

Spraying for Mustard.

BY FRANK T. SHUTT, M. A., CHEMIST, DOM. EXPL. FARMS.

The fields of the Experimental Farm being free from mustard, we made the trials upon an adjoining farm, in a field of barley which showed considerable mustard. The size of the plot treated in each case was one-tenth of an acre, and the quantity of solution uniformly supplied to each area was five gallons, or at the rate of fifty gallons per acre. The date of spraying was June 26th, the grain being from fifteen inches to twenty inches high, and the mustard practically the same height and just coming into flower. The chief data may be briefly stated as follows:—

Sulphate of Iron (copperas), five per cent.—No effect upon barley. The leaves were practically all stripped from the stems of the mustard, but the weed was not killed, as evidenced by new leaves subsequently starting, the plant flowering, and the seed pods filling out and maturing. The leafless stems were quite green a fortnight after the spraying, and were apparently furnishing nourishment to the seed.

Sulphate of Iron, ten per cent.—A slight scorching of some of the leaves of the barley was to be noticed. A fortnight after the spraying this was discernible, and though this spray may have slightly retarded growth, it is not probable that the yield of grain was affected.

Though the effect upon the mustard was more pronounced than in the foregoing instance, as noticed by the "spotting" on the stems, it was not sufficiently strong to prevent flowering and the ripening of the seeds, a large proportion of which proved, upon testing, to be vital.

Sulphate of Copper (bluestone), two per cent.—A certain amount of injury to the leaves of the barley resulted, evidently retarding growth to a somewhat greater degree than the ten per cent. iron sulphate solution. At the end of two weeks, however, this effect had practically all disappeared, and it became doubtful if there were any permanent injury to the grain. The mustard very quickly and markedly showed the effect of the spraying, both the stems and the leaves dying without allowing the plant to seed. Two weeks after spraying a few living mustard plants were found in the plot, but it is believed they had escaped the solution, owing to the height and overshadowing of the barley.

Sulphate of Copper, five per cent.—This solution damaged the barley in a much more pronounced manner than the preceding solution. In all probability it somewhat lessened the yield of grain, though, as the ground was very uneven in character, no comparative data on this point could be obtained.

The mustard was all killed. An inspection two weeks after spraying did not reveal any living plants.

In order to ascertain the effect of these solutions upon this weed at a younger stage of growth than that just reported upon, mustard seed was sown in rows in a plot upon the Experimental Farm. When the mustard plants had reached the height of six to nine inches they were sprayed as follows: July 20th: **Sulphate of Iron, five per cent.**—Not all killed. The few survivors possessed green stems, and in time sent out new leaves. It is extremely doubtful, however, if the plants will have sufficient strength to flower. **Sulphate of Copper, two per cent.**—All the plants died within a few days.

July 22nd: Further sprayings were made. **Sulphate of Iron, five per cent.**—The stems were stripped of all their leaves, but in the course of a few weeks fresh leaves had appeared on many of the plants. **Sulphate of Iron, ten per cent.**—Though somewhat more severely attacked than by the five per cent. solution, there was sufficient vigor left in many of the plants to send out new leaves after a few weeks.

Sulphate of Copper, two per cent.—Only a very few of the older and more vigorous plants escaped destruction, probably not more than three to five per cent. This solution is evidently strong enough to kill all mustard plants six inches in height and less.

Sulphate of Copper, five per cent.—All the plants killed.

From the above data I make the following inferences:—

1. That a 2% (two per cent.) solution of sulphate of copper (that is, two pounds in ten gallons of water) is, all things considered, the most effective, safest (as regards the grain crop), and most economical to use. The spraying should be done thoroughly, and for that purpose fifty gallons per acre will be required. If a heavy rain follows the spraying within twenty-four hours, the operation will be required to be repeated.

2. That, in order that the work may be effective, spraying should not be delayed after the mustard plants have reached a height of six to nine inches. If allowed to grow taller than this, stronger solutions would be necessary and in larger quantity, as the grain would then largely protect the mustard.

For many valuable suggestions and much assistance in the work I am indebted to Mr. W. T. Macoun, Horticulturist of the Experimental Farm, who concurs with me in the deductions.

Winter Wheat.

RESULTS OF TESTS MADE BY ONTARIO FARMERS.

Eighty varieties of winter wheat have been grown in the Experimental Department of the Ontario Agricultural College for at least five years in succession; and the power to withstand the cold weather, strength of straw, amount of rust, yield of grain, weight per measured bushel, etc., of each variety have been carefully determined each year. The results of these practical field experiments at the College form the basis for the selection of a few of the very best kinds for testing on the farms throughout the Province. The co-operative experiments of the past few years show that those varieties which have given the best average results in the experiments conducted at the College for five years in succession have nearly always given good satisfaction on the farms of the Province.

In the autumn of 1898, seven varieties of winter wheat were used for the co-operative tests. These were divided into three sets, with three varieties in each set, the Dawson's Golden Chaff being used in all the sets as a basis by which the results of all the varieties could be compared with one another.

The past winter was exceptionally severe on the winter wheat crop throughout Ontario, consequently the number of complete tests is not so large as usual. Reports of successfully conducted co-operative experiments with winter wheat were received from seventy-two experimenters before the 12th inst., at which time we started to work up the summary results, in order to place the information before the wheat-growers at as early a date as possible. It is interesting to know that these seventy-two good reports came from no less than twenty-seven counties and districts in Ontario, including Essex in the west, Carleton in the east, and the District of Algoma in the north. As we sow about one million acres of wheat in Ontario each autumn, the results of the winter-wheat experiments conducted on the different farms throughout the Province are of inestimable value to those interested in wheat-growing.

The following table gives the comparative yield of straw and grain per acre of the varieties of winter wheat tested on seventy-two farms in 1899:

VARIETIES.	Straw per acre. (Tons.)	Grain per acre. (Weighed bushels.)
Dawson's Golden Chaff.....	1.3	22.5
Stewart's Champion.....	1.1	22.4
Early Red Clawson.....	1.3	22.1
Early Genesee Giant.....	1.2	21.3
Imperial Amber.....	1.3	20.4
Bearded Winter Fyfe.....	1.1	19.4
Golden Drop.....	1.0	16.2

Three of the foregoing varieties have been used in the co-operative tests over Ontario for each of the past six years. The next table gives the average results of the six years' experiments with each of these varieties at the Agricultural College, and also throughout Ontario:

VARIETIES.	O. A. C. Average 6 years. (Bushels per acre.)	Ontario Average 6 years. (Bushels per acre.)
Dawson's Golden Chaff.....	47.5	30.4
Early Genesee Giant.....	43.5	27.6
Early Red Clawson.....	43.5	27.6

1. In the average yield of winter wheat per acre, the Dawson's Golden Chaff stood highest among 11 varieties tested over Ontario in the year 1899; among 9 varieties in each of the years 1894, 1895, and 1896; and among 7 varieties in each of the years 1897, 1898, and 1899.

2. In the co-operative experiments for 1899, the Stewart's Champion, Bearded Winter Fyfe and Dawson's Golden Chaff came through the winter the best, and the Golden Drop the poorest.

3. The Early Red Clawson and Imperial Amber were the first and the Bearded Winter Fyfe and



A PIGS' PARADISE ON ANNANDALE FARM.

Stewart's Champion were the last to mature in 1899.

4. Dawson's Golden Chaff and the Early Genesee Giant possessed the strongest straw and the Bearded Winter Fyfe the weakest straw in the tests of this year.

5. Stewart's Champion and the Bearded Winter Fyfe produced the longest and the Golden Drop the shortest straw in 1899.

6. In the co-operative experiments of each of the past six years, the Dawson's Golden Chaff was one of the least and the Early Genesee Giant was one of the most affected by rust.

In 1890, all varieties were practically free from smut, which is nearly always the case when no smut is sown with the wheat.

8. The Stewart's Champion and Dawson's Golden Chaff produced the plumpest and Imperial Amber and Early Red Clawson the most shrunken grain in this year's tests.

9. The Stewart's Champion and Dawson's Golden Chaff were the most popular varieties and the Golden Drop was the least popular variety with the experimenters in 1890.

10. During the past seven years the Dawson's Golden Chaff has been an exceedingly popular

Why Do we Take the "Farmer's Advocate?"

BY A CORRESPONDENT.

There are at least three hundred and sixty-five reasons why every farmer should take this best of farm journals. (I have examined dozens of farm papers, more or less, and find none quite so good.) I have only time for a few reasons, but it will not be hard to discover one every day in the year.

We take it because it is right up to date in every department and is so *seasonable*, as well as being properly *seasoned*. We get just the information we require in each number, and just at the time we need it. Stock-feeding—all kinds of it—and marketing in the right time, butter and cheese making, care of manures in the winter and spring, care of breeding stock and colt- and calf-rearing, just as we need such information; haymaking in haying, harvesting, methods of spraying in the spring; corn cutting and curing in the early autumn, silo-filling, preparing ground for wheat, etc.—each work in its season.

There are farmers and farmers who have lost enough money this year, through not reading, and practicing what they read, in FARMER'S ADVOCATE, to pay a lifetime's subscription to it.

One man lost a colt and its dam, and others paid out several dollars to a V. S. for colt treatment, when, had they read and followed the plain and concise directions in F. A., this would have been saved.

Some have had patented lightning rods erected. Had they been one of "Our Folks" they would have saved by constructing equally as good, probably better, described in F. A., for much less money.

One man had a sick cow with an ailment which he pronounced "hollow horn." He split her tail and inserted onions, salt, and pepper. The virtue did not reach as far as the horn when the cow died. Had he read F. A. he would know that such diseases and treatment belong to other ages. F. A. gives advice in such cases that would probably save the cow.

Another paid 70 cents a rod for getting fence built, and now, less than three months after, the posts are all loose. Had he read F. A. he would have set his posts and braces according to the tried and proved plans of the best farmers in the country.

Others raise the most miserable specimens of calves and other stock and poultry on costly food often when they could have better animals, which would bring in many more dollars, if they would follow the ADVOCATE'S directions.

Some put up tons of inferior hay, yet F. A. tells how to properly cure it; while yet others cannot raise much to put up, and others waste time and money with unsuitable seed and work their land in the very most unsuitable way. And all the time the ADVOCATE is describing how and what is best for each district. And still others throw away money on frauds which have been exposed months before in FARMER'S ADVOCATE. As an old reader, it is but right thus to acknowledge the good services of your paper to farmers, "Lest we forget, lest we forget," to use the Kipling refrain.

GYRA.

A Light Crop of Fall Wheat.

The August report of crop estimates for 1890, as compiled by the Ontario Department of Agriculture, gives the acreage of fall wheat in the Province as 1,049,631 acres harvested, yielding 14,201,314 bushels, or an average of 13.5 bushels per acre. Last year 1,048,182 acres gave 25,158,713 bushels, or 24 bushels per acre. The average for the seventeen years, 1882-98, was 900,382 acres, giving 18,442,511 bushels, or 20.5 bushels per acre. The yield for 1890 is, therefore, an abnormally low one. There were 214,785 acres of fall wheat plowed in the spring, or over one-sixth of the acres sown. The estimates of other grain crop yields are well up to the average of the last seventeen years.

Improvements in Crop Growing.

To the Editor FARMER'S ADVOCATE:

I hold it to be the duty and privilege of every one to contribute for the public good whatever he can of information that will shed helpful light on the difficulties of farming,—and of living. It becomes one to do so with sincerity, modesty, and fearlessness. In this I am in accord with the known policy of your paper; and I therefore put in brief compass the main points of some of the subjects which I dealt with recently before the House of Commons Committee on Agriculture and Colonization. To do that, I subjoin some extracts from the official record of my evidence. You will observe that the statements in these extracts are quite different from the misrepresentations of them, and the inferences which have been put in their place or put after them, in the communication which appeared over the name of Dr. Wm. Saunders in your issue of June 15th. I think they—the statements and the truths they convey—will benefit the farmers of Canada. That is my faith; and, like faith in former years, has been abundantly justified by the results.

JAS. W. ROBERTSON,
Commissioner's Branch.

Department of Agriculture, Ottawa.

THE USE OF FARMYARD MANURE.

"The fourth cause of small crops—the want of available plant food for crops that are growing—may

be corrected by management, the rotation of crops and the application of farmyard manure."

"Everybody knows that if you have land particularly rich with farmyard manure, or other decaying vegetable material, in a wet season, the crops of grain do not ripen readily but keep on growing straw at the wrong time. That, in my opinion, was the main cause of the failure in the crops of wheat in the Maritime Provinces last year. The application of farmyard manure in the spring, followed by a wet season, had a tendency to make the straw grow too late and prevented the heads from filling with seeds."

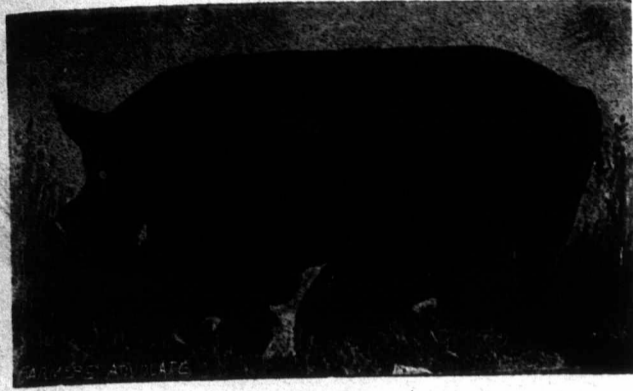
"Here is a fundamental principle to guide in making a rotation of crops: Apply manure only for green crops and hay; and follow these by cereals sown in soil having a very fine tilth, since for them there is only a short growing season. That the early first part of it should be favorable is most important for the yield of grain."

"Application of farmyard manure directly for grain crops is almost always a wasteful practice; but put on for root or other green crops it puts and leaves the soil in the best condition for grain crops to follow. I do not contend for sowing grain on poor land, but for putting manure on for green crops and for grass and for hay, which take all the nourishment they require; and leave enough, and that in the best condition, for the growth of the succeeding crop of grain."

THE TWO PROCESSES OF INCREASE.

"In the growth of all plants that form farm crops there seem to be two processes that govern the increase; and the understanding of the principles of these will, I think, help any farmer and every farmer to form rotations for himself that will be exceedingly valuable; whilst without an understanding of these principles he will be always groping in the dark after the best methods. In the growth of plants one set of conditions make for increase in the size of the roots and the stems and the leaves. These are the vegetative part—the part of a plant that perishes utterly when the plant dies. There is another part of the plant that does not perish when the growth ends, viz., the seed that carries the life over to the next crop. The conditions which make for the enlargement of the roots and the stems and the leaves, do not make for increased production of seeds. That is to say, the conditions most favorable to the vegetative processes of the plant are not favorable to the maturing processes, but are almost the opposite. If you will allow me a parenthesis: The understanding of that principle, with the selection of seeds, will do more to improve farming in Canada than anything else I know of in regard to agriculture. The set of conditions favorable for continued increase in size of root and size of stem and size of leaf do not make for increase in the quantity of seeds, but rather for the opposite. The extension of the vegetative stages of development—the formation of roots, stems and leaves—is at the expense of the development of the reproductive parts—the seeds. Take the instance of a bunch of oats growing in a dung-hill; what happens? A very large root, a grossly large stem, broad long leaves, and very, very, very few seeds in the head. That is to say, the conditions that make for the continued enlargement of the root, the increase of the stem, and extension of the leaf do not make for an increase in number and weight of the seeds. This is an extreme case, but it reveals a principle."

"In some plants the farmer wants a large root and large stem and large leaf; and in others he wants only the seeds, the other parts being an unimportant and secondary consideration. An abundance of plant food, an excess of it if you will, early in the life of the plant, makes for the growth of roots and stem and leaves; and then after the plant is about full size, some difficulty in getting more of it, makes for the growth of seeds. If a man wants large turnips let him pile on the manure. You never saw too much manure on a turnip field,



ARTFUL BELLE 21st.

First-prize Berkshire sow, over 6 months and under 12, Winnipeg Industrial Exhibition, 1890.

OWNED BY RODERICK M'KENZIE, HIGH BLUFF, MAN.

variety with the farmers who have been conducting these co-operative experiments throughout Ontario.

DISTRIBUTION OF SEED FOR TESTING PURPOSES.

The following two sets of winter-wheat varieties will be sent free by mail, in one-half pound lots of each variety, to farmers applying for them who will carefully test the three kinds in the set which they choose and will report the results after harvest next year. The seed will be sent out in the order in which the applications are received as long as the supply lasts.

SET 1.

Dawson's Golden Chaff.
Early Genesee Giant.
Early Red Clawson.

SET 2.

Dawson's Golden Chaff.
Diamond Grit.
Gold Coin.

Each person wishing one of these sets should apply as early as possible, mentioning which set he desires; and the grain, with instructions for testing, and the blank form on which to report, will be furnished free of cost to his address until the supply of grain for distribution is exhausted.

All communications should be addressed to—
C. A. ZAVITZ, Experimentalist.
Agricultural College, Guelph, Aug. 17th, 1890.

Filling the Silo --- Slow Filling Favored.

To the Editor FARMER'S ADVOCATE:

SIR,—Mr. Tillson is a believer in early planting of corn. We have from 50 to 60 acres planted by 24th of May, using early-maturing seed, as you suggest, and keeping the soil during the *whole season, before and after planting*, in thorough cultivation.

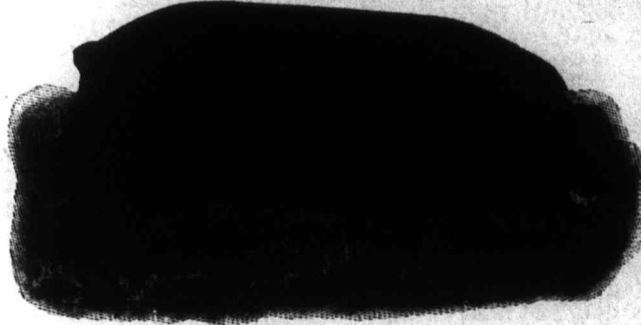
Filling the silo commences about second week of September (10th) if the grain on cob is in an advanced glazed state [Which means nearly ripe.—ED.]. Experience has led us to see that the quality and nutriment are nearer perfection when thus; and last year's ensilage, which has been fed for last two months to this herd, is excellent, and gives good results as a summer feed. Have used the Osborne corn harvester and the sickle, cutting and binding corn *one day* in advance, in this way drying enough to prevent too much acidity.

The wagon drives to side of cutting-box, where unloading is done in a very expeditious way, running through and distributing to each of the five silos, as desired, about 70 tons a day, by elevators run over each silo; and by the pulling of a slide the required one is filled. One and never more than two men level and mix the silage as it falls, keeping the sides well packed and *higher in center*, thus preventing it settling *inward and from walls*. After partially filling, allow silo to settle, and so on over each respective one. Oat hulls or anything cheap that can be rotted and forms a mold when thoroughly saturated with water will admirably answer as an air excluder. Oat hulls answer our purpose satisfactorily.

Heavy Tramping over the silo is not, in Mr. Tillson's opinion or mine, conducive to good quality. The sooner the self-created hot air passes upwards through the ensilage the more quickly the necessary fermentation starts, and the better, I believe, your feed. This is, of course, delayed by rapid filling and excessive tramping. We are experimenting directly on these lines.

Will be exceedingly pleased to have, through your very valuable paper, views of practical men on this popular and without doubt important subject.

JOHN D. MACLEAY, Manager.
The Annandale Farm, Oxford Co., Ont.



PROUD VICTOR.

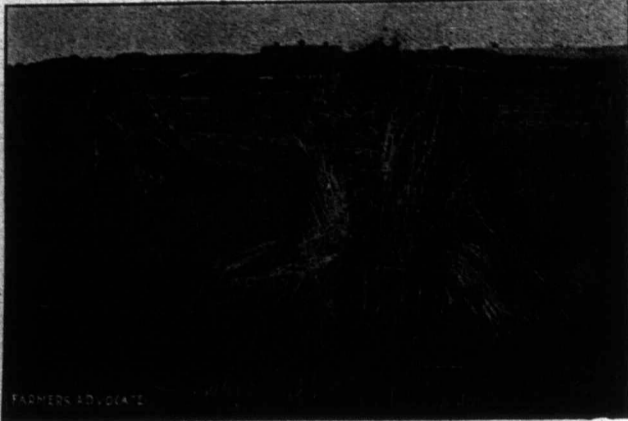
First-prize Berkshire boar (aged) at the Winnipeg Industrial. Sired by Baron Lee 4th.

OWNED BY R. M'KENZIE, HIGH BLUFF, MAN.

for the size of the turnips. That is quite unlike the bunch of oats on the dung-hill. Then you never saw a hay field over manured, so far as the growth was concerned. In the hay you want the stem and leaf; and in the turnip and mangel and carrot you want the root; therefore, manuring is the right thing for them. Besides, their period of growth and accumulation extends many weeks after the period of collection by ripening cereals has ended; and that at a time when the farmyard manure applied that season is most readily available; and when nitrification in the soil is most active."

RELATIVE PRODUCTIVENESS OF VARIETIES WHEN SOWN IN DIFFERENT LOCALITIES.

"The facts are, as shown by the Experimental Farms Report, 1898, that the variety of peas, Arthur, (46 bushels per acre) which was highest at Ottawa was the second lowest (28 bushels per acre) of all the varieties at Indian Head, N.-W. T.; and the variety, White Wonder, (20 bushels per acre) which was the lowest in yield of all the varieties compared at Ottawa, was second highest at Agassiz, B. C. (39 bushels per acre).
 "The variety, Harrison's Glory, (59 bushels per acre) which headed the list for productiveness at Brandon, Man., gave the lowest yield of all the varieties tested at Agassiz, B. C. (22 bushels per acre); and the variety, Creeper, (23 bushels per acre)



BROME GRASS IN STOOK.

Brandon Experimental Farm. Sown first week of June, 1897, on spring-plowed barley stubble without a nurse crop, 10 pounds of seed (home grown) per acre. Volunteer crop and weeds were cut twice during the summer of 1897, and only a light crop of hay cut in 1898, as the stand was thin and weedy for seed. This year the yield was about four tons per acre. Photographed August 2nd.

which was at the very foot of the list of all the varieties tested at Brandon, Man., was included in the list of the twelve highest at Indian Head, N.-W. T. (43 bushels per acre). These are only instances, and the evidence of the whole of the lists is in the same direction.

"It is the most convincing evidence I find anywhere that the variety, in regard to productiveness, varies with the locality where it is grown, or varies in degree as it happens to hit the conditions of the locality, or as it adapts itself to them. Could anything be more convincing?"

PRODUCTIVENESS NOT CONSTANT IN VARIETY.

"There is much more evidence on the subject, all showing that the productiveness of a variety depends on whether it happens to fit into the conditions of the locality where it is grown, or adapt itself to them. Take for instance the relative place as to productiveness of some varieties grown on the Central Experimental Farm, Ottawa, and on the Experimental Farm at the Ontario Agricultural College, Guelph, Ont.

"Of 52 varieties of peas compared on the Experimental Farm at Guelph, Ont., a variety named White Wonder stands at the head of the list for productiveness on the average of eight years' tests; it stands third on the list there for productiveness in 1898. The variety named White Wonder stands lowest on the list of the varieties compared at the Central Experimental Farm, Ottawa, in 1898.

"The variety Early Britain stands third lowest (55th) on the list of varieties of peas compared as to productiveness on the Central Experimental Farm, Ottawa, in 1898; whereas, it is the variety which gave the highest yield per acre of the varieties of peas tested by experimenters of the Experimental Union throughout Ontario in 1898; and it stands second highest on the average for eight years of all the varieties grown on the Experimental Farm at Guelph, Ont.

"What is true of peas appears to be true also regarding other farm crops."

"First of all, allow me to supplement what I said in regard to the effect of change of locality and conditions of growth upon the productiveness of a variety to show that the variety as such does not maintain superior productiveness, except as it happens to hit successfully the conditions of the locality. It maintains the form, the color, the habit of growth and hardness characteristic of it; but it does not hold equally productiveness except as the circumstances suit it. I said that last year—1898—65 varieties of oats were compared in five localities in Canada where the experimental farms are situated. The lists of the twelve most productive at each place included no less than 41 of these varieties. That made me think that the conditions under which a variety of grain is grown changes its relative productiveness so much that you have no constant superiority in any variety when the locality and conditions under which it is grown are changed. If the 24 varieties, which are not named in the five lists of 12 most productive, were among the poorest yielders on all the farms, they could be discarded. That is not the case.

"A variety which is at the head of the list at Agassiz, B. C., is at the very bottom of the list—65th—at Ottawa. Let me submit a table showing the relative place in the order of productiveness at the four other experimental farms of the 12 varieties

of oats which were most productive at the Central Experimental Farm, Ottawa, in 1898:

RELATIVE PRODUCTIVENESS OF SIXTY-FIVE VARIETIES OF OATS.

NAME OF VARIETY.	Relative place in order of productiveness on Experimental Farms at				
	Ottawa, Ont.	Nappan, N. S.	Brandon, Man.	Indian Head N.-W. T.	Agassiz, B. C.
Hazlett's Seizure	1st	30	29	51	47
Joanette	2nd	52	42	48	58
Brandon	3rd	53	59	36	63
Oderbruch	4th	7	19	7	50
Golden Beauty	5th	39	31	33	10
Black Mesdag	6th	16	69	66	13
Early Golden Prolific	7th	36	18	14	49
Improved Ligowo	8th	62	43	55	28
Holland	9th	55	21	30	52
Russell	10th	57	46	37	41
King	11th	49	55	25	60
Abundance	12th	3	24	21	39

"Let me now submit a table showing the relative place in the order of productiveness at the four other experimental farms of the 12 varieties which were least productive at the Central Experimental Farm, Ottawa, Ont., in 1898:

RELATIVE PRODUCTIVENESS OF SIXTY-FIVE VARIETIES OF OATS.

NAME OF VARIETY.	Relative place in order of productiveness on Experimental Farms at				
	Ottawa, Ont.	Nappan, N. S.	Brandon, Man.	Indian Head N.-W. T.	Agassiz, B. C.
Poland	53rd	34	65	24	59
White Wonder	54th	28	71	57	21
Siberian, O. A. C.	55th	19	40	16	48
Cromwell	57th	47	27	61	5
Rosedale	58th	44	53	2	31
Welcome	59th	37	33	54	55
Prize Cluster	60th	6	56	50	66
Medal	61st	61	62	41	38
Rennie's Prize	62nd	22	70	53	33
Abyssinia	63rd	8	32	4	34
Prolific Black Tartarian	64th	33	22	34	8
Danish Island	65th	27	14	43	1

"Again, if you run the eye along the line opposite each variety you will see there is no constant inferiority when a variety is grown in different localities in the same season. Varieties which are among the least productive in one locality are among the most productive in another locality. In fact, the very least productive variety at Ottawa is the most productive variety at Agassiz, B. C. The 3rd least productive variety at Ottawa—Abyssinia, the 63rd from the top—is the 4th most productive at Indian Head, N.-W. T.; and is the 8th from the top of the list at Nappan, N. S. The variety—Rosedale—which is the 58th from the top at Ottawa, is 2nd from the top at Indian Head, N.-W. T.

"Varieties of other classes of grain, wheat, barley, and peas, grown at the Experimental Farms in 1898, show similar changes in relative place in the order of productiveness."

A CHANGE OF SEED.

"What I want to say now is this, that so far as I can learn, and I will give you abundant proof in a moment, the sowing of seed in a new locality, a locality new to the seed, brings out the tendency to variation, evidently by the plant trying to adjust itself to the new conditions. If it succeeds in that effort, it becomes a suitable plant and suitable variety or strain for that locality. I have heard a great deal about the advantages of a change of seed; but indiscriminate change of seed is a dangerous practice; and the theory that seeds necessarily run out, and require to be changed from locality to locality, is misleading.

"Selection of seed from the best quality and most productive variety or strain in the locality, as seed for that locality, is the right plan and practice."

DOES SEED RUN OUT?

"That brings me to say a few words on the subject of whether a strain of seed, or a variety, will deteriorate in productiveness by being grown on the same farm from year to year. I submit some further evidence from the report of the Experimental Farm, of Guelph, Ont. If the different varieties of grain grown on that farm continuously for eight or ten years have deteriorated in productiveness, then there should be some evidence of a gradual decrease in the yield, independently of the fluctuations due to the season. On the contrary,

the records of yields show that there is a progressive increase in the yield per acre of the varieties which have been grown for the longest period on the same farm. There are variations and slight exceptions to that, but that is the rule as shown by the records of yields."

SELECTION FOR THE PARTICULAR LOCALITY.

"I do not hold that variety has nothing to do with productiveness. It has a great deal to do with it. One variety is often very much more productive than another. To begin with, I would select the most productive variety or strain I could find in the locality. The point is that a variety very productive in one locality will not maintain its productiveness in another locality. The variety by selection will retain superiority in the same locality, but taken to another locality it may not do so. If you have a variety or strain that is succeeding in yielding large crops, further selection will maintain the superiority and improve it."

METHOD OF SELECTION RECOMMENDED.

"The safe practice for the farmers is to select large and heavy seed from any strain which is of good quality for the market, and which has been productive in their locality. A still greater improvement than that is practicable. The selection of seeds from the largest, earliest, most vigorous plants as they grow would give the very best seeds from that strain or variety. The power to overcome obstacles which is in evidence in the largest and most vigorous plants is worth seeking in the seeds from such plants.

"One day's work of selection when the crop is ripe would yield the farmer enough heads from the best plants for two bushels of cleaned seed. That should be cleaned thoroughly; and the small light seeds taken out by a stiff fanning and sieving. These two bushels (more or less) of selected seed should be sown on a plot of well-prepared fertile land. The crop from that will furnish seed for the general crop of the farm of that class of grain. It is important that that plot should be in the best possible condition for crop-growing. The productive qualities of those selected seeds are improved by being grown on land which bears large crops. Before the crop from the seed-grain plot is harvested, a selection of the heads from the most productive and vigorous plants should again be made. These furnish the seed for the seed-grain plot the succeeding year. The seed-grain plot itself should be one on which a well-manured root or green crop or a clover crop was grown the previous year. In a few years a farmer could grade up the strain of seed on his farm to yield from ten to twenty per cent. more per acre. Even if he does not follow that systematic selection, if he sows only heavy, plump seeds, from the largest yielding crop he can find in his locality, he will derive very great benefit.

"When I mention these percentages, what does 10 or 20 per cent., or 30 per cent. of increased yield in the crops over this Dominion mean? The value of the crops being about \$280,000,000, ten per cent. is \$28,000,000 a year. I believe we can get that increase in Canada by the means I have outlined today; that is my judgment in regard to the farmers of Canada in this work."

Fall Cultivation in Nova Scotia.

SIR,—The soil in this district runs from a rather heavy clay loam near the water to a light gravelly loam at the rear of the farm. Beyond plowing the land after harvest, little or no cultivation is given it. During the last few years I have tried fall cultivation on some pieces that were weedy. My practice has been to plow the land as soon after the crop is off as possible and to thoroughly harrow



MERINO RAM.

Grand champion 1899 Show, New South Wales. Sold at the Annual Ram Sales for 500 guineas.

it several times at intervals of a few days, using a spring-tooth harrow. It was then gang plowed to the depth of four inches, and harrowed again. It certainly helped to clean the land, but it necessitated another plowing in the spring. We seldom have snow before Christmas, and usually a great deal of rain, and the ground, being in a fine condition, packed, and was not loosened up by the frost as it would have been had it been rough and lumpy. I think now that I should have ridged it up with a double-mouldboard plow as late in the fall as possible. This would have given the frost a good chance to work upon it, and it would have harrowed down easily in the spring.

Antigonishe Co., N. S. JOHN GREGORY.

Fall Cultivation of Sod, Stubble, and Root Land.

To the Editor FARMER'S ADVOCATE:

SIR.—My farm in Nichol Township, Wellington Co., is a good clay loam in some parts, with a large percentage of mould, being somewhat low-lying, but well underdrained. The following is my system of fall cultivation: First, it is required that all stubble or sod intended for grain, roots or fallow next summer must be plowed before winter. If the ground is not too dry, I plow sod in August, six or seven inches deep, and work the surface during the autumn with harrows and cultivator, not plowing any more either fall or spring. I find this plan gives me a better, cleaner field next year than late or spring plowing. My stubble fields not seeded with grass or clover, I plow as early as possible, with a two or three furrow gang plow, and later in the season plow with a single two-horse plow, and leave the land rough during the winter. Land that has grown roots, potatoes or rape, I do not plow either fall or spring, but cultivate with a spring-tooth cultivator. I have never used a disk harrow, but think they would answer for the purpose fairly well.
WM. FAIRWEATHER.
Wellington Co., Ont.

Worth Annexing.

A farmer, Mr. Laughland, in reporting his views of the Brandon Fair to his local paper, the Hartney Star, concludes with the following reference to the Brandon Experimental Farm:

"In addition to the fair, there is the attraction of the Experimental Farm. It is growing more beautiful every year, and possesses charms for the agriculturist, the apiarist, the stockman, and for everybody. It is an endless source of interest, beauty and surprise. The growth of the trees, shrubs and hedges since the corresponding week last year has been marvelous. It is a model farm, and there is a model man at the head, with a good staff.

"Eighteen years ago, when looking for land whereon to make a home, I went over the ground where the farm now stands, and I would not have taken the land as a gift—to-day it is the garden spot of Manitoba. The transformation in ten years is a revelation of the capabilities and possibilities of the country.

"I had the privilege of associating with the members of the American press during their visit to the farm, and I heard their private opinion of it—it is a high opinion: 'The farm is worth annexing.'"

Fall Cultivation of the Soil.

The value of proper fall cultivation of the soil can hardly be overestimated. When we consider that the action of the frost during winter has so much to do with pulverizing and thus unlocking its fertility, we should be careful to get it into that condition in the fall which will allow the alternate freezing and thawing of winter and early spring to do their work thoroughly.

We want our grass lands smooth and well-covered, so that clovers and grasses may not heave out, but in land we plow for a crop next year we want these conditions reversed, leaving it as rough as possible, so that frost may have the greater surface to act on. My practice is to plow as soon as the grain crop is removed. I plow shallow at first, say three or four inches deep. Harrow thoroughly with a disk or spring-tooth harrow, which ever suits the character of your soil. This will destroy the weeds and start the volunteer crop. I then leave the land till about the first of November, or just before it freezes up, when I cross-plow, going about two inches deeper than the first time. Do not harrow after this plowing, but leave it as rough as possible.

Stubble land used this way is in a very loose and mellow condition in the spring, and thus it is very easy to work out any couch grass that may

be in it. In fact, by following this method of fall cultivation, most of the couch grass will be killed during the winter.

In plowing sod I use a skimmer on the plow, so as to completely hide the grass and leave the whole surface exposed to the action of the frost.

My soil is a heavy clay loam, and is greatly benefited by being exposed as much as possible to the action of frost, which I believe is our greatest pulverizer. After the root and potato crop is gathered in, my practice is to plow the land with a wide-turning plow, turning down all the turnip tops, as I have no use for them where milk is produced. I also leave this land without harrowing, and have little trouble in working up a good seed-bed for wheat in it in the spring. On heavy clay soil I have found no implement equal to the disk harrow. It will loosen up a soil that another harrow would hardly make a scratch on.
Bay View, P. E. Island. WALTER SIMPSON.

Fall Fallowing --- Ribbing Before Winter.

To the Editor FARMER'S ADVOCATE:

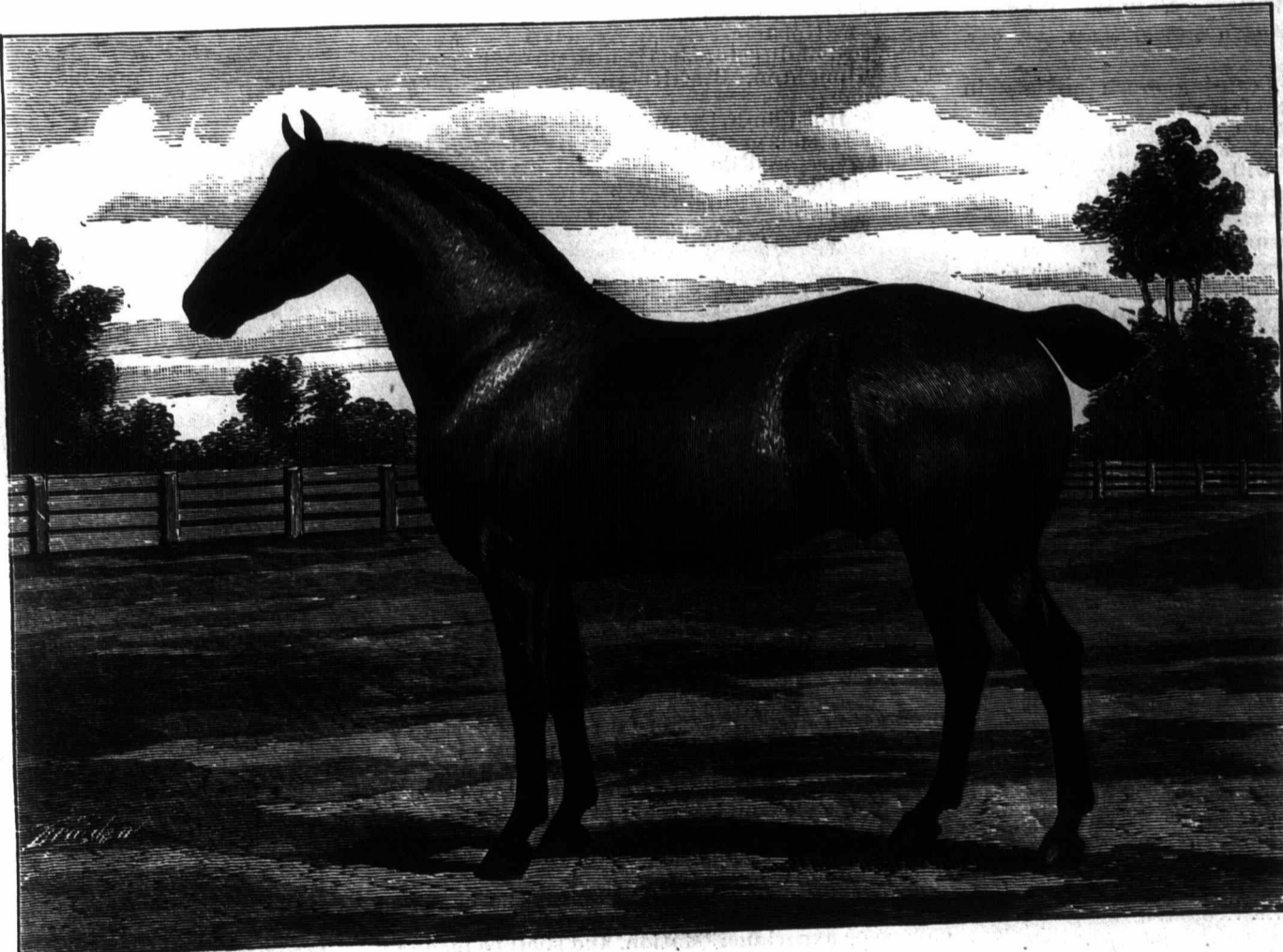
SIR,—I am a strong advocate of fall cultivation (or fall-fallowing, as some call it), for several reasons. It is a capital plan for keeping in check most of our weeds, as many weed seeds will germinate and thus be destroyed; it pulverizes the soil and leaves it in good shape for early seeding in spring, and avoids the necessity of spring plowing. Being principally interested in fruit-growing, I do not grow much grain. Use the single plow mostly, skimming the stubble over lightly as soon as possible after the grain is taken off. The earlier this is one the better. Then harrow and leave till October, when it is plowed about five or six inches deep.

lar it will be. Farmers will find by experience the great benefits of the system. There is no time of year when more effective work can be done than right after harvest—the earlier the better—using the implement best suited to the condition of the soil. It is a time of year that is generally warm and hard on a team, but the horses should be well fed with plenty of good chopped oats, and be covered with nets to protect them from the flies. If the weather is very warm they should be watered in the middle of the forenoon and afternoon as well. We take a milk can or small barrel of water with us to the field for this purpose, and keep it in the shade. I have known a horse to drink two large pails of water between morning and noon of a warm day, when working.

There is an old adage that says: "Drive the plow deep in summer heat, and you'll have wheat to sell and eat." I would reverse that and say: Drive the plow shallow in summer (or early fall) heat, and drive it deeper when the weather gets cooler and the days shorter. Don't use it at all in spring, except for root and corn ground, and you will have better crops of grain, better catches of clover, fewer weeds, and an earlier start in spring, which often enables one to keep ahead of his work all summer. And more important still, you retain more moisture in the soil to withstand the droughts of the summer, and add to the fertility of the soil by furnishing the conditions necessary for changing inert and crude material into available plant food.
Simcoe Co., Ont. G. C. CASTON.

The Saunders-Robertson Controversy.

I am extremely pleased with your attitude on the Saunders-Robertson discussion. Yours is a most difficult position in regard to this matter, and thousands of farmers look on the ADVOCATE as the Scotchman looks on the Bible (or perhaps I should say the *Globe*) to guide them in forming an opinion, so many can't make up their minds whether or not they hold the new doctrine. There is no doubt, however, that Prof. Robertson's contention will be backed by very many practical farmers in the Old Land who have been working on this theory for some years, and have found that the seed grain contains everything necessary to produce an average return when supplied with proper nourishment, and that the quality was determined by the fanning mill rather than by the change of seed. On the other hand, Prof. Saunders has on his side the immense success of the Champion potato in Ireland over all other kinds. The yield was something enormous. This was undoubtedly a case of variety and selection. I happened to be farming in Ireland when the Champion was at its best, and although we brought with us from Scotland our choicest varieties—Victoria Regents, Magnum Bonums, Rocks, etc., etc.—the Champions left them nowhere in the race. With best wishes,
I am, Yours faithfully,
J. G. DAVIDSON.
Simcoe Co., Ont.



ROSSEAU PERFORMER [5391] [34].

HACKNEY STALLION OWNED BY H. N. CROSSLEY, SANDY BAY STOCK FARM, ROSSEAU, ONT.
See "Gossip," page 503.

My soil is a nice loam, with natural drainage. If there was any twitch grass I would use the spring-tooth cultivator soon after the first plowing. The tool mostly used by farmers here is the gang plow, for the first operation, though some are now using the disk harrow. This is speedier than the gang plow, and on some fields does very well. For flat, heavy clay soil, which is usually baked hard at this time of the year, the best implement would be the sulky plow. This would do fairly good work where the gang plow would be useless. The second plowing can be done with the ordinary plow. But land of this kind should always be ribbed up late in the fall, and leveled down with the cultivator in spring as soon as dry enough to work well. This exposes it to the pulverizing action of the frost, and is, no doubt, the very best way to treat heavy clay land. On our own soil we try to avoid spring plowing for any kind of grain. The land will be in far better condition for holding the moisture during the drought of summer if spring plowing is avoided.

We do not plow our corn or root ground, but work the surface with the cultivator in spring, to the depth of about three inches, to get a good seed-bed and retain the moisture. Of course this land is perfectly clean, and we get a better crop of grain and a better catch of grass seed than we could if plowed in spring. I have no doubt that the more this system of fall fallowing is tried the more popu-

Scotland our choicest varieties—Victoria Regents, Magnum Bonums, Rocks, etc., etc.—the Champions left them nowhere in the race. With best wishes,
I am, Yours faithfully,
J. G. DAVIDSON.
Simcoe Co., Ont.

Don't Want Embalmed Bacteria.

"There are some things that neither doctors nor professors can tell us; things which no amount of scientific argument will convince us of. One of these is the necessity, harmlessness or desirability of the use of preservatives in our food. We do not want it for ourselves or families, and we decidedly deny the right of any man, be he a Chicago packer or a small milk dealer, to compel us to swallow a daily dose of preservatives be they reputed never so harmless. Let us have the bacteria alive, and we will attend to the killing ourselves."—*Hoard's Dairyman.*

The long and severe drought which has prevailed in South-western Ontario will, if not soon broken by showers of rain, seriously interfere with the sowing of fall wheat. It would seem to be wise to wait for rain before sowing, as to sow where there is no moisture is risky. The land can be got into much better condition after rain, and wheat sown after rain grows more rapidly. It is well to be careful to not sow too deeply.

Manitoba Crop Report.

The unprecedented rainfall of last year left the ground throughout the whole wheat area of Western Canada full of moisture. This, followed by a very wet spring, waterlogged the soil, and when the dry, warm weather of July came, the evaporation of soil moisture was much more rapid than had there not been an excess of water in the soil. The wet, backward spring delayed seeding operations, and the July drought caught the grain just as the heads were forming. On thin, light soils the crops suffered most, and on such the yield will be light. Loamy, moist soils stood the season well, continuing the supply of plant food throughout the season, and producing heavy, well-filled crops. Owing to the late seeding, the maturing season has



GROUP OF SHROPSHIRE SHEARLING RAMS. IN THE FLOCK OF MR. RICHARD GIBSON, DELAWARE, ONT.

been later than usual, causing much anxiety in some quarters for fear of frost. The bulk of the crop has, however, been cut without injury, and the total yield, as estimated by the Dept. of Agriculture for Manitoba, will be slightly above the average. Below is given a synopsis of the Government report:—

WHEAT.			
District.	Acres.	Av'ge yield.	Total bush.
North-western	137,700	20.3	2,795,310
South-western	632,965	19.25	12,147,076
North Central	306,560	21.5	6,591,040
South Central	390,770	22	8,596,940
Eastern	112,000	21.2	2,374,400
Province	1,629,995	20.55	33,504,766
Dec. report of 1896	1,488,232	17.01	25,313,745

OATS.			
District.	Acres.	Av'ge yield.	Total bush.
North-western	86,920	35.12	3,042,620
South-western	196,020	42.67	8,364,173
North Central	90,160	33.66	3,035,585
South Central	111,156	41.4	4,601,858
Eastern	90,880	38.5	3,498,880
Province	575,136	40.	23,003,126
Dec. report of 1896	514,824	33.6	17,308,252

BARLEY.			
District.	Acres.	Av'ge yield.	Total bush.
North-western	18,590	28.15	523,305
South-western	35,640	30.45	1,085,238
North Central	33,840	30.03	1,016,215
South Central	55,842	32.14	1,794,761
Eastern	39,000	28.55	1,113,450
Province	182,912	30.25	5,532,972
Dec. report of 1896	158,058	27.06	4,277,927

Area in crop.			
	Av'ge yield.	Total yield.	
Flax	21,780	13.6	296,208
Rye	3,217	20.4	65,626
Peas	1,366	19.5	26,637
1899 total grain crop	62,429,335 bushels.		
1898	47,345,664		

Breaking.			Summer-fallow.		
District.	Acres.	Acres.	District.	Acres.	Acres.
North-western	27,859	43,053	North-western	61,911	230,539
South-western	61,911	230,539	South-western	22,688	61,448
North Central	22,688	61,448	North Central	25,544	53,200
South Central	25,544	53,200	South Central	13,488	23,600
Eastern	13,488	23,600	Eastern		
Province	151,490	411,840			

How a Magnificent Crop of Corn was Grown and Harvested.

It was our privilege to spend a portion of an afternoon with Mr. Wm. Murdock, the Manager of the London (Ont.) Asylum Farm, discussing how a magnificent crop of corn had been grown there. The two fields, of some 25 acres in all, are allowed to be about the best in that district, which is saying a good deal, for Middlesex is considerable of a corn county. The corn will average, all round, about twelve feet in height. The crop is not all corn, as it has a liberal sprinkling of sunflowers, which Mr. Murdock finds, in four years' experience, helps the silage wonderfully, not only in quality, but in flavor as well. One field was sown for the silo, and for this Butler Dent and Mammoth Southern sweet varieties were selected. On thirteen acres ten pounds of sunflower seed was distributed by being mixed along with the corn, and all was sown together, in rows 3 ft. 4 in. apart, about forty pounds per acre. The remaining twelve acres were planted to husk, with Butler, Smut Nose, and Longfellow, but the continued drought for the last several weeks hindered liberal cobbing, so both fields are being put into silos.

The corn was planted from May 17th to 20th, on land manured and plowed in fall and either plowed again in spring or cultivated with the disk or spring-tooth cultivator. Night soil was used on part of the land and yard manure (fourteen loads per acre) on the remainder. Soon after the corn was planted the land was harrowed, to conserve moisture and destroy germinating weed seeds. After the corn was well up, the cultivator was started and kept going almost continuously till the crop became too long to go through. It was gone through once with the hand hoes, and rape seed was sown at the time of last cultivation. The land is as clean as an ideal garden, not a weed being in sight. Mr. Murdock lays great stress on getting the corn in early and cultivating enough to keep every weed under subjection. He would rather have corn cut down three times with frost in spring than once in the fall.

The corn was commenced to be put in the silo on August 24th. Patients of the institution were doing most of the work. The cutting was being done by hand hooks, and the corn was hauled on low platforms hung between front and back truck wheels. It was being put in by a blower ensilage cutter, which was doing a good job. Twin silos were being filled at alternating intervals. By this slow filling the silage heats up better and makes sweeter feed. Occasionally a man goes into the silo to level and tramp the corn, but it is not considered necessary to keep a man in all the time, as the heavy and light are well distributed and its own weight settles it.

DAIRY.

A Challenge from the Holstein Camp.

Under authority conferred at the annual meeting of the Holstein-Friesian Association of America, the board of directors has issued, through Secretary F. L. Houghton, Brattleboro, Vt., the following challenge:

The Holstein-Friesian Association of America hereby extends greetings to all associations of breeders of pure-bred dairy cows, and invites them to participate in a competitive prize contest for the



FILLPAIL. Grade Jersey. First-prize grade dairy cow for the last three years at the Winnipeg Industrial Exhibition. OWNED BY WM. SHARMAN, SOURIS, MAN.

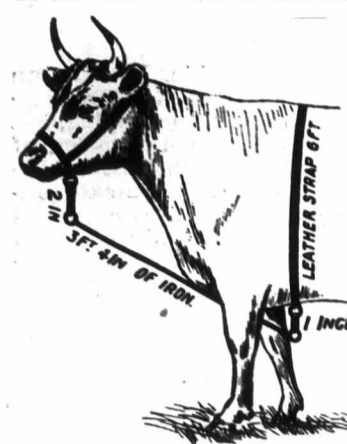
production of pure butter-fat; such contest to be conducted upon the following general plan:

1. All tests and awards to be under the direction and control of a committee to consist of officers or representatives of agricultural colleges or experimental stations.
2. Each breed competing shall select one member of the committee.
3. All tests shall be conducted at the homes of the animals by a representative of an agricultural college or experimen station, and shall be made by employing the Babcock test.
4. Awards shall be for the highest production of pure butter-fat per cow, and for periods of not less than seven consecutive days.
5. Each association competing to contribute a like sum of money, not less than \$500 each, and from the aggregate sum so contributed the prizes are to be awarded.
6. Cows are to be divided into classes according to age.
7. It is recommended that four prizes be offered in each class, with not less than four cows in each class.
8. All tests to be made within a year from a date to be agreed upon; and all entries shall be made and prizes awarded within three months after the expiration of the test year.
9. The entries made from each breed shall be subject to the approval of a representative selected by each association.
10. All further details as to the division of the prize money, and necessary to carry this plan into effect, to be agreed upon by a committee consisting of three representatives from each association competing.
11. This proposition to be accepted by each association intending to compete, on or before the 1st day of December, 1899.

MR. H. R. ROSS, B.S.A., of Hastings Co., Ont., in writing one of the editors of the FARMER'S ADVOCATE, says:—"I must congratulate you upon the excellence of this year's ADVOCATE. For good value I think it would be hard to beat."

To Prevent a Cow from Sucking Herself.

To the Editor FARMER'S ADVOCATE:



Richmond Co., Que.

SIR.—I enclose a sketch of a contrivance to prevent cows from sucking themselves. I tried about half a dozen different ways to stop a cow I have from sucking herself, and at last I tried this one, and I find it very successful. I went to my harnessmaker, and got him to make a halter for the cow's head, and a leather strap, six feet long, to go around just behind the front legs, and then I got the rest made of iron.

ARTHUR MILLS WILCOCKS.

The Principle of Cream Separation, and a Comparison of the Different Methods of Creaming Milk.

To the Editor FARMER'S ADVOCATE:

Principle of Separation.—There are two methods of creaming milk: the *natural* or *gravity* method, or what is commonly spoken of as setting the milk, and the *mechanical* or *separator* method, in which the cream separator is employed.

In both methods the principle of separation is the same, depending upon a well-established law of nature, which may be stated as follows:

When a heavier and a lighter substance are mixed together and subjected to any outside force, the heavier substance moves as far in the direction in which the force is acting as the vessel confining it will permit of, compelling the lighter substance to move in the opposite direction, provided, of course, that the substances are of such a nature that they can exchange places, such as two fluids, or a solid and a fluid.

Now, milk may be looked upon as a mixture of a heavier and a lighter substance, the heavier being the *skim milk* or *serum*, and the lighter being the *butter-fat*. A vessel which would hold 1,000 pounds of water, would hold 1,033 to 1,036 of skim milk, and about 930 of butter-fat. When we set milk, whether in a shallow or a deep vessel, it is subjected to the force of gravity, which acts directly downwards, and, as a consequence, the heavier skim milk or serum moves towards the bottom of the vessel, compelling the butter-fat to move upwards, or opposite to the direction in which the force is acting. Again, when milk flows into a separator bowl which is running at a high rate of speed—6,000 to 10,000 revolutions per minute—it is compelled to take the motion of the bowl, which subjects it to a great centrifugal force, and, as a consequence, the serum moves towards the outside of the bowl, or in the direction in which the force is acting, and compels the butter-fat to move towards the center of the bowl.

Thus, we see that whether we set the milk in a vessel, or put it through a separator, the principle of separation is the same, namely, the heavier skim milk moves in the direction in which the force is acting, and compels the lighter butter-fat to move in the opposite direction.

Now, if the fat globules in milk were large, the force of gravity would be quite sufficient to cause a



GROUP OF SHROPSHIRE RAM LAMBS. OWNED BY RICHARD GIBSON, DELAWARE, ONT.

ready and complete separation; but it happens that they are extremely small, it taking about 6,000, placed side by side in line, to extend over an inch in length; and as a result of their minuteness, and of the serum being somewhat viscous in nature, they are offered considerable resistance in rising. Hence, as the centrifugal force that milk is subjected to in a separator bowl is several thousand times as great as the force that it is subjected to under the gravity method, a much more complete separation is obtained from the use of a separator, and this within a very short space of time.

COMPARISON OF THE DIFFERENT METHODS OF CREAMING MILK.

The writer having some time at his disposal after the close of the Guelph Dairy School, in the spring of 1890, devoted it to experimenting with the setting of milk in deep cans and in shallow pans.

Deep-setting System.—In all cases the deep cans were set in water, sometimes with and sometimes without ice. Where there was sufficient ice in the water surrounding the cans to hold its temperature down in the neighborhood of 40° F., comparatively satisfactory results were obtained, the average test of skim milk being .29, or practically .3 (three-tenths) of 1 per cent. But where the cans were set in water at 50° to 55°, without ice—a practice which is altogether too common—the skim milk tested as high as 1 per cent. and over. And since average whole milk contains only about 3.6 per cent. fat, there was a loss of over a quarter of the butter in the skim milk. Even when the milk was set in a tank of water at 45°, without ice, the skim milk, in

their relative weights, and causing them to separate more readily. And again, the rapid cooling of the milk causes up and down currents, the colder milk, which is heavier, going to the bottom, while the warmer milk, which is lighter, flows to the top and carries the light fat globules with it. Also, the rapid cooling of the milk tends to prevent the formation of a network of fibrin, which, when it forms, holds a portion of the fat globules in its meshes and prevents them from rising. A tank, with an overflow pipe for the water about two inches lower than the tops of the cans, should be used for setting the cans in. The water in the tank should always be as deep as the milk in the cans. All who adopt this system should lay in a store of ice, which should be used liberally, a fresh supply being put into the tank before the old has all melted.

Where a conical dipper is used for skimming, it should be about six inches deep, and five or six inches across the top, and should have no wire or flange around the top. It should be dipped into cold water, or preferably skim milk, before using, to prevent the cream from sticking to it. When the skim milk is drawn off, the bottom of the can should slope downwards to the tap, so that any sediment that there may be will be carried off with the skim milk, instead of remaining to mix with the cream.

The best length of time to allow milk to set before skimming, under the deep-setting system, is 24 hours.

Where the shallow-pan system is adopted, the milk should not be more than 2½ inches deep, the temperature of the room should be below 60 degrees, and the milk should be allowed to set 36 hours before skimming. The best way, in so far as we know, to skim the cream off shallow pans is as follows:

First, run a thin-bladed knife (kept for the purpose) around the pan to free the cream from it; then, holding the cream back with the knife, tilt the pan and allow enough skim milk to flow over to wet the edge and prevent the cream from sticking to it, after which the cream may be floated off, using the side of the knife to assist in so doing. A ladle-shaped, perforated skimmer should never be used, as it allows all the thin portion of the cream to flow through the small holes in it and mix with the skim milk. Such a skimmer is a great source of waste.

Where the conditions for deep-setting are all favorable, it is a better system than the shallow-pan system, giving slightly more exhaustive creaming, and keeping the cream sweeter; but where the conditions are unfavorable for deep-setting, and fairly favorable for the shallow-pan system, it is frequently better to adopt the latter, provided the cream is churned at home. The shallow-pan system is not suitable where the cream is sent to a creamery, as the milk remains at a much higher temperature during the time it is set than milk in deep cans, and the cream is usually somewhat sour when skimmed off the pans, becoming overripe before it arrives at the creamery. If cream is to be sent to a creamery, either the deep-setting system or the use of a separator should be adopted.

When a separator is used the cream should be cooled immediately after separating, and before it is mixed with the cold cream.

A word by way of comparison of the different methods of creaming milk. With the adoption of the most favorable conditions, under the gravity method, the skim milk will contain about .3 (three-tenths) of one per cent. of fat, and usually the loss is much greater; while with the separator the loss need not exceed half a tenth to a tenth of one per cent. Since average whole milk tests about 3.6 per cent., a test of .3 (three-tenths) for the skim milk means a loss of about 1 pound of butter in every 12, while a test of .1 (one-tenth) of one per cent. for the skim milk means a loss of only 1 pound in 36; that is to say, a comparison of the best work done under the gravity method with just average separator work shows three times as great a loss under the gravity as under the separator method. I feel perfectly safe in saying that results of average work under the gravity method will show a loss of at least 1 pound of butter-fat out of every 9 that the milk contains, while there will not be a loss of 1 in 40 where a separator is properly used.

I do not wish to be understood as urging everyone who keeps a few cows to buy a separator. Possibly a person keeping just 3 or 4 cows will not find it advisable to do so; this is a matter he must decide for himself after taking into consideration the losses he is sustaining under present methods. There is no doubt in my mind, however, but that where one keeps 8 to 10 milch cows, and frequently a much smaller number, a separator will pay for itself before any great lapse of time. Furthermore, the fresh milk from a separator has a greater feeding value.

Before closing, we would strongly urge upon all who have to do with the creaming of milk to have a Babcock test of the skim milk made frequently, to determine the amount of butter-fat it contains. It would be an eye-opener to many who, either through carelessness or faulty methods, are sustaining large and unsuspected losses. The Babcock test, freely and intelligently used, is one of the best educators a dairyman can employ.

J. W. MITCHELL,
Dominion Government Dairy Superintendent in Assiniboia, N.-W. T.

PETER SMITH, Grey Co., Ont.:—"I see no agricultural paper that I like as well as the ADVOCATE. I think it leads them all."

"Separators," So Called.

We are in receipt of another letter regarding dilution cream separators, but can add little to what we have already published. If any farmer thinks he can get more cream, and get it any quicker, by dilution, he does not need to buy a high-priced, fancy can advertised as a "cream separator." All he needs to do is to add an equal quantity of water to the milk which he sets in an ordinary creamer or shotgun can. In the United States, especially, a great many forms of these so-called "separators" have been patented, and claims made for them which tests of dilution at experiment stations do not substantiate. Upon making careful inquiry into the subject, the FARMER'S ADVOCATE did not feel warranted in commending these "separators" to our dairy farmers, and refused to advertise them. They are not separators, as commonly understood, and to call them such is a misnomer. In this connection we note the following in a press bulletin from the Purdue (Indiana) Experiment Station:

"In 1893 the Indiana Experiment Station, for two weeks, carried on an experiment on the influence of dilution of milk on efficiency of creaming. The results of this work, as published in Bulletin 44 of the Station, were that a greater loss of fat occurs in skim milk when dilution is practiced than with undiluted milk; that the loss is greater with cold than with warm water, and that by diluting the milk a poorer quality of skim milk for feeding is thereby produced. These results were in accordance with conclusions arrived at through similar experiments at the Vermont, Cornell, Illinois, and Ontario College Stations. The process of dilution was not to be recommended as a general practice. . . . The farmers and dairy-men of Indiana are advised not to purchase these cans. The price, as a rule, is exorbitant, and the practice of dilution is undesirable. But if the farmer wishes to secure the same results advertised by the makers of these cans, he may obtain them by diluting his milk in a comparatively inexpensive round can, such as may be secured of any reputable dairy supply house, or can be made by any good tinsmith."

Death of Mr. James Cooper.

We regret to learn from a press despatch of the death, on August 18th, in his 60th year, of Mr. James Cooper, of Kippen, Ont., well known to many of the readers of the FARMER'S ADVOCATE as an enterprising importer and successful breeder of registered Shropshire sheep. Mr. Cooper was born in the Township of Tuckersmith, on the farm adjoining the Village of Kippen, on August 26th, 1836. He was a man of fine physique and of more than ordinary intelligence and good judgment. He was frank, truthful, upright and honorable in all his transactions, and lived so that he secured the respect and confidence of his neighbors and of all who knew him. In addition to his many sterling qualities, he was also very kindly and genial in disposition and manner, and thus made hosts of friends. His aged and venerable mother, two sons and seven daughters are left to mourn their loss.

An Illinois Stock-breeders' Testimony.

To the Editor FARMER'S ADVOCATE:
SIR,—Please send the FARMER'S ADVOCATE to Mr. Elmer Greene, Waukegan, Lake County, Ill. I think I can get two or three more to take it. Please find enclosed two dollars—one to pay Mr. Greene's subscription and the other to extend my paper for another year. I think the FARMER'S



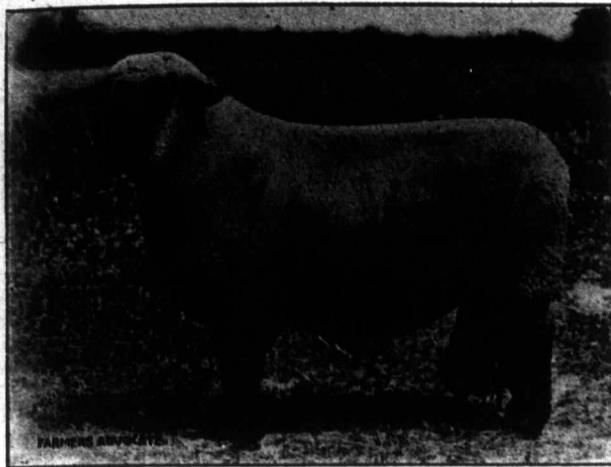
HAMPSHIRE YEARLING EWES.

First-prize pen of same flock, Royal Show, Maidstone, 1890. BRED AND EXHIBITED BY MR. R. W. HUDSON, GREAT MARLOW, BUCKS. IMPORTED BY MR. ROBERT MILLER, BROUGHAM, ONT.

ADVOCATE is the best paper of its kind that I have seen. I have taken nearly all of the leading papers on farm and stock-raising, and I think it the best of the lot. C. A. APPLEY.
Libertyville, Ill., August 25th, 1890.

Looking for Each Issue.

J. W. STEPHENS, York Co., Ont., writes:—"I find myself looking for each issue before it is due, as there are so many helpful articles on all branches of farming."



COL. d'ARBRES, NO. 11 (2673).

Two-year-old Hampshire ram. First and champion, Royal Counties Show; first, Royal Show, Maidstone, 1889. BRED BY MR. A. DE MORNEY. EXHIBITED BY MR. R. W. HUDSON, GREAT MARLOW, BUCKS.

several instances, tested as high as .8 (eight-tenths) to .9 (nine-tenths) of 1 per cent. fat, as the warm milk readily raised the temperature of the surrounding water. Setting the milk for 12, 24 and 36 hours was also tried. More exhaustive creaming, and a richer cream, was obtained from allowing the milk to set 24 hours than from allowing it to set only 12 hours; but no advantage was gained from allowing it to stand 36 hours before skimming. Skimming the cream off with a conical dipper, and drawing the skim milk off through a tap at the bottom of the can (the Cooley system) were also compared. The skim milk tested practically the same under the two systems, but the Cooley system was found to be the speedier, and to give a slightly richer cream—less skim milk going with the cream.

Shallow-pan System.—Under the shallow-pan system about 2½ inches in depth of milk was put into each pan, and the pans were set in a room at a temperature of about 50°. The average test of the skim milk was .38 of 1 per cent. fat, where the milk was allowed to set 36 hours before skimming. Much better results were obtained under this system from setting the milk for 36 hours than for 24 hours. Of course, had the temperature of the room been much above 60° the milk would have soured within 24 hours, and, although the separation would have been very imperfect, no particular advantage would have been gained from allowing it to set longer.

The results of experiments in the setting of milk in deep cans and shallow pans, as given in the foregoing, correspond quite closely with those carried on at the same institution, on a much larger scale, by Mr. Rogers, the buttermaker in charge. These experiments extended over a period of five years, and the results are shown in the following table:

No. of Tests.	Pounds of Milk.	Method of Creaming.	Per cent. Fat in Sk. Milk.
150	7,660	Deep-setting	.31
150	7,660	Shallow-pans	.38
150	7,660	Separator	.1

But the foregoing results were obtained under the most favorable conditions of setting milk, and are much better than those obtained in the average farm dairy. The same experimentalist, Mr. Rogers, went to the trouble of collecting and testing a large number of samples of skim milk from several private dairies in the vicinity of Guelph, obtaining the following results:

Method of Creaming.	Av. Test of Skim Milk.	Remarks.
Deep-setting	.36	No ice used.
Shallow-pan	.35	

This means a loss in the skim milk of fully a quarter of the butter-fat.

CONCLUSIONS.

In order to obtain the best results under the deep-setting system, the milk should be set as soon as possible after milking and before it has cooled to any great extent, and should be surrounded by water, the temperature of which is held down to about 40° by the liberal use of ice. This insures a rapidly falling temperature in the milk, which is very favorable to separation in different ways. The serum portion of the milk cools more rapidly than the fat, thus creating a greater difference in

APIARY.

A Model Bee Yard Portrayed and Described.

The illustration on this page represents Mr. S. T. Pettit's bee yard, near Belmont, in Elgin Co., Ont., as it appeared on August 9th, the day of our visit. The hives are not all shown, as the camera could not be situated so as to take in the whole yard to good advantage. Enough is shown, however, to indicate the general order of the yard, the honey house and the workshop where hive supplies, etc., are made. In round numbers, the yard contains 100 colonies, being an increase of 20 since they were brought out of the cellar in spring. Mr. Pettit makes a specialty of comb honey, and his bee yard would look more natural showing the hives with comb supers, but these were all removed at the end of the honey flow about the middle of July. In fact, comparatively little comb honey was produced this season, owing to the paucity of new swarms, which Mr. Pettit uses for comb-honey production. Mr. Pettit received less new swarms per colony this year than in any year since 1895, which is accounted for by the unfavorable weather, especially during the clover bloom. His entire honey crop from the 80 colonies, spring count, is about 5,000 pounds, 800 of which is comb honey. As there has been no honey coming in since the middle of July, the chances are the colonies will all require to be fed before winter. As will be noticed, the hives appear with extracting supers, which are divided from the brood chamber with queen-bars or queen-excluders. These prevent the queen from going up to lay, should she wish to do so.

The building to the right in the background is the honey house, where extracting, etc., is done, and honey is stored until shipped. The other building is a workshop, where Mr. Pettit makes all his hives and parts. Beneath this building is a stone cellar, where the bees are wintered. It is kept dark, well ventilated, and at a uniform temperature. The ventilating system is of Mr. Pettit's own invention, and is very unique. At the center of the end of the building facing the bee yard is an outside stairway leading to the cellar door. The door fits tightly, but has a number of 2-inch holes covered with wire screen. Covering the stairs on a level with the ground is a pair of doors which lie flat when closed, and it is through one of these that the ventilator is placed. It consists of an 8x8 inch square box, 20 inches long. This fits perpendicularly in the door, and has a slide passing through it, which can be opened or closed, as appears necessary by the temperature of the cellar. The top end is covered with wire screen. Now, in order to exclude the light, an inverted box rests loosely on the top, and at the bottom end a similar box hangs bottom down. Both boxes are about three inches larger than the ventilator, which they telescope about two inches each. A similar ventilator is provided for each of the two windows, so that a free circulation of air is admitted without the possibility of light entering the cellar. The temperature of the cellar is held at from 40 to 42 degrees, which prevents breeding and holds the consumption of honey down to a minimum, and at the same time retains the vitality of the bees to the greatest possible degree.

The yard will remain as it appears in the engraving until about Sept. 20th, when the extracting supers will be removed, the hives weighed, and the bees will be fed where necessary. Each hive should contain about 30 pounds to commence the winter. About Nov. 17th the bees will be transferred to the cellar, where they will remain till the time arrives to set them out in the spring.

We would draw attention to the proprietor of the apiary sitting in the shade of the tree in the foreground. He is wearing his bee-veil attached to the rim of a straw hat. It will be noticed that it is drawn tightly from the rim and tucked under his braces and drawn tightly across the breast, which holds the veil away from his face and neck, which makes a sting in those regions impossible. After the photograph was taken, Mr. Pettit recognized that his trouser legs should have been tucked inside his socks, that he would appear like a beekeeper at his work. When the trousers are thus tucked in, the bees cannot walk up inside to create trouble for themselves and the individual wearing the trousers. We would also point out the solar wax-extractor sitting in the foreground, near the clump of flowering shrub. It has a glass lid, through which the sun shines to melt the wax cappings. It is set on a pivot, on which it can be revolved to face the sun throughout the day. Below is a description of Mr. Pettit's comb-honey hives.

COMB-HONEY HIVE AND ITS ARRANGEMENT.

By following the description of Mr. Pettit's hive, some important points in his system of comb-honey production will be understood.

1 represents the cover, beneath which is a cushion, 2 inches thick, of soft, fine hay, and beneath this is a cotton cloth, of hard white cotton duck, which rests on the sections.

2-2 are section supers, one-quarter inch deeper than the sections used. Mr. Pettit's are 17½ inches square, inside measurement, each holding 36 sections.

3, queen bar or excluder, which covers the brood chamber, admitting only worker bees to the supers.

4, brood chamber.

5, wedges of wood one inch deep in front, gradually tapering to a point at back. These are used

in summer to allow ventilation, and they also raise the front of the hive so as to induce the bees to go up the side walls of the hive and the comb racks near the back of the hive.

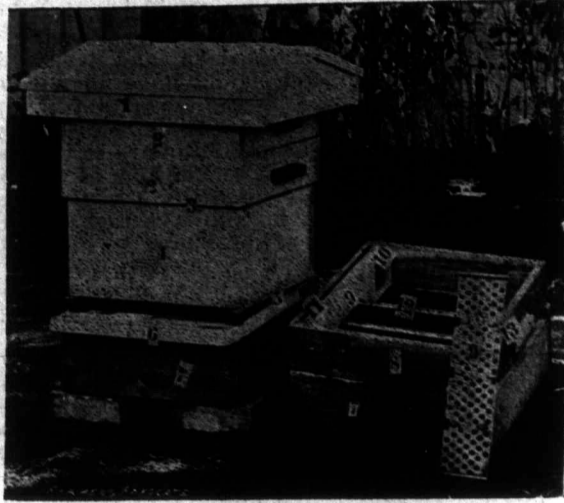
6, floor projects ¾ inches in front of the brood chamber.

7-7, stand of two 6-inch boards and two 7-inch. This rests on bricks, as shown.

8, comb-honey supers, same as 2.

9-9, divider set on two sides of super, as shown in position. It is ¼-inch thick and has ¾-inch holes, through which the bees pass to the sections.

10, section in position, resting on 1 tins 12, and against divider. The section is filled with light foundation of good quality, within ¼ inch of



COMB-HONEY HIVE AND ARRANGEMENT.

bottom. With sections fitted with foundation in this way, the bees fill them evenly.

11, bee space of ¼ inch, created by six blocks numbered 13 on divider number 9. The advantage of this extra bee space at sides of super is to allow for a double quantity of bees to keep up necessary animal heat, which is advantageous to the finishing up and capping the combs in the sections.

POULTRY.

Lice, and How to Fight Them.

BY J. E. MEYER, WATERLOO CO., ONT.

Any want of cleanliness during the warm summer months is almost sure to bring lice to our poultry houses and poultry, so that doubtless a very great many are now experiencing this trouble and looking about for means to get rid of them. There are a great many kinds of lice that trouble poultry, but we shall divide them into only three classes, viz.: (1) Those that live in the poultry house itself; (2) those that live on the poultry and do not leave them; (3) those that live on the heads of chickens and young turkeys. To the first class belong those insects that in the daytime can be seen about the perches, nests and drop-boards, and that are sure to crawl all over you if you go near them. At night they go on the fowls and suck their blood. The effect of them on laying hens is very bad. They will immediately



BEE YARD OF MR. S. T. PETTIT, BELMONT, ONT.

stop laying, no matter how well you feed them, until you rid their house of the pests. They trouble the sitting hen so much that she either breaks her eggs or leaves the nest; and if she does succeed in hatching chickens, it is not likely that she will succeed in raising many of them. We will suppose that we have a house that has been neglected, left dirty, and is infected. We should go to work in the following manner to clean it:

To Rid the House.—Remove all litter, droppings, nest-boxes, perches and everything that is movable from the place. Carry perches and nest-boxes outside, away from the poultry house, and after cleaning out nests pour coal oil over every particle of the perches and nests, and leave them outside until the

house is thoroughly cleaned. Now spray coal oil wherever there is a place for lice to hide inside the house, in every crack, over, under and all about drop-boards. When you are satisfied that you have done this thoroughly—and much depends on it—sprinkle or throw air-slacked lime all about floors, drop-boards, and into every crack. If you can close the building up tight, it will be quite a help to thoroughly fill it with sulphur smoke. To do this, take an iron pot of live coals, set it in the center of the building, and put brimstone on the coals. Keep the house thoroughly filled with smoke for a few hours. Do this after you have used the coal oil and before putting the lime in. You may now put fresh litter on the floor, and put the nests and perches in their places again. Put fresh straw into the nest-boxes, and throw on it some insect powder, a handful of powdered sulphur or some refuse tobacco—a cigar stump would do.

You may now consider the house clean, but the hens must be cleaned before being allowed to roost in it again. Owing to their somewhat debilitated condition, they have not been able to fight off the body lice, and, besides, there may chance to be some of their nightly visitors still on them.

To Clean the Hens.—Take a Surprise soap box, or any box of about that size, and fill it a third or half full, according to the number of hens that you have got, with fine sifted sand. Saturate this sand with coal oil, being sure that each particle of sand is covered with coal oil. Pour on the coal oil, and stir up the sand until it is all moist, just as it would be after a rain when all the water is drained off. Take each hen, put her in the box, and with your hands thoroughly rub the sand all through the feathers, leaving as little as possible in her feathers when finished. Although this is not more effectual than any of the insect powders that are on the market, it is easier got and cheaper. It will be best not to allow the hens to go back to the house until the night following this cleaning. They can remain outside. Now you have the house clean, it will be well to keep it clean, which you will find very much less trouble than it was to clean it. In the first place you will have noticed that the great trouble came from not keeping perches and nests clean. To keep perches clean, you must have them movable and over a platform, so that you can easily get at them. The perches should be on a level, and the platform about thirty inches from the ground or floor. Make the nest-boxes movable also. By putting coal oil over the perches once a week in summer and once in two weeks in winter, and keeping the platform clean of droppings, and by cleaning out nest-boxes and putting in fresh litter every two weeks during summer, spraying well with coal oil at each cleaning before putting in fresh litter, you will not be troubled with lice. It is best never to set a hen in the poultry house, but wherever you do set her, be sure that she and the nest are both clean. Nothing is better to keep nest clean under a sitting hen than tobacco, but sulphur and insect powder may be used.

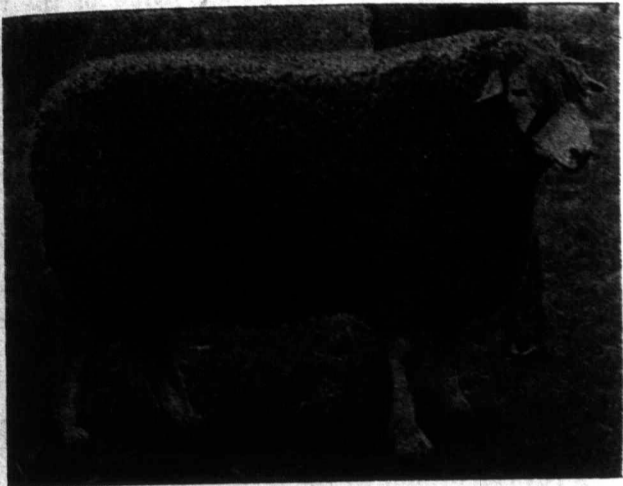
For Body Lice.—Any insect powder, or, unless when a hen is sitting, the coal oil and sand applied when necessary, will easily keep them in check. On the farm, where the hens have free access to good dust baths at all times, they will keep themselves clean without any insect powder at all, providing you keep their quarters clean. Be sure to provide a dusting place for your fowls in winter. Road dust is best, and it will improve it if a little

powdered sulphur be mixed with it when you can possibly do so.

The Head Lice trouble chickens and young turkeys, and are the cause of more dying than possibly anything else. If you are sure that there is not a louse about the sitting hen when the chicks or young turkeys are hatched, and then keep them in perfectly clean quarters, kept clean all the time, you are not likely to have much trouble. We have found that this year we have had more trouble than usual. After doing everything towards keeping the hens and their quarters clean, we have found that our chickens still had a few head lice. We have never used anything but hard, using it as follows: When chicks are about a week old, we at

night grease the hen underneath, so that when the chicks crawl under her they get some—not too much—on their heads, and then when they get about three weeks old, grease their heads, putting some underneath, but mostly on top of the head. At six or eight weeks old, you will at times notice some get dumpy and seem very dull. Nine times out of ten it means head lice, and you had better put on a little lard at once. Indigestion seems to be caused by these lice when let go too far, and it is very difficult to save a chick when in that condition. The least signs of drowsiness should be carefully attended to. Similar treatment will answer for young turkeys, but you must be very careful not to put too much on, as it might kill them.

To be successful with your poultry you must keep lice away, and you can do that only by con-



LINCOLN RAM LAUGHTON 235 GUINEAS 4613. Winner of first and champion prize, R. A. S. E. Show, Maidstone, 1889. THE PROPERTY OF MESSRS. S. E. DEAN & SONS, DOWSBY HALL, BOURNE, LINCS.

stant watching and cleaning. Arrange the inside of your poultry house so that it can be conveniently cleaned, then keep it clean. If you keep the house free from lice and give the hens a dust bath, they will keep themselves clean generally. If you keep the nest and the sitting hen clean, the chicks will be clean and will thrive.

Poultry House for One Hundred Hens.

L. K. Grey Co., Ont.:—"Let me see a plan of a poultry house in the ADVOCATE for about 100 hens to have lots of room for winter and summer."

[The accompanying illustration, Figs. I and II, represents a poultry house for a smaller flock than is asked for, but the same arrangement can be extended both in width and length. We would suggest that the house be divided into three pens, each one-third larger than those shown in the cut. These would each accommodate 33 hens, which is as large a flock as should be together. Or it may be better still to extend the pen in length and divide it into four pens, each to contain twenty-five hens. The dimensions would then be, for whole pen, 40 ft. long by about 12 ft. wide, as the passage would be better 3 ft. wide.

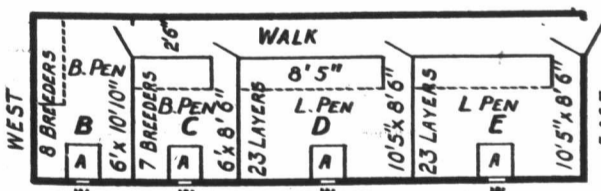


FIG. I.—POULTRY HOUSE PLAN.

In Fig. I., pens B and C are for breeding stock. These could be made into one pen for general stock if desired. Pens D and E are arranged for layers, in which five to six square feet should be allowed for each hen.

Fig. II., showing cross-section, shows nest-boxes one foot square. The diagram shows door opening from nest-boxes into walk, from which the eggs could be gathered from all the pens except B. The squares marked A in Fig. I. represent dust baths in front of windows. The building should run east and west, so the fowls could get the sun. The floor should be double-board, to prevent drafts. Yards can be extended south of each pen to any desired extent, and should be not less than 50 to 75 ft. if that is all the liberty the fowls are to be allowed. The division fences could with advantage be planted with grapevines, and plum or other fruit trees should be planted in the yards.

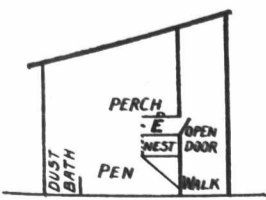


FIG. II.—END VIEW CROSS-SECTION OF POULTRY HOUSE.

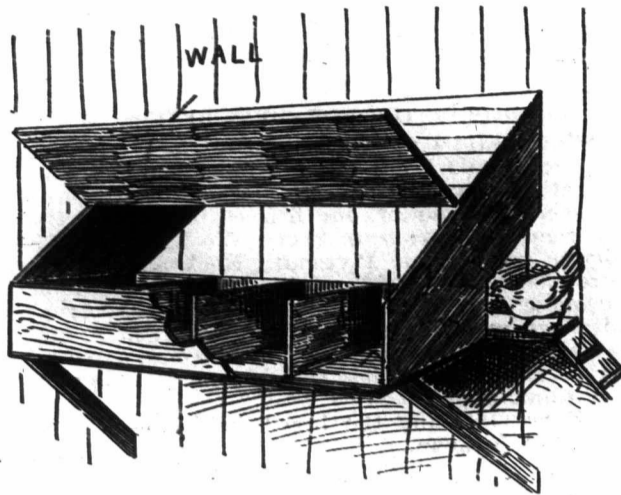


FIG. III.—NEST-BOX AGAINST WALL.

Fig. III. shows a suitable nest-box for any pen from which the eggs are gathered from the pen instead of from the passage. Each division is one foot square.

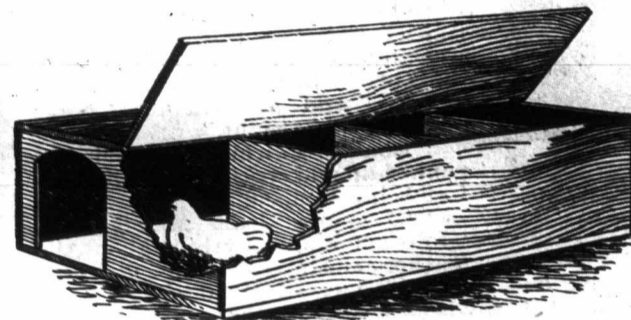


FIG. IV.—FLAT-TOPPED NEST-BOX.

Fig. IV. represents a nest-box from which the eggs can be taken from the passage. Either of these forms allows the hens to conceal themselves while laying, and also prevents egg-eating because of the darkness of the nests.

Reliable and Fake U. S. Advertisers.

Have we any Canadian poultry breeders who advertise more than they are able or willing to perform? I should dislike to believe so; yet we have heard complaints from people who, led by the prize-winning of other breeders, have decided to purchase eggs or birds from these noted breeders, expecting to thus get prizewinning stock, and the results have been far from satisfactory. The person who sends out stock or eggs inferior to that advertised is little short of being a fool. It is all right to do right because it is right, and it is also very sensible to be honest because "honesty is the best policy." The purchaser is wrong when he complains to others, but says nothing to the advertiser. I have known several cases where breeders (when the first lot of eggs, from some cause, failed to produce a good hatch) have replaced the eggs, free of charge. It is the duty of every customer to notify the dealer whether the investment is satisfactory or otherwise. He is pleased when the report is good, and will, in nine cases out of ten, help to make good the loss, if the report is unfavorable. If the fault is on the part of the advertiser—if through careless packing the eggs have become broken, or if they should prove infertile—he will frequently replace them at his earliest convenience, or if it is a reliable person who has a good name to keep up, he will be willing to refund the money or a part of it. It is also the duty of the purchaser, when he becomes convinced that he is sold, to notify the publishers in whose paper the advertisement appeared and warn others. The simple fact that a breeder advertises poultry for sale should be sufficient guarantee that his stock is suitable for breeding purposes; if he advertises eggs for hatching, that should be a guarantee that a fair percentage of healthy birds will hatch under ordinary conditions. Recently I heard of a breeder who sent \$1.50 some distance for a setting of eggs, with the understanding that if they failed to hatch another would be sent at half price. None hatched; he sent again, none hatched; and he is convinced that they had been set and tested out. The breeder is an American. This year, being desirous of procuring some extra large turkeys, I wrote to several United States firms. I received a reply from one who advertised as prizewinner in turkeys and water fowl, with the largest and best-equipped yards in Southern —. The turkeys were represented as being quite heavyweights, and the eggs were "guaranteed to reach me all O. K.," and he many times repeated the words "am sure I can please you." I sent \$3.00 for turkey eggs and \$1.00 for Pekin duck eggs. Received a reply that the eggs shipped were from his best birds. After some delay at customs office they reached me "all O. K.," with 34 cents entry fee (which I cannot understand) and \$1.40 express charges. I found them carefully packed in spicy-mint odoriferous chaff; apparently carefully packed. There were 13 turkey eggs and the same number of duck eggs, being

three more than I paid for. Two of the duck eggs and one turkey egg were cracked. I am afraid court-plaster would not have helped in the hatching, as the duck eggs were unfertilized, and the turkey egg, when taken away from the spicy packing, was so decidedly malodorous that, judging by the smell, one would say it had been under a hen for five or six weeks. I did not suspect fraud. I thought this one had probably been a nest egg, and that the others might be all right. I never thought of using an egg tester. If I had—however, I set them under two good sitters, and at the end of ten days I tested them. I found five of the turkey eggs dark colored and the contents shaking, and when cracked they went off with a loud report—decidedly stale. The remainder were infertile and addled. The duck eggs showed three fertile, with one containing a very lively germ; the others infertile and decayed. I wrote immediately to the proprietor, giving the result of the test, but got no reply. At the end of four weeks two ducks came out, one small and weak, which lived two or three days (it may have been a Pekin); the other strong and healthy, but provided with a top-knot, which no pure Pekin requires. It lived until some weeks old and was a little larger than my mongrels which were hatched at the same time. After I saw my specimen I wrote a decidedly snappy letter to the party, telling him what I thought of the eggs and asking for an explanation, and promising him a free ad. if he could not supply a satisfactory reply. The reply came offering me one setting of almost any variety of hen eggs at one-third the usual rate. The letter was signed this time by the "proprietress." Of course I declined to take advantage of so generous an offer, as I did not want hen eggs when I could get them quite as good from local breeders at much less than the express charges from Ellery, and I stated what Canadian breeders do when their eggs fail to hatch.

I was offered eggs next year—turkey eggs—free of charge, but with the protest that I had already gotten more than I paid for (rotten eggs), and expressing sorrow that I had ordered, for they might have sold to someone who would have made no complaints. In reply I suggested that a male turkey be shipped on approval, or a part of the money be refunded, for if eggs are as good as cash at —, cash, even a small part of it, is better than stale and infertile eggs to me. I received a renewal of the offer, with "I will send a setting of duck eggs if I have them to spare."

Another farmer sent a fancy price to an American breeder for poultry and got a lot of culls, which a Canadian breeder would not pay more than 15 cents each for. [NOTE.—The distant hills look green.—Ed.]

It would be much kinder if such dealers would accept our cash and send nothing in return, as we then would have the express saved and could sue for the price sent. Such experiences as the above make us hesitate about investing in high-class poultry. Let us hope there are no Canadian breeders who fail to give satisfaction to a reasonable purchaser. There may be some of us who "want the earth," and are never satisfied, but we should never complain to anyone until we have given the dealer a chance to explain. If the explanation is unsatisfactory, we should then do our best to drive dishonest dealers out of the business. There are some fake buyers. I have never sold to anyone who has proved a fakir; but it is not fair for the purchaser, a private individual, to ask for birds or stock to be sent before the cash has been advanced. We may think it is as fair to the other fellow as it is to us, but it is not. He has his name before the public and has his stock for sale—at least we suppose so—and if he fails to fill his part of the contract we can, at least, expose him; while we are but one among dozens of his customers, and it would not greatly matter, when we are offering nothing for sale, if he did publish our failure to send the necessary dollar, or two or three, as the case may be. If we are not sure of his standing, a line to his express agent or postmaster will be satisfactory. GYRA.



SOUTHDOWN SHEARLING EWES.

First at the show of the R. A. S. E., and first and champion at the show of the Royal Counties Agricultural Society. BRED BY AND THE PROPERTY OF EARL BATHURST, CIRENCESTER PARK, GLOUCESTERSHIRE.

We have received the following despatch, dated August 28th, 1890: "The C. P. R. harvest excursions have brought in 10,846 people to this country—a good class of workers. All wanting work can no doubt find it. Many are women and old people, out to visit sons and daughters, sisters and brothers. It shows that Manitoba is growing."

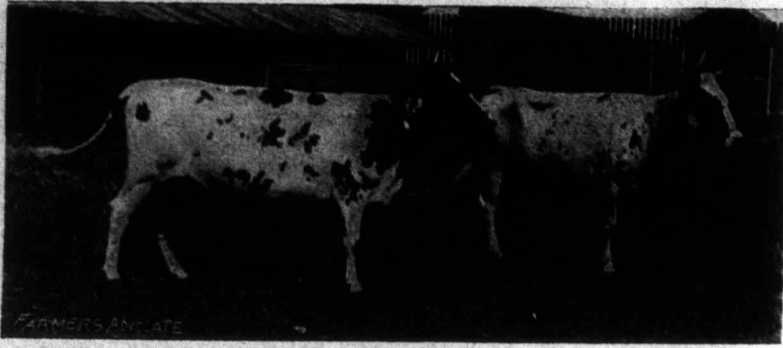
JOHN H. PARLIAMENT, Prince Edward Co., Ont.:—"I cannot get along without the ADVOCATE. It is always the first paper read by the family."

Birds for the British Market.

VISIT OF ALDERMAN RUDDIN, THE ENGLISH POULTRY DEALER, TO CANADA—AT THE OTTAWA EXPERIMENTAL FARM POULTRY YARD—CANADIAN POULTRY IN DEMAND IN ENGLAND—A GREAT MARKET FOR OUR FARMERS.

BY A. G. GILBERT, POULTRY MANAGER, CENTRAL EXPERIMENTAL FARM.

A telephone message from the Commissioner of Agriculture and Dairying a few days ago informed me that Alderman James Ruddin, the extensive poultry dealer, of Liverpool, England, would visit my department at the Experimental Farm that afternoon. It will be remembered that the first experimental shipment of fattened poultry from the Illustration Station in charge of Messrs. Joseph Yuill & Sons, of Carleton Place, Ont., was consigned to Alderman Ruddin. It will also be re-



AYRSHIRE COWS.

In the Hon. Thos. Greenway's exhibit at the Winnipeg Industrial Exhibition. SINCE SOLD TO E. T. PETAR, SOURIS, MAN.

membered that the poultry, which was composed principally of Barred Plymouth Rock cockerels, realized \$1.76 per pair wholesale. The poultry was plucked and dressed, but not drawn. The consignment was properly packed, and shipped in cold storage, under the auspices of the Commissioner of Agriculture. So much did Alderman Ruddin think of the shipment and the condition in which it arrived that he wrote to Prof. Robertson, and also to the Messrs. Yuill & Sons, that he considered the quality of the poultry of such unusual excellence that he was prepared to take a large quantity of equal worth and find a ready market for the same at 14c. to 16c. per lb. wholesale. I quote the words of Alderman Ruddin, in his letter to Messrs. Yuill & Sons, as follows:—

You can have no fear of the ultimate results. Only turn your poultry out in the same order and condition as you did the experimental lot, and I will see that profits accrue. I might say that the English market receives poultry from every country in Europe, as well as from Australia and New Zealand. I can state, however, without the slightest fear of contradiction, that the Canadian poultry has no compeer, and therefore no competitor, on equal terms. For not only is the Canadian poultry superior as to quality and suitability, but its condition is always assured through the services of the refrigerator. I hope to call on you in June or July. Meanwhile I hope to hear from you at your convenience.

JAMES RUDDIN.

ALDERMAN RUDDIN COMES IN PERSON.

It was, then, with unusual pleasure that I received the announcement from Commissioner Robertson of Mr. Ruddin's arrival in the city, and soon after met the Alderman himself.

"I came," said Mr. Ruddin, "to see what your poultry was like. I am told that you have some good market fowls."

"I think," I replied, "that I can show you breeds of poultry that will suit the demands of your English market."

"Our market," said the Alderman, "requires a well-fed carcass, of white or light color of flesh and legs, and to arrive in as good color and condition as possible."

"In other words," I remarked, "of such poultry as you received as first consignment from Prof. Robertson's department."

"Yes," he replied, "we can take any quantity of such birds and make quick and profitable sale of them."

"And we can give you any quantity of such poultry, provided, of course, our farmers keep the breeds which supply the superior quality."

"Aye," said he, "you have got to get at the farmers. And do you find it hard to get your farmers to realize the importance to them of what you say?"

"Sometimes. But I can safely say the genius of our farmers is fully equal to the demand. The difficulty is rather to get them to realize that they must keep the thoroughbreds which make the large fowls. The birds which composed in great part the first experimental consignment to you, and which gave you such satisfaction, were Barred Plymouth Rock cockerels, purchased from farmers in the neighborhood of Carleton Place. The moral is obvious. Our farmers must keep Plymouth Rocks, Wyandottes, Light Brahmas, and, it may be, Dorkings and Cochins. But come and see what our Plymouth Rocks, Wyandottes, and other breeds are like."

And then we went among the poultry, and I showed the worthy Alderman the plump Barred and White Plymouth Rock cockerels, the square and blocky White and Silver-Laced Wyandotte

cockerels, and the Light Brahmas of same sex and about same age.

"These are fine chicks," said Mr. Ruddin, and so they are.

MERITS OF THE DIFFERENT BREEDS.

"Now," said I to Mr. Ruddin, "I am conscious that you should know the merits of the different general purpose breeds I am showing you, for it will convince you of our fitness to supply the requirements of your market. We have no difficulty in getting our Plymouth Rock and Wyandotte cockerels to weigh eight pounds per pair at the end of four or four and a half months. At an older age we have no trouble, and without any special fattening, in having them weigh ten and twelve pounds per pair. But such development is conditional upon:

"FIRST.—Having the breeds which make the rapid flesh-formers.

"SECOND.—Care and proper feeding of the chickens from time of hatching.

"A proper finish can be given to the chicks by penning them up and fattening them for two or three weeks before killing, on a ration composed of two parts ground oats or shorts, one part of ground barley, one of corn meal. The yellow on farm-bred Plymouth Rocks is sometimes very light. But you say there was no objection to the leg or body color of the first shipment."

"No," said Mr. Ruddin, "color and size were right."

"Doubtless owing to their being penned up and specially fattened before being shipped."

"Of course," said Mr. Ruddin, "I do not know anything about the feather-coloring of your different breeds, but I can tell you all about their merits as market fowls when I see them plucked and dressed or handle them. I think you understand what we want for our English market."

"I hope I do," I replied, "but I would like to explain to you that the breeds named supply good winter-laying females, as well as rapid flesh-making cockerels—a fact of twofold import to our farmers, who have a winter-egg market of paying prices."

DUCKS.

Then I showed the Alderman our Pekin and Aylesbury ducks, which are unusually large and fine in appearance.

"Ah!" said Mr. Ruddin, pointing to the Pekin ducks, "we could take thousands of such as these from you. They are going to send us a great quantity from Australia."

And soon after a very pleasant visit terminated. The last words of the Alderman to me as he shook hands were: "You can tell your farmers if they will only send us such poultry as you have been showing me, and which you have been telling them we want, that we will take any quantity."

As Mr. Ruddin left, I could not but think of what vast import to the farmers of our country was his visit. Here was a leading dealer in poultry in England, perhaps in the world, telling our farmers that Canadian poultry of first-class quality has no compeer, and in consequence will command the highest price. And for such poultry he offers an unlimited market. Are our farmers equal to the opportunity?

Ottawa, August 21, 1899.

GARDEN AND ORCHARD.

Preparing Apples for Export.

Of all the fruits which Canada can bring to perfect maturity, the apple is the most in demand abroad, and the one the Englishman covets, and although the returns of shipments to the Old Country in the past have sometimes been far from satisfactory, we believe that the prime causes that lead to this dissatisfaction can be, and we trust will be, speedily done away with.

It is a widely-known fact that one of the main causes of disappointment is the extremely careless manner in which much of the fruit is put up (packed) for export, and until the growers and exporters of this country make up their minds to exercise more judgment and care in the preparation of fruit for shipment, we cannot hope to receive remunerative returns for our products.

In the first place, we must be careful what varieties of apples we select for export. One thing is quite evident, and that is that some varieties will not carry well, and consequently no attempt should be made to send them. All varieties that are soft or given to spot must be left at home, and also such

varieties as Colverts, Fall Pippins, Rambos, etc. The solid varieties, such as Spy, King, Ontario, Cranberry Pippin, R. I. Greening, Baldwin, Ben Davis, Twenty-ounce, Wealthy, Blenheim Pippin, and Fameuse (Snow?), are varieties that stand the long journey. Some shipments of Duchess, Gravenstein and Alexander have also brought most excellent returns. If the best of the good varieties are so put up, and presented on the English market in such a condition as to demand sale, there is no doubt but the softer varieties and small grade of good keepers will find ready markets in America.

The next important step in helping to develop the great fruit industry is the proper grading while packing. Much of the disappointment in the past has been caused by the careless grading. The findings in connection with the salvage cargo of the ill-fated steamer, Castilian, give sufficient evidence that such is a fact, and show how unscrupulous some Canadian shippers have been. Is there any wonder that there have at times been unsatisfactory returns? In the past the word "Canadian" stamped upon many of our products sent to Europe was an important aid in the sale of the same; but no longer is it of much use on fruit packages, as such deception has of late been practiced. It is astonishing the mixtures that have been sent forward as first-class—"No. 1, XXX"—apples: All kinds—wormy, scabbed, knotty, large and small—in the same case or barrel; and in many instances the cases have been faced up with apples of the very largest size and the remainder is composed of the above-mentioned conglomeration. Such a course is only damaging our trade, and should be prohibited and the parties to it severely punished by law. To have success, high grading must be resorted to. The man buying from the commissioner pays according to the poorest sample in the package, and not the largest and best. The smallest specimens, no matter how clean, should be kept at home, and in the larger specimens there should be two or three distinct grades and the strictest honesty exercised.

What kind of package shall be used? For fancy trade—that is, those apples of the very largest size, which will be bought by the most wealthy only—it has been ascertained that it is most profitable to export them in boxes, either wrapped separately in paper or else in boxes containing separate compartments, as eggs are now generally shipped. Of course, these boxes could be made any suitable, handy size, and having different sized compartments to agree with the different grades. In such trade, special arrangements could be made with dealers to handle this high-grade stock at a certain price per package. In shipping to the general commission trade, it has been found that the regulation barrel brings the best returns if honestly and carefully packed. A barrel of apples is expected to weigh 165 pounds in England. It has always been found that first-class fruit, put up in a first-class way, will bring ready and profitable sale.

The packages themselves, of whatever style or shape, must be carefully considered. In the first place, they must be strong—very strong. It has been said that there is no place where there is as much thieving done as there is at the docks at London. The packages must not give the least appearance of weakness at any point, or they will be in danger of being broken open and part or all of their contents pilfered. The knocking about to which these packages are exposed from the time they leave the hands of the packers in the orchard



SPOTLESS OF INGLESIDE AND ISABEL.

First-prize three-year-old bull and two-year-old heifer and sweepstakes male and female Herefords, Winnipeg Industrial Exhibition, 1899.

SHOWN BY J. E. MARPLES, DELEAU, MAN.

until they reach the consumer demands that they be of extra strong construction. If boxes are used, the ends should be bound with wire or sheeting; and if barrels are sent, they should be extra strong. In many instances the general apple barrel has been found too weak. Heads and staves are too thin and hoops are too few. There should be four middle hoops instead of two. The packages should be clean and neatly constructed, and especially so when dealing in the fancy trade. It should also be remembered that in England barreled apples are sold by weight, and that nothing is gained by using the small barrel turned out by some Canadian factories.

The fruit industry has reached such a magnitude, and there are so many extensive shippers carrying on the export business, these men should be persistently impressing upon the steamboat companies the necessity of keeping all shipments of apples away from the engine and boiler rooms of the vessels. There would be little need of cold storage with apples if this point were more closely looked after. It would certainly be to the advantage of the steamship companies to try to meet these demands of the shippers, and by being waited upon, they must in time see the necessity of the same. If they will not do so themselves, our Government should look into the matter and see that it is done.

Many growers make a very serious mistake in leaving their apples in large piles in their orchards

some protection through the winter. A covering of stable manure over the bed after it is planted in the fall, to the depth of from four to six inches, is the proper thing. This will keep the bulbs from being repeatedly thawed out and frozen up, should the winter be an open one. Besides this, the strength is washed out of the manure down into the soil by the autumn rains, and annually enriches the soil. By this annual covering the flowers are made much larger and of a more brilliant color. Of course, it must be removed as soon as the frost is out of the ground in the spring.

All these hardy bulbs should be planted in the fall, and the earlier they are put in the better. While they may be planted on into November, if the ground is not frozen, far more satisfactory results are obtained from earlier plantings. The bulbs

have to make the most of their roots in the fall, before the ground becomes frozen, for as soon as the frost is gone in the spring the bloom makes its appearance, and there is no time for the bulbs to make roots, as, instead of that, the roots must be feeding the flower and producing a new bulb. The sooner they are in the better, as more time is given for root growth, and the stronger the root the larger the flower the following spring. The first of September is the time when bulbs should be planted to give most satisfactory results.

In planting bulbs, do not mix the different kinds in the same bed. Keep the tulips in a bed by themselves, and the hyacinths by themselves, and the same with the other varieties of bulbs. Nothing gives more displeasure than to see

a bed of all kinds and sizes mixed. Hyacinths of dwarf growth and tulips with long stems do not look well together. Keep each kind by itself.

Many people take their bulbs up annually, after they have ripened up in the summer, and replant them again in the autumn. This is useless. They should be left in the ground three or four years, and then the clumps should be taken up and divided and replanted. By leaving in the ground year after year finer flowers are produced, and the labor of replanting is done away with. They also multiply more rapidly when left undisturbed for some time.

Every lover of flowers should plant freely of these hardy bulbs, the culture of which is so very simple, and whose brilliant bloom is produced at a time when most desired.

cerned, the cost of inspection, including travelling expenses of the inspectors, was paid by the nurserymen. Each nurseryman pays the State Department, and the officers are paid from the Entomologist's office. The average cost for inspection per nursery was \$10.43.

The method employed for the extermination of the scale is to cut down and burn the core of infestation, and to spray thoroughly and successively the surrounding trees and bushes with coal-oil mixtures or whale-oil soap.

Trees so covered with scale as to conceal the bark were cut out and burned. Trees to be treated were first cut back. The official sprayers were assisted by the owners. The former always directed the spray. Sometimes hand sprayers were used. The machine used in large orchards is a complicated affair, consisting of a one-horse-power gasoline engine, a three-cylinder force pump, an iron tank of 170 gallons capacity, partitioned across the middle and furnished below with a powerful gasoline heater.

With this machine a good many trees can be thoroughly drenched with hot solution of whale-oil soap in a day. As part of one day's work Mr. Green sprayed "fifteen large maples about forty feet high." "On Mr. P. B. Stem's place, three and a half miles north of Manito, two hundred peach trees and twenty-five apple and quince trees were cut out, and also twenty rods of osage-orange hedge. Nine hundred trees were treated in this orchard, ranging in age from six to ten years. As none of these had ever been trimmed, about three days' work of four men was required to prepare the trees for treatment. The spraying upon the 7th and 8th of April, 1898, was followed by a heavy rain, and the whole orchard was consequently sprayed again, the work being finished April 11th. Five months later, September 14 to 16, 1898, a critical inspection of the whole orchard was made by Mr. Green. On one peach tree six living scales were found on new wood, on eight other peach trees one or two scales each were found, and on each of six others from one to seventeen scales remained. On a single peach tree a colony of one or two hundred scales was found upon a branch, a part of which had evidently escaped the spray. Except for this single colony the total number of scales found, on a very careful search of every-thing in and near this orchard, resulted in the discovery of about fifty living scales." This sample quotation shows at once the possibility of killing the 999 with spraying, and the difficulty of reaching the thousandth one.

In Illinois the law does not vest the inspectors with police powers, but, as a rule, they seem to receive willing co-operation on the part of the owners, most of whom give help to cut out the encrusted trees, to trim and spray the others, besides paying for the materials. Most of the owners who objected at first were won over to permit the inspection of their orchards and the treatment of their trees, by the officers' persuasion and their manifesting a desire to save everything worth saving.

"San Francisco or Bust" --- Busted.

The following is very sad, if true, and we extend our sympathies to all concerned in promoting the "horseless age," especially the New York Herald, which, in the absence abroad of Mr. J. G. Bennett, shoots off in extraordinary tangents now and then:

"Mr. and Mrs. John Dyre Davis, of New Haven, Conn., who threatened to make 'Frisco or bust'



A GROUP OF THOROUGHBREDS.

Coleen, first-prize brood mare, and first-prize mare and two of her progeny; Admiral Dewey, first-prize yearling; Lady Vic, first-prize foal; McKinley, first-prize pointer dog, Brandon Summer Fair, 1899.

THE PROPERTY OF F. T. KAMES, QUEEN'S HOTEL, BRANDON, MAN.

for some weeks after they are picked. Exposed to the sun, the storms, and the frosts, their keeping quality is greatly impaired. Thousands do this every season, never seeming to think of the only natural consequence. The apples, if not packed, should be put in some sheltered place within three or four days after being gathered.

There is no doubt but that there is an unlimited market in Europe for Canadian apples—if the trade is carried on honestly and the market is once established. To secure this trade we must forward fruit of excellent quality, properly packed in neat, strong and honest packages. The grading must be high and strict, and there is no question about good sales, as the demand is so great that "glut" is never thought of.

JOHN B. PETTIT.
Wentworth Co., Ont.

Planting Hardy Bulbs in the Fall.

BY FLORIST.

There is no other class of flowering plants that gives as little trouble or can be so successfully managed by the amateur flower-lover as the bulbous class. The culture is extremely easy, as throughout their growing time they require no more care or labor than does a potato to bring it to maturity, and during their time of rest no attention whatever is necessary.

Of all the bulbous plants, the spring-flowering bulbs are most to be desired. These, which are generally called "hardy" or "Holland" bulbs, come into bloom early in the spring, some of them even showing their dainty flowers while the streamlets are still frozen in the woodlands and the snow-drifts hang along the mountain's brow. After months of intense cold, cloudy days and seeming endless nights, there is nothing more pleasant to the eye or that gives more genuine pleasure to the heart than to see the dainty spring-blooming bulbs forcing their heads through the recently frozen earth, and defying the ice king to again venture on his death-dealing mission. They come in a time when it is impossible to have any other plant out of doors. The house plants cannot stand the frosty nights, the perennials are just beginning to grow, and the seeds of the annuals have just been planted in some pan or box in a sunny window. The fact that plants giving bloom at this very desirable time are of such easy culture, and that the different kinds of bulbs can be secured at such a moderate price, should induce everyone to plant extensively.

To have a succession of bloom from the time when snow is still to be seen until the last of June, one should plant scillas, snowdrops, crocus, hyacinths, narcissus, crown imperials, peonies, daffodils, tulips, etc.

Bulbs will thrive in any kind of soil and in any situation, so no one should be without them. While this is a fact, better results are obtained when more care is exercised in the selection of soil and location. A good deep sandy soil gives best satisfaction, located where the bed may receive at least a part of the forenoon sun. In preparing the bed, it should be spaded up deep and made fine. The bulbs should be planted from two inches to six inches deep, and from three inches to six inches apart. The bed should be slightly raised above the surrounding soil, so that water will not settle around the roots and bulbs.

Although most of the Holland bulbs are perfectly hardy, they do much better if they have

ENTOMOLOGY.

San Jose Scale.

The publication of the report of the Ontario San José Scale Commission is daily expected, but it is not announced at the time of going to press.

Dr. S. A. Forbes, State Entomologist for Illinois, has just published an interesting report of the efforts made to control the insect in that State during the years 1897 and 1898. His map shows thirty acres of infestation in the State, from nine of which it is supposed that the insect has been eradicated. Dr. Forbes does not seem to think it can be entirely banished from the State. For ex-

ample, speaking of the Sparta infestation, where it has been found on 65 farms, he judges the complete extermination there to be impracticable. The report contains some interesting records, one being that of an abundant infestation of a roadside hedge a quarter of a mile from the nearest orchard; another, of several large elm trees.

Some important conclusions of his observations are (1) that old large trees standing beside badly infested young ones may resist infection, owing to the possibility that the larval scales perish before reaching a part of the old tree where they can make connection with the sap; (2) that the scale seems to spread slowly and steadily from the points of first introduction until it reaches a certain abundance, when its distribution becomes rapid and general; (3) the three most general methods of distribution are nesting-birds, strong, long-continued winds, and fruit harvesters.

Dr. Forbes speaks of his assistants as trained, trustworthy and experienced men; in fact, the Illinois law specifies that each assistant inspector "shall be a competent scientific and practical entomologist." So far as the nurseries were con-



LADY ELLEN AND THE GEM PRINCE.

First-prize three-year-old filly and stallion at the Winnipeg Industrial Exhibition, 1899. PROPERTY OF R. REED-BYERLEY, COOK'S CREEK, MAN.

on an automobile, have decided to quit. Mrs. Davis telegraphed to a friend here to-day that the automobile was partly wrecked, and that they had abandoned the trip. They are near Toledo, and will, they say, come home at once. The Stamford firm which manufactured the automobile has become disgusted at the idea of any attempt to cross from New York to California, and has declined to assist the tourists any longer."—Rider and Driver.

QUESTIONS AND ANSWERS.

[In order to make this department as useful as possible, parties enclosing stamped envelopes will receive answers by mail, in cases where early replies appear to us advisable; all enquiries, when of general interest, will be published in next succeeding issue, if received at this office in sufficient time. Enquirers must in all cases attach their name and address in full, though not necessarily for publication.]

Veterinary.

INDIGESTION.

J. S. COLE, Muskoka, Ont.:—"I have a calf two months old. Has never thrived. I am giving it new milk three times a day, what it will take. Sometimes it will not take anything. I gave it a dose of castor oil and a little laudanum, as I thought at first it had indigestion. When it chews



A GOOD MOTHER.

Yorkshire sow, Dewdrop Beauty 2596, and litter of twelve. First prize at Winnipeg Industrial.

OWNED BY JAS. BRAY, LONGBURN MAN.

its cud, instead of swallowing it, it seems to all run out of its mouth. It is bright and lively, but gains nothing. It appeared strong and healthy at first, but lost its appetite in a few days. Can you tell me what is the matter with the calf, and what I had better do with it?"

[Continue giving it laxative doses of oil, but not enough to purge it severely, and after each feed give one of the following powders, dissolved in a little new milk, and drench carefully: Scale pepsin, 2 drams; soda bicarb., 4 drams; ginger, 4 drams; powdered capsicum, 1 dram; nux vomica, 1 dram; all well mixed and divide into 12 doses.]

GREASE IN YOUNG HORSE.

H. A. S., Kittanning, Pa.:—"We are working a five-year-old horse at our brewery. He has something wrong with his hind legs; it keeps going up the leg, and the hair comes out and the skin gets scurfy or scabby, with the skin cracking or breaking open, and gets quite sore and smells. What would you call it, and in what manner should it be treated? Please let me know in the next number of the *ADVOCATE*."

[The trouble is undoubtedly "grease" or "cracked heels." Heavy horses are more apt to be affected with this trouble than light ones. The treatment for "grease" consists of an endeavor to arrest the discharge and bring about a healthy condition of the blood and the parts. First prepare the animal for a purgative by feeding an exclusive bran-mash diet for twenty-four hours, and then give the following dose: Barbadoes aloes, 1 ounce; calomel 1 dram; powdered ginger, 2 drams; syrup or soap, enough to form a ball. When the physic has operated, give twice a day for two weeks, in food or water, Fowler's solution of arsenic, 1 ounce. This treatment should put his blood in healthy condition, which is necessary to effect a cure. Apply to the legs, twice daily, this lotion: Water, 1 quart; sulphate of zinc and sugar of lead, each half an ounce; and creoline, 2 ounces. Before applying this lotion, for the first few times, wash the parts with warm soft water and castile soap. If the legs are very much inflamed, it would be well to poultice with hot bran for a few days before commencing the other applications.]

PERSISTENCE OF THE URACHUS.

FARMER, Norfolk Co., Ont.:—"Please tell me treatment for my bull calf, about two months old. It dribbles urine, which makes him itchy and takes hair off his navel; also breathes hard, making a wheezing noise. The calf is in good heart and well fed, on mostly fresh milk. I noticed his hard breathing when one day old, and urine trouble when five or six days old."

[Before birth the urine escapes from the bladder by the urachus, which should become obliterated at or immediately following that event. Bathe the parts freely with the following lotion three or four times daily, and keep the calf in a clean, well-bedded stall, as it is now dangerously exposed to blood poisoning (pyemic arthritis): Powdered alum, powdered borax, of each 1/2 oz.; tannic acid, 1 dram; carbolic acid, 2 drams; water, 12 ozs.; well shaken before applying.]

Miscellaneous.

SALT IN SWINE FEEDING.

S. F. writes:—"I would greatly appreciate, in the *ADVOCATE*, a statement as to the advantages of salt in swine feeding, and the extent and manner in which it should be supplied them? I read much

about its use for cattle, particularly dairy cows, and sheep, but never that it is needful to the health, gain, or quality of product in swine. Years ago I used to hear that it was "bad for hogs," but never could understand why. I should very much like to hear what some of our leading live stock experimenters have to say on this question, especially now that the production of fancy bacon has become such an important item in Canadian farming."

[A moderate use of salt has a stimulating effect upon the digestive organs, and has a tendency to increase the appetite of domestic animals. The excessive use of salt, however, is always objectionable, particularly in fattening animals, as it leads to a heavy consumption of water, thereby increasing the work of the kidneys and tending to interfere, to some extent, with the process of laying on flesh.

The excessive use of salt also tends to produce an over-laxative condition of the digestive organs, and this is also undesirable in fattening stock. It is generally conceded that dairy cows or milk-giving animals require more salt than those being used exclusively for fattening. Investigations and observations made at the Iowa Station indicate that fattening cattle do best when furnished the lump salt, as this guards against an excessive supply at any one time, and it may be taken regularly in small quantities. This principle is quite important in salting all animals: it should always be given regularly and never to excess. In general, I do not favor the policy of salting the feed of domestic animals, as it is considered best to keep a supply constantly accessible, and allow the amount taken to be regulated by the appetite of the animal. Withholding salt for a time and then giving it in large quantities is positively injurious to fattening stock.

I do not know of any way of salting hogs as satisfactory as furnishing a constant supply, mixed with wood ashes and charcoal, or other material of this character that will be beneficial to the appetite and digestive system. If the feeder undertakes to regulate the amount by mixing it with a grain ration, the chances are that the supply will not be gauged as accurately as if it were left to the natural desire of the stock.

C. F. CURTISS.

Iowa Exp. Station.]

MOST UP-TO-DATE FARM JOURNAL—MANURING FALL WHEAT—BUILDING UP LAND.

G. A. P., York Co., Ont.:—"Please find enclosed \$1 for my subscription to your valuable paper for '99. I would not be without it for any money, as I am sure it gives the most useful hints, and is the most up-to-date farm journal. I am having excellent results by sowing salt on mangels, sowing peas very early, and planting potatoes in the middle of June. All of these pointers, besides many others, I have learned through your superb journal. Will you kindly answer through your next issue the following questions:

"1. Would it pay well to buy night soil and scatter it over fall wheat in the winter time, when you would have time to draw it from the station, supposing the field was in a good fair state of fertilization?"

"2. What would you do with a field that is run down, and has wild tares on this year among the

able, and has to be applied sparingly, or would be better still mixed with straw yard manure.

2. While clover would prove highly valuable as a fertilizer, the chances of getting a sufficient stand by sowing at this late date to smother wild tares next summer are too uncertain to depend on and dispose of the cultivation that should be given this fall. In our opinion this would be a favorable spot for the night soil, which, if applied the coming winter, would insure a luxuriant smothering crop next summer. We would recommend that the field be lightly plowed as soon as possible after the oats are harvested, and occasionally cultivated throughout the fall, and well plowed before winter, and if it were given a dressing of manure and drilled up before frost comes, it would be all the better for the mechanical and chemical properties of the soil next season. In spring this would work down into fine condition for a free germination of the weed seeds, which would be readily destroyed by cultivation. A crop of fodder corn, sown in drills three feet apart about the middle of May, and well cultivated, would clean the land and make a profitable feeding crop. About the 1st to 15th of June a crop of rape could be sown in drills, so as to be cultivated while growing. This would produce a lot of good feed for stock, or it could be plowed down. The best smothering crop, however, is buckwheat, sowed five pecks per acre. This, like rape, when plowed down does not add fertility, as it gives back only what it took from the land, but it does in its decomposition dissolve fertilizers that were previously in an insoluble form in the soil.]

REGISTERING SHIRE HORSES.

X. Y. Z., Oakland, Man.:—"Will you please answer, in the columns of the *FARMER'S ADVOCATE*, the following questions: 1. Who is the proper person to apply to for the registration of Shire horses? 2. How much does it cost? 3. Can they be registered at any age; if not, at what age do they become non-eligible? 4. When registered in the Canadian are they also registered in the English Book?"

[1. Henry Wade, Registrar, Parliament Buildings, Toronto, Ont.

2. The fees of registration are: To members of the Association, \$1.00 each; to non-members, \$2.00 each; transfers, 50 cents each; yearly membership, \$2.00.

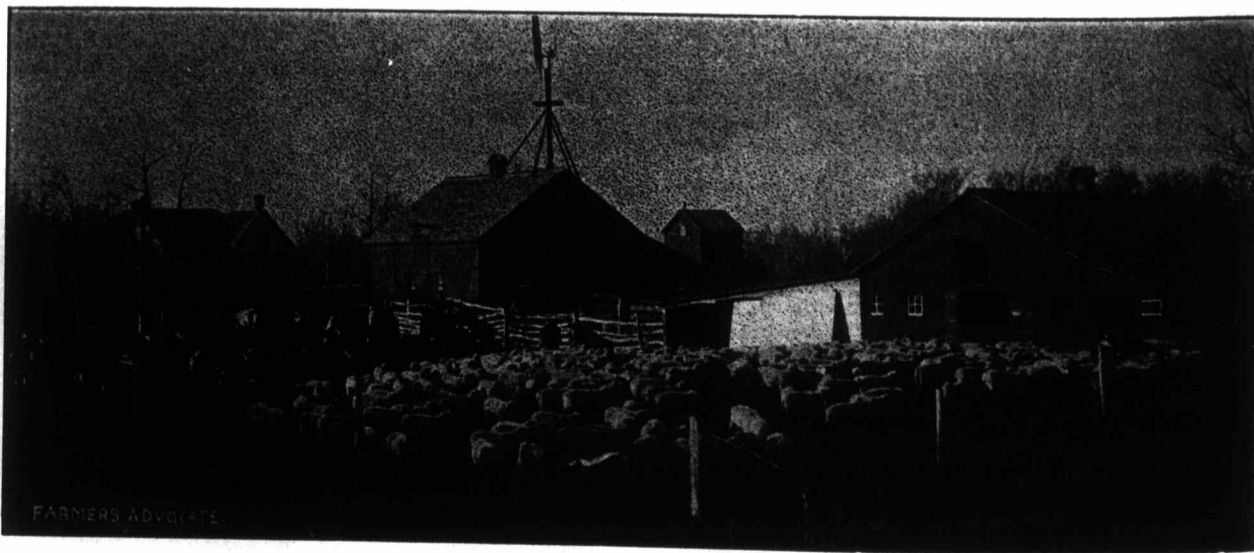
3. Yes.

4. You cannot register Canadian-bred Shires in the English Book, but it is necessary to record imported Shires in the English Book, and then in the Canadian Book after importation. The Canadian and English Stud Books are under the control of entirely separate associations.]

ASHES AS FERTILIZER—VALUE OF SLACKED LIME.

P. J. C., Wellington Co., Ont.:—"1st. What is conceded to be the value of soft wood ashes as a fertilizer per ton; the best method of supplying them? 2nd. What would likely be the value of old slack lime and ashes (that have been thrown out of a lime kiln for some years) per ton as a fertilizer? Would they be worth drawing about three miles?"

[1. Unleached wood ashes have a commercial value depending upon the quantity of potash and phosphoric acid contained in them. Six to seven per cent. potash and two per cent. phosphoric acid may be accepted as a fair average of commercial wood ashes. The term "soft wood ashes" is too indefinite to attach a price to such ashes. For



POPULAR GROVE FARM OF J. E. MARPLES, DELEAU, MANITOBA.

400 acres under crop. 400 acres fenced pasture.

oats. If I summer-fallow it next year, could I grow some kind of a fertilizer, in the form of rape, buckwheat or clover, that would choke out the tares as well as fertilize the field? If clover would be the best, please state what kind, and the right time to sow it?"

[1. There is no doubt but a top-dressing of night soil would benefit fall wheat or any other crop to which it would be applied, except the land were very rich, but whether or not it would pay depends upon the cost. Liquid sewage, as ordinarily obtained from towns having a water system, has very little fertilizing value, but where it is mixed with soil, ashes or other dry material, it is highly valu-

example, cedar ashes have no value as a fertilizer, but those of ash wood are among the most valuable. Potash per pound and phosphoric acid per pound in wood ashes for fertilizing purposes are placed at five and four cents respectively. Therefore, while wood ashes of average composition are worth from \$7 to \$8.00 per ton, ashes of cedar or pine are worth practically nothing. Ashes for fertilizing purposes should not be purchased without an accurate chemical analysis of them is first made to determine the quantity of potash and phosphoric acid contained. The best method of application is broadcast on the surface to most any crop, particularly potatoes, roots, corn or pasture.

2. The value of such material, "old slacked lime and ashes," would be practically nothing. If the ashes have been exposed for those years they would certainly not be worth drawing three miles. A safe answer is, invest no money nor labor in them.

A. E. SHUTTLEWORTH, Chemist.

O. A. C., Guelph.]
TREATING BUGGY PEAS—IT SHOULD BE DONE THIS FALL.

CHARLES AVERY, Huron Co., Ont.:—"I would like to know how to prepare a box for treating buggy peas with carbon bisulphide. What is the cost per bushel for treating a quantity?"

[Any wooden box will do so long as it is moderately air-tight. To make it such, it could be lined with several thicknesses of paper pasted on. A good-sized box for a farmer to use would be one that would hold 18 to 20 bushels. Fill this with the peas as soon as threshed, and set a dish containing one pound of carbon bisulphide, costing 25 cents, on the top of the peas. Put on the cover as closely as possible and leave for three days. By this time the chemical will all have evaporated, and, being heavy, it will have penetrated every portion of the box, destroying all the insect life in it. Do not bring a lighted lantern or any fire near the box, as the gas is highly explosive if ignited. It is very important that all buggy peas be treated as soon as threshed, as at that time the peas will not have been injured for seed by the bugs, and the bugs are easily killed when so young. If left till later the peas are injured for seed, and the bugs escape to attack next year's crop.]

RULES IN PRIZE PLOWING.

J. O'NEILL, Compton Co., Que.:—"Please inform me, through your valuable paper, the rule of plowing at a plowing match. What is the width and depth? Should the prize ridge have even number of furrows on either side? Should the two half-ridges have even numbers? Does the ground furrow count as a furrow? Should one ground furrow be put to the prize ridge and the other to the half-ridge?"

[Regarding plowing-match rules, the depth should be six inches. The furrow should measure the same on both coulters and share face. The plowman must govern width of furrow accordingly. It is not always convenient to have exactly an equal number of furrows on either side of prize ridge, particularly if the old ridges were not of equal size. The half-ridges should have a corresponding number of ridges to prize ridge. Usually both ground furrows are turned to prize ridge—it improves the shape. Ground furrows may be either counted or not, according to number of furrows.

W. M. RENNIE, Farm Supt.
 O. A. C., Guelph.]

COMMERCIAL FERTILIZERS FOR FALL WHEAT.

ENQUIRER writes:—"I am anxious to sow fall wheat this season on a piece of stubble land, for which I have no barnyard manure, and which has not been enriched lately by plowing down clover. I would take it as a great favor if you would indicate to me what would be the best kind of commercial fertilizer to use in such a case, and how and when it should be applied. Are the drills or seeders arranged for applying the fertilizer at the same time, drilling it in with the wheat?"

[It is probable that a complete fertilizer would give profitable returns upon the land described. Phosphoric acid can, in most sections of the country, be cheaply obtained from dissolved phosphate rock. Potash can be readily obtained from the muriate of potash. As a source of nitrogen for wheat, dried blood or ammonium sulphate are both valuable, but dried blood is at the present time one of the cheapest sources for commercial nitrogen. We recommend the following mixture for one acre of wheat:

- Dissolved phosphate rock.....200 lbs.
- Dried blood.....150 lbs.
- Muriate of potash.....50 lbs.

These materials should be thoroughly well mixed before being applied. Usually the muriate of potash is in lumps when purchased or after being stored for a time. These lumps should be crushed before mixing. The grain drills now made nearly all have attachments for distributing commercial fertilizer. All the materials above mentioned will pass readily through a fertilizer drill, and should be put in at time of drilling grain. It should always be remembered by one asking for information about fertilizers, that one unacquainted with the soil and the previous treatment of the soil cannot give a formula and guarantee from its use the best results. On some soils the application of phosphoric acid will give marked beneficial results, while on other soils phosphoric acid seems not to be needed. In recommending the above formula we have placed the various materials in the proportion which is likely to give best results. If the wheat is slow in starting in the spring, then a top-dressing of nitrate of soda should be given, say 100 lbs. per acre.

L. A. CLINTON,
 Cornell University, N. Y.

Agricultural Exp. Station.

A group of 21 plots for testing the values of the different fertilizers for wheat crops has been in existence for eleven years here. The conditions have been scarcely normal, since no material that might be converted into humus has been left on the soil save the stubble and roots of the crop on such plots as received no barnyard manure. A study of the results, therefore, while interesting, may scarcely be considered as furnishing data of a conclusive

character. A brief consideration of a few of the plots might, however, be of some value, and suggest something to the farmer interested in wheat.

The plots are, for the most part, of a rather light loamy soil, and this fact doubtless influences in no small measure the results obtained.

Barnyard manure has given by far the best returns, the average yields in eleven years being 20 bushels 56 lbs. for rotted manure, and 20 bushels 52 lbs. for green manure. Muriate of potash, 150 lbs. per acre, has given the best results here where commercial fertilizers alone were used, the yield being 15 bushels 20 lbs. per acre for eleven years. Finely ground bone, 500 lbs., and woodashes (unleached), 1,500 lbs., per acre, gave 15 bushels 12 lbs. per acre. A mixture of mineral superphosphate, 350 lbs.; nitrate of soda, 200 lbs.; wood ashes (unleached), 1,500 lbs., all applied in the spring, has given 13 bushels 30 lbs. per acre for eleven years. Nitrate of soda used alone at the rate of 200 lbs. to the acre gave 13 bushels 22 lbs. per acre. A number of other mixtures were used, but with considerably lower returns.

It should be mentioned that in all these plots spring wheat has been used.

A balanced fertilizer for wheat should contain phosphates, nitrates and potash, but the exact proportion would be difficult to fix without a perfect knowledge of the field and the soil on which it was to be used. The phosphatic part should be applied in the autumn, and the nitrates and potash in the spring, as they are much more soluble.

A mixture which has given excellent returns at Rothamstead is: Sulphate of potash, 200 lbs.; sulphate of soda, 100 lbs.; sulphate of magnesia, 400 lbs.; ammonia salts, 600 lbs., per acre.

The best method to apply the fertilizers is to mix them with sand or dry soil and scatter over the field. They may be sown pure, but if any breath of air be stirring, a large percentage will be carried to some other field. The varying physical characteristics of the different fertilizers would be against their being sown with a drill. The phosphate might be harrowed in with the wheat, and the nitrates and potash scattered over the surface of the ground the following spring.

Experimental Farm, Ottawa. J. H. G.

I would certainly think it advisable not to sow winter wheat on land as described in the foregoing enquiry. Such land is not likely to give a remunerative crop of winter wheat. If, however, winter wheat is sown the crop can be increased by the use of commercial fertilizers. In our experiments at the Agricultural College at Guelph, we have found that the best results with winter wheat were obtained from either a nitrogenous fertilizer used alone or by a combination of nitrogenous and phosphatic fertilizers. A dressing of one hundred pounds of nitrate of soda sown this autumn when the plants were from one to two inches in height, and another dressing of one hundred pounds of nitrate of soda in the spring when the winter wheat had started a fresh growth, would likely help the crop considerably. As the nitrate of soda is very soluble, it is advisable to sow it at a time when the plants can make use of it as soon as it becomes dissolved. Should it be sown at the time of seeding, there would be a danger of part of the fertilizer being wasted. Not knowing more about the character of the soil, I would hesitate in recommending a large dressing of a phosphatic fertilizer for profitable results.

C. A. ZAVITZ, Experimentalist.
 Ontario Agricultural College.]

CAN MILFEEDS BE PROFITABLY FED TO MILCH COWS IN SUMMER?

S. J.:—"Owing to the severe drought in my district, the grass is parched brown and my herd of fifteen dairy cows have fallen off over one-third in their milk. I have no green food yet, nor old silage. Cheese and butter are selling, respectively, at 10 1/2 cents and 25 cents per pound. Would it not pay me to purchase milfeeds? I can get corn meal at \$16.00 per ton, wheat bran at \$14.00, shorts at \$18.00, pea bran at \$14.00, oat bran at \$7.00. Which of these, or what mixture, would you advise me to use, and would I get best results by making it a slop? What quantity per cow per day, and how often, should I feed?"

[With cheese and butter bringing such prices, it should pay any farmer who had suitable cattle to feed considerable quantities of milfeeds. The feeds, however, are also very high priced, and without some knowledge of the class of cattle kept it would be practically impossible to say whether an immediate profit would be made upon the milfeeds fed. The effect of supplementary feeding upon the cow in succeeding years is, however, certain to make it worth while feeding them a quite liberal ration under such conditions. This should be especially considered when heifers form part of the milking herd. Of the feeds mentioned, bran and corn meal would be the most economical, mixed in proportion of four of bran to one of corn meal. A feed of two pounds each night and morning would be a fairly liberal ration. The individual cow must be studied, however, and the feed divided accordingly to merit. Give most to the cow that responds the most liberally to your feeding. It very seldom pays to make a slop of the feed. There is no appreciable difference in results obtained, and it is considerable more work to make the slop.

The pea bran and oat bran, while occasionally found to be very valuable, are frequently of a very inferior quality, and should never be bought unless affording strong evidence of containing a good percentage of nutritive material. Such feeds should never be bought save on the strength of bona-fide analysis.

J. H. G.
 Experimental Farm, Ottawa.]

Fairs of 1899.

CANADA.

Industrial Exhibition, Toronto	Aug. 28 to Sept. 9
Eastern Exhibition, Sherbrooke, Que.	Sept. 4 to 9
Western Fair, London, Ont.	" 7 " 16
South Lanark, Perth, Ont.	" 11 " 13
Kingston District, Kingston	" 11 " 14
Quebec Exposition	" 11 " 16
New Brunswick Provincial, St. John	" 11 " 20
Central Canada, Ottawa	" 11 " 23
Wellesley & N. Easthope, Wellesley	" 12 " 13
Prescott County, Vankleek Hill	" 12 " 13
Brome, Brome Cor., Que.	" 12 " 13
Stormont, Newington	" 12 " 13
Owen Sound, Owen Sound	" 12 " 14
Bay of Quinte District, Belleville	" 13 " 14
Addington County	" 13 " 14
Matilda Township, Iroquois	" 13 " 15
Carleton County, Richmond	" 13 " 15
Eldon Agricultural Society, Woodville	" 14 " 15
Durham West, Bowmanville	" 14 " 15
Southern, Brantford	" 16 " 21
Lennox, Napanee	" 18 " 19
Stephen and Osborne, Exeter	" 18 " 19
Peterboro Central, Peterboro	" 18 " 20
West Middlesex Union, Strathroy	" 18 " 20
Northern, Walkerton	" 19 " 20
Turnberry, Wingham	" 19 " 20
Huron Central, Clinton	" 19 " 20
Turnberry, Wingham	" 19 " 20
North Victoria, Victoria Road	" 19 " 20
Listowel, Listowel	" 19 " 20
Prescott, Prescott	" 19 " 21
Central, Guelph	" 19 " 21
North York, Newmarket	" 19 " 21
Great Northern, Collingwood	" 19 " 22
Seugog, Port Perry	" 20 " 22
East Elgin, Aylmer, Ont.	" 21 " 22
Bruce North, Port Elgin	" 21 " 22
North Oxford, Woodstock	" 21 " 23
Central, Lindsay	" 21 " 23
Streetsville, Streetsville	" 22 "
Nova Scotia Provincial, Halifax, N. S.	" 23 " 30
North Brant, Paris	" 25 " 26
Elma, Atwood	" 26 " 27
Center Bruce, Paisley	" 26 " 27
Haldimand County, Cayuga	" 26 " 27
West Williams and Parkhill	" 26 " 27
Haldimand County, Cayuga	" 26 " 27
Peel County, Brampton	" 26 " 27
Grey South, Durham	" 26 " 27
Waterloo North, Berlin	" 26 " 27
Central, Peterborough	" 26 " 28
North Simcoe, Stayner	" 26 " 28
Northwestern, Goderich	" 26 " 28
Peninsular, Chatham	" 26 " 28
North Lanark, Almonte	" 26 " 28
Southwold and Dunwich, Shedden	" 26 "
Esquering, Georgetown	" 27 " 28
Center Wellington, Fergus	" 27 " 28
Ontario and Durham, Whitby	" 27 " 28
South Renfrew, Renfrew	" 28 " 29
South Waterloo, Galt	" 28 " 29
North Perth, Stratford	Oct. 3 to 4
Arran Tara, Tara	" 3 " 4
South Oxford and Dereham	" 3 " 4
British Columbia, New Westminster	" 3 " 6
Six Nations, Ohsweken	" 4 " 6
East York, Markham	" 4 " 6
North Renfrew, Beachburg	" 5 " 6
South Norwich, Otterville	" 6 " 7
"World's" Fair, Rockton	" 10 " 11
Burford, Burford	" 11 " 12
Orford, Highgate	" 13 " 14
Norfolk Union, Simcoe	" 17 " 19

UNITED STATES.

Ohio State, Columbus, Ohio	Sept. 4 to 8
New York State, Syracuse, N. Y.	" 4 " 9
Cambridge, Cambridge, N. Y.	" 5 " 8
Monroe County, Stroudsbury, Pa.	" 5 " 8
Inter-State, Trenton, N. J.	" 25 " 29
Michigan State, Grand Rapids, Mich.	" 25 " 30
Illinois State, Springfield, Ill.	" 25 " 30
St. Louis, St. Louis, Mo.	Oct. 2 " 7

MARKETS.

FARM GOSSIP.

Huron County.

Harvest is pretty well through; a few late oats standing yet. Oats are exceptionally good, barley good, as also peas, and in most cases spring wheat is fair. Fall wheat yielded a little better per acre than was expected. Corn is doing well. Potatoes and roots would yield well if they could have rain. No rain of any account has fallen for over three weeks, and everything is suffering. Pasture very short, the young clover burning up, and though it is very fortunate we had plenty of rain earlier in the season, the dry spell is affecting roots and fruit considerably.

The apple crop will be good. Huron will barrel more apples this fall than it did last season, the fruit is better quality, and the varieties bearing are also better. The prices paid range all the way from \$1.00 to \$2.00 per barrel, though many of the orchards are bought by the lump. Buyers are thick and competition is consequently keen. Plums are plentiful, and prices are low, one fruit-grower contracting to supply 4,000 baskets at 20c. per basket.

Lambs are being bought at from \$3.25 to \$3.50 per head. Hogs took a slide down recently; 5c. was paid last week, and only 4c. offered this week and buyers not very anxious for them. Cheese is selling high; several factories have sold for over 9c. per lb. Markets are: Wheat, old, 67c.; new, 64c. Oats, 23c. Barley, 32c. Peas, 52c. Butter, 12c. to 14c. Eggs, 11c. to 12c. per dozen. Hay, \$5.50 to \$6.00. Potatoes, 40c. per bushel. A good average of fall wheat will be sown. Many farmers still practice the bare fallow, while more clover sod is being turned under every year for wheat, with excellent results.

August 25th, 1899. F. C. E.

Oxford County.

We have been having very dry weather in our immediate locality. In the eastern and northern parts of our county they have had some local showers that missed our neighborhood, and we are now in a very bad plight for want of rain.

We had some good cut oat straw that was left over from last season, and we run a little green corn through the cutting-box and mix with this cut oat straw, and then shake a little bran over it and the cows eat greedily as much of this at a feed as they would in winter, and then hay after by way of dessert.

Live hogs have also advanced nicely, and are now being delivered at \$5.15, and the tendency is still upward. We have found it to be an advantage to keep the store hogs in during the heat of the day, and allow them to run out in the evening and all night to glean what they can on the stubble fields.

Sheep and store cattle are suffering from drought. And there is no use in sowing any rape, for the ground is so dry that the seed would not germinate.

We have had some sod plowed for fall wheat for some time, but it has not so far gathered much moisture, and it would be very unwise to sow fall wheat until we get a plentiful rain.

We have all finished harvesting around here, and generally speaking the crops are lighter than the average. Some of our best 100-acre farmers have a day and a half's threshing, but many can run it out in one day. Our oats yielded about one load to the acre, and peas about two loads.

Potatoes are of very good quality, but not numerous, and the crop will be light. Where the ground was well cultivated the tops are keeping remarkably green. Roots are suffering much for the want of rain. Apples are almost a failure with us, and there will be very few for sale in this immediate vicinity.

P. E. Island.

We have had a great change in the weather since July. The excessive rain is over, and for the last four weeks we have had beautiful dry, sometimes cool, weather. A more than average hay crop has been saved, mostly in good condition. The aftermath has started well, and fall pasturage promises to be good.

Business at the dairy stations is not falling off any yet, and the high price of cheese is making patrons feel well. Most of the factories are sold up to the middle of August. The prevailing price of cheese last half of July was 9 1/2 to 9 3/4 cents, and first half of August 9 1/2 cents.

A direct steamer will be placed on the Charlottetown and Liverpool route early in the fall, which will likely make three or four trips. As a consequence most of our products, especially live stock, will go to the Old Country at a good price.

There has been absolutely no rain in this vicinity for the past month. The result is our wells, pastures, and cows are drying up. The latter are depending almost entirely upon the cornfield, hay mow or silo for sustenance.

Kent County, Ont.

There has been absolutely no rain in this vicinity for the past month. The result is our wells, pastures, and cows are drying up. The latter are depending almost entirely upon the cornfield, hay mow or silo for sustenance.

Harvesting is over, and the crop nearly threshed. The wheat yield is poor, varying from 8 to 25 bushels per acre, with an average of about 17 bushels. A great deal of it tests light. The price is gradually advancing, and has now reached 68c. standard.

Fruit and Grain Crops in Ontario County.

The time has arrived when we can make a tolerably fair estimate of the fruit crop in this section. The apple crop will not exceed 35 per cent. of a full crop, while plums will go less. Pears are holding their fruit well and will average about 75 to 80 per cent.

In grain, samples are better than for some years; especially barley, which is exceptionally bright. Oats are a fine crop, and wheat will be a good average.

Root crops are generally backward, and unless we have rain soon potatoes and other roots will be a small crop. Corn is looking healthy but growing slow; fresh seeded land is looking very sickly, the young clover drying out badly.

High-grade Manitoba and N.-W. T. Wheat. Later reports claim that the Manitoba Government crop estimates of 20.55 average per acre of the wheat crop will be considerably under the mark.

Quebec Crops. Provincial Government reports indicate that crops generally are slightly under last year, but the new North-eastern district, into which many settlers are going, makes an exceedingly good showing.

Chatty Stock Letter from Chicago.

FROM OUR OWN CORRESPONDENT.

Following table shows current and comparative live stock prices:

Table with columns for Beef cattle, Hogs, Sheep, and various weight categories, showing prices for 1896, 1897, and 1898.

The \$6.65 cattle belonged to G. B. Blades, of Irwin, Iowa, being the highest price paid here since December, 1893. He sold cattle a few days before at \$6.60.

Top August cattle prices at Chicago:

Table listing top August cattle prices at Chicago for various years from 1889 to 1899, with prices ranging from \$4.50 to \$6.50.

A Chicago commission concern sold for S. Finnell, of Hamburg, Iowa, 1,000 head of grade Hereford steers, averaging about 1,500 lbs., at \$5 per 100 lbs. in the feed lot.

This shows the extent to which buyers are scouring the country for good cattle. The demand for feeding cattle is even stronger, and so it will be seen that the Western corn belt, as well as the range regions that have thin cattle to sell, are the center of a good deal of interest to the trade just now.

The local butchers are making a great hue and cry against the advance in cattle prices, or, rather, in the prices they have to pay for beef by wholesale.

Hog receipts lately have been extremely small. As a consequence, buyers are having a hard time to keep prices from going far above the point that leaves them any profit on their board of trade contracts.

A good many Western range horses are being marketed in Chicago. A lot of 1,300 Wyoming and Montana horses sold at \$14 to \$22 per head for suckling colts to three- to five-year-old 1,050 to 1,300 lb. animals.

The 500 range branded horses from the ranches of Utah were sold in the pens in car lots, at a range of \$13, \$16 and \$17.50 for yearlings; \$16 and \$21.50 for brood mares with foals by their side; and \$35.50 for three-year-old and four-year-old unbroken animals.

The famous "Nun" ranch and NUN brand of cattle, in Lubbock County, Texas, has been sold in Chicago to Lake, Tomb & Co., the well-known South Dakota ranchmen and Chicago capitalists, for a sum aggregating about \$50,000 for cattle and land.

There are about 22,500 cattle on the ranch, not counting this year's calves, which sold at \$21 per head. The herd consists of some 6,000 two- and three-year-olds, 500 well-bred bulls, mostly Shorthorns, and the balance yearlings and cows.

Montreal Markets.

Cattle.—Since our last report this market has undergone very little change, looking at it from the standpoint of volume of business put through; but from the quality of cattle offered the change has been anything but satisfactory.

Sheep and Lambs.—Fairly large offerings are forward, and all good suitable stock is quickly picked up for export at 3c. to 3 1/2c. per lb.; lambs ranging about 1c. per lb. more.

Cats.—The run of calves is steadily growing lighter as the season wears on, and prices range from \$2 to \$10 each, according to size and quality.

Hogs.—The run for offerings on the local market is on the small side, as most of the packers, like Laing, Masterman, and Morgan, all contract at Western points for their requirements. Locally, the prices range from 4c. to 5c. per lb.

Live Stock Shipments.—Shipments for the week show quite an increase on last week, and amount to 2,771 cattle and 3,053 sheep, as against 1,889 cattle and 1,781 sheep for last week; but the total is still far behind the same period last year, with the help of some 15,000 head of American cattle.

British Markets.

Hot weather and heavy supplies had the effect of forcing prices down from a half to one cent, as compared with last Monday's prices. Choice States steers sold down from 13c. to 12c. and 12 1/2c. per pound, sinking the offal.

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Rates in Liverpool were on a par with the above.

Dairy Shipments.

Shipments of cheese for the week, 75,527 boxes, as compared with 87,734, making the total to date, 1,058,199 boxes. As to the advance of butter and cheese in the country, readers have already been posted. Butter shipments for the week were very light, the total to date being 211,800 boxes.

Toronto Markets.

Receipts at the Western cattle market taxed the capacity of the yards, and loud were the complaints of mixed loads. This week will again top all records—over 300 loads of cattle received. Trade was fair, considering the large number on offer. Prices well maintained on all kinds of stock except hogs.

Export Cattle.—The market opened with an active demand for choice export cattle. The bulk of the best exporters sold from \$4.85 to \$5 per cwt. Choice exporters, 1,275 lbs. average, at \$4.50. Mr. James Harris bought four loads of exporters at \$4.80; average weight, 1,250 lbs. each.

Butchers' Cattle.—Choice picked loads of butchers' cattle, equal in quality to exporters, weighing 1,000 to 1,100 lbs., sold at \$4.40 to \$4.50. Common butchers' cattle sold at \$3.12 to \$3.35, steers at \$3.40 to \$3.63 per cwt.

Stocks.—Trade in stocks was not brisk, and only a limited number taken for the Buffalo market, at prices ranging from \$2.50 to \$2.75 for heifers; well-bred steers at \$3.30 to \$3.50 per cwt.

Feeders.—Light feeders, weighing from 900 to 1,000 lbs. each, sold at \$3.60 per cwt. Good heavy steers wanted, at \$4 to \$4.25 per cwt.

Sheep.—About 1,000 sheep on offer. A few left over from Thursday's market, which was one of the largest this year. Ewes sold at \$3.75 to \$4 per cwt.; bucks from \$2.75 to \$3. Best butchers' sheep ranged from \$3 to \$3.60 per cwt.

Lambs.—Were in good demand, only a limited supply. Prices firmer, at \$4.75 to \$5 per cwt., and at from \$3 to \$4.50 each for extra choice. Mr. W. R. Leask bought 300 sheep and lambs at from \$3.75 to \$4.10 per cwt.

Cats.—Only one offer, which met ready sale at from \$2 to \$8 per head, according to size and quality. Good calves wanted.

Milk Cows.—Only a few good cows on offer. Those of medium quality fetched \$25 to \$35 per head. Only one good cow touched \$45.

Hogs.—First fall after rise brings increased supplies. When we were asking for hogs at \$5.25, every farmer held off for \$5.50, and said we shall see hogs go to \$6.25 before long. But our pointer was true. The fall came one week sooner than expected, and our supplies two weeks late.

Grain Market.—Receipts of farm produce large—2,300 bushels of grain. White wheat—750 bushels sold at 72c. to 73c. per bush. Red wheat—300 bushels sold at 72c. per bush.

Oats.—Easier, at 30c. for new, and 300 bushels of old sold at 35c. per bush.

Hay.—Twenty loads on offer. Firmer, at \$10 to \$11 per ton.

Straw.—Four loads, at from \$7 to \$8 per ton.

Fruit.—Receipts of fruit were exceedingly large, trade good, and prices steady. Crawford peaches sold at \$1 to \$1.25 per basket; plums, 25c. to 50c. per basket; apples, \$1.25 to \$1.50 per barrel.

Dressed Hogs.—Increased supplies not wanted by the market dropped the price of dressed hogs down to \$5 per cwt., some said less.

Butter.—Very scarce, dear, and held for best price only. In pound rolls, from farmer's wagon, 15c. to 22c. per lb.

Eggs.—Large supply at easy prices—11c. to 15c. per doz.

Toronto Market News.

Mr. Silknetter, buyer for the firm of Messrs. Mallory, Sons & Co., cattle exporters, Union Stock Yards, Chicago, was a visitor at the yards this morning. He expressed great surprise at the small character of our hogs and the top price paid.

Shipments of Northwest ranch cattle are being made. This caused a scarcity of ship space on steamers at Montreal. A much larger number of cattle are expected this season than heretofore, and about a month earlier in the season.

In our issue of August 1st we mentioned that Mr. John Sheridan, the well-known horse and cattle exporter, was assessed on the value of cattle that were fed in the byres at Messrs. Gooderham's distillery, to the amount of \$8,000. Mr. Sheridan appealed against this assessment. The case came up this week before His Honor Judge Morgan, who ruled that all cattle preparing for export, to be sent out of the country, was stock in trade, and did not make a profit until sold.

This ruling will also govern Windsor, where the taxes have been paid. It will also affect about 5,000 cattle held by various exporters for periods averaging six months. The taxes in Mr. Sheridan's case amounted to \$180, which will have to be refunded, and the assessment reduced from \$8,000 to \$2,000.

Buffalo Special Market Report.

Canadian Lambs.—On account of the drought in the States quite a few of the half-fattened lambs have been rushed to the market, and in consequence this over-supply has weakened values on the better grades. Good to choice ewe and wether lambs are salable at 6c., with the fair to good kinds, bucky and fat, at \$5.50 to \$5.65, and culls and common thin throw-outs at about \$4.50.

Cattle.—The receipts of Canadian cattle last Saturday and Monday and so far this week have been about 45 loads; still prices have held up remarkably well on the good to choice kinds. There is a good demand for good stockers and feeders of good colors on the basis of \$4.25 to \$4.50, with an occasional extra good quality selling up to \$4.60 to \$4.65.

Butter.—Very scarce, dear, and held for best price only. In pound rolls, from farmer's wagon, 15c. to 22c. per lb.

Eggs.—Large supply at easy prices—11c. to 15c. per doz.

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Shipments of cheese for the week, 75,527 boxes, as compared with 87,734, making the total to date, 1,058,199 boxes.

Shortage of pastures, owing to drought, in many of the leading cheese sections, coupled with strong English markets, have sent prices kiting, as high as 11c., 11 1/2c., and 11 9/16c. per lb. being paid at various Ontario markets during the past week.



AN AFRICAN MILLIONAIRE.

EPISODES IN THE LIFE OF THE ILLUSTRIOUS COLONEL CLAY.

BY GRANT ALLEN.

(Continued from page 490.)

Paul Finglemore shook his head. "Won't do," he answered, calmly. "Be sure of your ground. Outside the jurisdiction! You can only do that on an extradition warrant."

"Well, then, at Seldon, in London, in this house, and elsewhere," Charles cried out, excitedly. "Hold hard to him, Sey; by law or without it, blessed if he isn't going even now to wriggle away from us!"

At that moment Simpson returned with a convenient policeman, whom he had happened to find loitering about near the area steps, and whom I half suspected, from his furtive smile, of being a particular acquaintance of the household.

Charles gave the man in charge formally. Paul Finglemore insisted that he should specify the nature of the particular accusation. To my great chagrin, Charles selected from his rogues, as best within the jurisdiction of the English courts, the matter of the payment for the Castle of Lebenstein—made in London, and through a London banker. "I have a warrant on that ground," he said. I trembled as he spoke. I felt at once that the episode of the commission, the exposure of which I dreaded so much, must now become public.

The policeman took the man in charge. Charles still held to him grimly. As they were leaving the room the prisoner turned to Cesarine and muttered something rapidly, under his breath, in German. "Of which tongue," he said, turning to us blandly, "in spite of my kind present of a dictionary and grammar, you still doubtless remain in your pristine ignorance!"

Cesarine flung herself upon him with wild devotion. "Oh, Paul, darling," she cried, in English, "I will not, I will not! I will never save myself at your expense. If they send you to prison—Paul, Paul, I will go with you!"

But the man, his hands still free, unwound her clasping arms with gory fingers. "My child," he answered, in a soft tone, "I am sorry to say the law of England will not permit you to go with me. If it did, 'stone walls would not a prison make, nor iron bars a cage.'" And, bending forward, he kissed her forehead tenderly.

We led him out to the door. The policeman, in obedience to Charles' orders, held him tight with his hand, but steadily refused, as the prisoner was not violent, to handcuff him. We hailed a passing hansom. "To Bow Street!" Charles cried, unceremoniously pushing in policeman and prisoner. The driver nodded. We called a four-wheeler ourselves, in which my brother-in-law, Dr. Beddersley and myself took our seats. "Follow the hansom!" Charles cried out. "Don't let him out of your sight. After him, close, to Bow Street!"

I looked back and saw Cesarine, half fainting, on the front door steps, while Dolly, bathed in tears, stood supporting the lady's maid and trying to comfort her. It was clear she had not anticipated this end to the adventure. "Goodness gracious!" Charles screamed out, in a fresh fever of alarm, as we turned the first corner, "where's that hansom gone to? How do I know the fellow was a policeman at all? We should have taken the man in here. We ought never to have let him get out of our sight. For all we can tell to the contrary, the constable himself—may only be one of Colonel Clay's confederates!"

And we drove in trepidation all the way to Bow Street.

VIII.

THE EPISODE OF THE OLD BAILEY.

When we reached Bow Street we were relieved to find that our prisoner, after all, had not evaded us. It was a false alarm. He was there with the policeman, and he kindly allowed us to make the first formal charge against him. Of course, on Charles' sworn declaration and my own the man was at once remanded, bail being refused, owing both to the serious nature of the charge and the slippery character of the prisoner's antecedents. We went back to Mayfair—Charles well satisfied that the man he dreaded was under lock and key; myself not too well pleased to think that the man I dreaded was no longer at large, and that the trifling little episode of the ten per cent. commission stood so near discovery.

Next day the police came round in force and had a long consultation with Charles and myself. They strongly urged that two other persons at least should be included in the charge—Cesarine and the little woman whom we had variously known as Madame Picardet, White Heather, and Mrs. David Granton. If these accomplices were arrested, they said, we could include conspiracy as one count in the indictment, which gave us an extra chance of conviction. Now they had got Colonel Clay, in fact, they naturally desired to keep him, and also to indict with him as many as possible of his pals and confederates.

Here, however, a difficulty arose. Charles called me aside with a grave face into the library. "Seymour," he said, fixing me, "this is a serious business. I will not lightly swear away any woman's character. Colonel Clay himself—or, rather, Paul Finglemore—is an abandoned rogue, whom I do not desire to screen in any degree. But poor little Madame Picardet—she may be his lawful wife, and she may have acted implicitly under his orders. Besides, I don't know whether I could swear to her identity. Here's the photograph the police bring of the woman they believe to be Colonel Clay's chief female accomplice. Now, I ask you, does it in the least degree resemble that clever and amusing and charming little creature who has so often deceived us?"

In spite of Charles' gibes, I flatter myself I do really understand the whole duty of a secretary. It was clear from his voice he did not wish me to recognize her, which, as it happened, I did not. "Certainly, it doesn't resemble her," Charles, I answered, with conviction in my voice. "I should never have known her." But I did not add that I should no more have known Colonel Clay himself in his character of Paul Finglemore, or of Cesarine's young man, as that remark lay clearly outside my secretarial functions.

Still, it fitted across my mind at the time that the Seer had made some casual remarks at Nice about a letter in Charles' pocket, presumably from Madame Picardet; and I reflected further that Madame Picardet in turn might possibly hold certain answers of Charles', couched in such terms as he might reasonably desire to conceal from Amelia. Indeed, I must allow that under whatever disguise White Heather appeared to us, Charles was always that disguise's devoted slave from the first moment he met it. It occurred to me, therefore, that the clever little woman—call her what you will—might be the holder of more than one indiscreet communication.

"Under these circumstances," Charles went on, in his austere voice, "I cannot consent to be a party to the arrest of White Heather. I—I decline to identify her. In point of fact"—he grew more emphatic as he went on—"I don't think there is an atom of evidence of any sort against her. Not," he continued, after a pause, "that I wish in any degree to screen the guilty. Cesarine, now, Cesarine we have liked and trusted. She has betrayed our trust. She has sold us to this fellow. I have no doubt at all that she gave him the diamonds from Amelia's rievre; that she took us by arrangement to meet him at Schloss Lebenstein; that she opened and sent to him my letter to Lord Craig-Ellachie. Therefore, I say, we ought to arrest Cesarine. But not White Heather—not Jessie. Let the guilty suffer; why strike at the innocent—or, at worst, the misguided?"

"Charles," I exclaimed, with warmth, "your sentiment does you honor. You are a man of feeling. And White Heather, I allow, is pretty enough and clever enough to be forgiven anything. You may rely upon my discretion. I will swear through thick and thin that I do not recognize this woman as Madame Picardet."

Charles clasped my hand in silence. "Seymour," he said, after a pause, with marked emotion. "I felt sure I could rely upon your honor and integrity. I have been rough upon you sometimes. But I ask your forgiveness. I see you understand the whole duties of your position."

We went out again, better friends than we had been for months. I hoped, indeed, this pleasant little incident might help to neutralize the possible ill effects of the ten per cent. disclosure should Finglemore take it into his head to betray me to my employer. As we emerged into the drawing-room, Amelia beckoned me aside towards her boudoir for a moment.

"Seymour," she said to me, in a distinctly frightened tone, "I have treated you harshly at times, I know, and I am very sorry for it. But I want you to help me in a most painful difficulty. The police are quite right as to the charge of conspiracy. That designing little minx, White Heather, or Mrs. David Granton, or whatever else we're to call her, ought certainly to be prosecuted, and sent to prison too, and have her absurd head of hair cut short and combed straight for her. But—and you will help me here, I'm sure, dear Seymour—explain as much of this as you think well to Charles, and make him understand that if he insists upon arresting Cesarine I shall go into the box and swear my head off to prevent any one of the gang from being convicted. I have told Cesarine as much. I have promised to help her. I have explained that I am her friend, and that if she'll stand by me, I'll stand by her, and by this hateful young man of hers."

I saw in a moment how things went. Neither Charles nor Amelia could face cross-examination on the subject of one of Colonel Clay's accomplices. No doubt in Amelia's case it was merely a question of rouge and hair dye, but what woman would not sooner confess to a forgery or a murder than to those toilet secrets? I returned to Charles, therefore, and spent half an hour in composing, as well as I might, these little domestic difficulties. In the end it was arranged that if Charles did his best to protect Cesarine from arrest, Amelia would consent to do her best in return on behalf of Madame Picardet. Still, even they were reasonable. They had caught Colonel Clay, they believed, but their chance of convicting him depended entirely upon Charles' identification, with mine to back it. The more they urged the necessity of arresting the female confederates, however, the more stoutly did Charles declare that for his part he could by no means make sure of Colonel Clay himself, while he utterly declined to give evidence of any sort against either of the women. It was a difficult case, he said, and he felt far from confident even about the man. If his decision faltered, and he failed to identify, the case was closed—no jury could convict with nothing to convict upon.

At last the police gave way. No other course was open to them. They had made an important capture, but they saw that everything depended upon securing their witnesses, and the witnesses if interfered with were likely to swear to absolutely nothing.

Indeed, as it turned out, before the preliminary investigation at Bow Street was completed (with the usual remands), Charles had been thrown into such a state of agitation that he wished he had never caught the Colonel at all. "I wonder, Sey," he said to me, "why I didn't offer the rascal two thousand a year to go right off to Australia, and be rid of him forever! It would have been cheaper for my reputation than keeping him about in courts of law in England. The worst of it is, when once the best of men gets into a witness-box there's no saying with what shreds and tatters of a character he may at last come out of it."

In your case, Charles, I answered dutifully, "there can be no such doubt; except, perhaps, as regards the Craig-Ellachie Consolidated."

Then came the endless bother of "getting up the case" with the police and the lawyers. Charles would have retired from it altogether by that time, but, most unfortunately, he was bound over to prosecute. "You couldn't take a lump sum to let me off?" he said, jokingly, to the inspector. But "I knew in my heart it was one of the 'true words spoken in jest' that the proverb tells of."

Of course, we could see now the whole building up of the great intrigue. It had been worked out as carefully as the Chubborne swindle. Young Finglemore, as the brother of Charles' broker, knew from the outset all about his affairs, and after a gentle course of preliminary rogery he laid his plans deep for a campaign against my brother-in-law. Everything had been deliberately designed beforehand. A place had been found for Cesarine as Amelia's maid; needless to say by means of forged testimonials. Through her aid the swindler had succeeded in learning still more of the family ways and habits, and had acquired a knowledge of certain facts which he proceeded forthwith to use against us. His first attack, as the Seer, had been cleverly designed so as to give us the idea that we were a mere casual prey; and it did not escape Charles' notice now that the detail of getting Madame Picardet to enquire at the Credit Marsellais about his bank had been solemnly gone through on purpose to blind us to the obvious truth that Colonel Clay was already in full possession of all such facts about us. It was by Cesarine's aid, again, that he became possessed of Amelia's diamonds, and that he managed to dupe us over the Schloss Lebenstein business. Nevertheless, all these things Charles determined to conceal in court. He did not give the police a single fact that would turn against either Cesarine or Madame Picardet.

As for Cesarine, of course, she left the house immediately after the arrest of the Colonel, and we heard of her no more till the day of the trial.

When that great day came, I never saw a more striking sight than the Old Bailey presented. It was crammed to overflowing. Charles arrived early, accompanied by his solicitor. He was so white and troubled that he looked much more like prisoner than prosecutor. Outside the court a pretty little woman stood, pale and anxious. A respectful crowd stared at her silently. "Who is that?" Charles asked. "That's the prisoner's wife," the inspector on duty replied. "She's waiting to see him enter. I'm sorry for her, poor thing. She's a perfect lady."

"So she seems," Charles answered, scarcely daring to face her.

At that moment she turned. Her eyes fell upon his. Charles paused for a second and looked faltering. There was in those eyes just the faintest gleam of pleading recognition, but not a trace of the old saucy, defiant vivacity. Charles framed his lips to words, but without uttering a sound. Unless I greatly mistake, the words he framed on his lips were these: "I will do my best for him."

We pushed our way in, assisted by the police. Inside the court we saw a lady seated, in a quiet black dress, with a becoming bonnet. A moment passed before I knew—it was Cesarine. "Who is—that person?" Charles asked once more of the nearest inspector, desiring to see in what way he would describe her.

And once more the answer came, "That's the prisoner's wife, sir."

Charles started back, surprised. "But—I was told—a lady outside was Mrs. Paul Finglemore," he broke in, much puzzled. "Very likely," the inspector replied, unmoved. "We have plenty that way. When a gentleman has as many aliases as Colonel Clay, you can hardly expect him to be over-particular about having only one wife between them, can you?"

"Ah, I see," Charles muttered, in a shocked voice. "Bigamy!"

The inspector looked stony. "Well, not exactly that," he replied,—"occasional marriage."

Mr. Justice Rhadamanth tried the case. "I'm sorry it's him, Sey," my brother-in-law whispered in my ear. (He said him, not he, because, whatever else Charles is, he is not a pedant. The English language as it is spoken by most educated men is quite good enough for his purpose.) "I only wish it had been Sir Edward Easy. Easy's a man of the world and a man of society. He would feel for a person in my position. He wouldn't allow these beasts of lawyers to badger and pester me. He would back his order. But Rhadamanth is one of your modern sort of judges, who make a merit of being what they call 'conscientious,' and won't hush up anything. I admit I'm afraid of him. I shall be glad when it's over."

"Oh, you'll pull through all right," I said, in my capacity of secretary. But I didn't think it.

The judge took his seat. The prisoner was brought in. Every eye seemed bent upon him. He was neatly and plainly dressed, and, rogue though he was, I must honestly confess he looked at least a gentleman. His manner was defiant, not abject like Charles'. He knew he was at bay, and he turned like a man to face his accusers.

We had two or three counts on the charge, and after some formal business Sir Charles Vandrift was put into the box to bear witness against Finglemore.

Prisoner was unrepresented. Counsel had been offered him, but he refused their aid. The judge even advised him to accept their help, but Colonel Clay, as we all called him mentally still, declined to avail himself of the judge's suggestion.

"I am a barrister myself, my lord," he said, "called some nine years ago. I can conduct my own defence, I venture to think, better than any of these my learned brethren."

Charles went through his examination-in-chief quite swimmingly. He answered with promptitude. He identified the prisoner without the slightest hesitation as the man who had swindled him under the various disguises of the Reverend Richard Peopole Brabazon, the Honorable David Granton, Count von Lebenstein, Professor Schliefermacher, and others. He had not the slightest doubt of the man's identity. He could swear to him anywhere. I thought, for my own part, he was a trifle too cocksure. A certain amount of hesitation would have been better policy. As to the various swindles, he detailed them in full, his evidence to be supplemented by that of bank officials and other subordinates. In short, he left Finglemore not a leg to stand upon.

When it came to the cross-examination, however, matters began to assume quite a different complexion. The prisoner set out by questioning Sir Charles' identifications. Was he sure of his man? He handed Charles a photograph. "Is that the person who represented himself as the Reverend Richard Peopole Brabazon?" he asked, persuasively.

Charles admitted it without a moment's delay. Just at that moment a little parson, whom I had not noticed till then, rose up unobtrusively near the middle of the court, where he was seated beside Cesarine.

"Look at that gentleman!" the prisoner said, waving one hand, and pointing upon the prosecutor.

Charles turned and looked at the person indicated. His face grew still whiter. It was, to all outward appearance, the Reverend Richard Brabazon in propria persona.

Of course I saw the trick. This was the real person upon whom Charles had modelled his little parson, whom I had not noticed till then, rose up unobtrusively near the middle of the court, where he was seated beside Cesarine.

"Let the jurors see the photograph," the judge said, authoritatively. It was passed round the jury-box, and the judge also examined it. We could see at once, by their faces and attitudes, they all recognized it as the portrait of the clergyman before them—not of the prisoner in the dock, who stood there smiling blandly at Charles' discomfiture.

The clergyman sat down. At the same moment the prisoner produced a second photograph.

"Now, can you tell me who that is?" he asked Charles, in the regular brow-beating Old Bailey voice.

With somewhat more hesitation Charles answered, after a pause: "That is yourself as you appeared in London when you came in the disguise of the Graf von Lebenstein."

This was a crucial point, for the Lebenstein fraud was the one count on which our lawyers relied to prove their case most fully, within the jurisdiction.

Even while Charles spoke, a gentleman whom I had noticed before, sitting beside White Heather, with a handkerchief to his face, rose as abruptly as the parson. Colonel Clay indicated him with a graceful movement of his hand. "And this gentleman?" he asked, calmly.

Charles was fairly staggered. It was the obvious original of the false Von Lebenstein.

The photograph went round the box once more. The jury smiled incredulously. Charles had given himself away. His overweening confidence and certainty had ruined him.

Then Colonel Clay, leaning forward, and looking quite engaging, began a new line of cross-examination. "We have seen, Sir Charles," he said, "that we cannot implicitly trust your identifications. Now let us see how far we can trust your other evidence. First, then, about those diamonds. You tried to buy them, did you not, from a person who represented himself as the Reverend Richard Brabazon because you believed he thought they were paste; and if you could you would have given him £10 or so for them. Do you think that was honest?"

"I object to this line of cross-examination," our leading counsel interposed. "It does not bear on the prosecutor's evidence. It is purely recriminatory."

Colonel Clay was all bland deference. "I wish, my lord," he said, turning round, "to show that the prosecutor is a person unworthy of credence in any way. I desire to proceed upon the well-known legal maxim of *falsus in uno, falsus in omnibus*. I believe I am permitted to shake the witness' credit!"

"The prisoner is entirely within his rights," Rhadamanth answered, looking severely at Charles. "And I was wrong in suggesting that he needed the advice or assistance of counsel."

Charles wriggled visibly. Colonel Clay perked up. Bit by bit, with dexterous questions, Charles was made to acknowledge that he wanted to buy diamonds at the price of paste, knowing them to be real; and a millionaire himself, would gladly have dilled a poor curate out of a couple of thousand.

"I was entitled to take advantage of my special knowledge," Charles murmured, feebly.

"Oh, certainly," the prisoner answered. "But while professing friendship and affection for a clergyman and his wife, in straitened circumstances, you were prepared, it seems, to take three thousand pounds' worth of goods off their hands for ten pounds, if you could have got them at that price. Is not that so?"

[TO BE CONTINUED.]

"A Singing Lesson."

Rather a novel one, is it not? Yet few singing lessons are given to more apt pupils. The wonderful imitative powers of the Piping Bullfinch are of world renown. This is a most unique and interesting picture. The attitude of the master is capital in its display of *carelessness* and *care*—if one may so combine these opposite expressions. His mouth is pursed up in whistling; but his pipe, you see, is handy, so that between whiles—when Master Bully is digesting his lesson—a comforting whiff can be indulged in. The stolid and plump little bird is very pretty, and the ridiculous difference in size between master and pupil is laughable. One can scarcely believe that fat mite is taking in—and memorizing—every note of the tune whistled. Only lately the present writer heard of a lady in England who had a Piping Bullfinch to whom she was very anxious to impart a song; but alas, she could not whistle! However, her friend (the writer's sister) could whistle—and well too—so carefully went over the air several times. The next day "Bully" was heard practising away in great style. These Piping Bullfinches often fetch large sums, and certainly their powers are wonderful. Many of them sing numbers of tunes. I have no doubt that that dear little ball of feathers sitting there listening so demurely will fill all space with his beautiful song to-morrow, and soon show his patient master what progress he has made. I will add that the breasts, cheeks, and throats of these clever songsters are of a rich crimson. This picture is supposed to be by the celebrated French artist, Meissonier, who died lately.

Our Library Table.

"THE GREAT COMPANY." Beckles Willson.—This history of the famous Hudson's Bay Company from 1600 to 1871 will be found of interest to many of our readers. Any exhaustive account of the work would be impossible—it must be read. It seems that up to 1671 the superiority of the fur dressing in Paris, Vienna, Leipsic, and Amsterdam, completely overshadowed that of London and Bristol, consequently the British traders, after gathering in a vastly superior lot of furs to any before received, advertised a great sale at Garraway's coffee house, London:

"On the fifth of December, ensuing, There Will Be Sold, in the Greate Hall of this Place, 3,000 weight of Beaver Skins, comprised in thirty lots, belonging to the Honourable, the Governour and Company of Merchants-Adventurers Trading into Hudson's Bay."

Such was the notice of the first official sale of the Company. After this sale the tide turned, and London became the great center of the world's fur trading, which position it has ever since held.

A most graphic account is given of the capture of Fort Nelson on Sept. 11, 1697, and of the trading ceremonies of the Hudson's Bay Co. Indians in the 18th century (part of which seemed to consist in getting horribly drunk!). The seemingly impossible journey of the great fur trader, Sir Alexander Mackenzie, lasting from October, 1792, till July, 1793, was a wonderful feat.

"The memorable journey was now finished, and its purpose completed. In large characters, upon the surface of a rock under whose shelter the party had slept, the leader painted this simple memorial:

"Alexander Mackenzie, from Canada by land the 22nd of July, one thousand seven hundred and ninety-three."

The terrible Red River tragedy of 1816, when Governor Semple and his officers were treacherously attacked and murdered by the half-breeds, must make the Hudson's Bay Company's officials rejoice that they live in this century and not in that. The Company, now under British rule, yet co-operates with settlers and explorers and all its former enemies. The 126 posts of the Hudson's Bay Company extend from the coasts of Labrador to the frontiers of Alaska. Space forbids further extracts from this remarkable book—extracts which show that amidst the necessary dry business facts runs a thread of romantic adventure which will make "The Great Company" enjoyed by all—old and young. Copp, Clark Co., Toronto. FELIX.

Recipes.

It is customary with a real "Virginny" cook to boil a whole ham at a time until nearly tender, and then slice from that for broiling or frying to serve with eggs. Hams or strips of bacon that are to be kept on hand during the summer are rubbed all over outside with a thin coating of hickory ashes to prevent mold or rust.

VELVET SPONGE.

Two cups sugar, 6 eggs (leaving out the whites of three), 1 cup of boiling water, 2½ cups flour, 1 tablespoonful baking powder. Beat the yolks a little, add the sugar, and beat 15 minutes. Add the 3 beaten whites and cup of boiling water just before the filling, and bake as a layer cake.

Filling.—One pint of sweet cream beaten stiff (sweetened and flavored to taste), one pound almonds (blanched and chopped fine). Spread this between and on top.

GEMS.

Three eggs, two cups flour, ½ cup butter, ½ cup buttermilk, 1 spoonful baking soda, 1 spoonful mixed spice, 1 cup brown sugar. By adding a large cup of chopped raisins and peel, this makes a nice raisin layer cake.

ROLL JELLY CAKE.

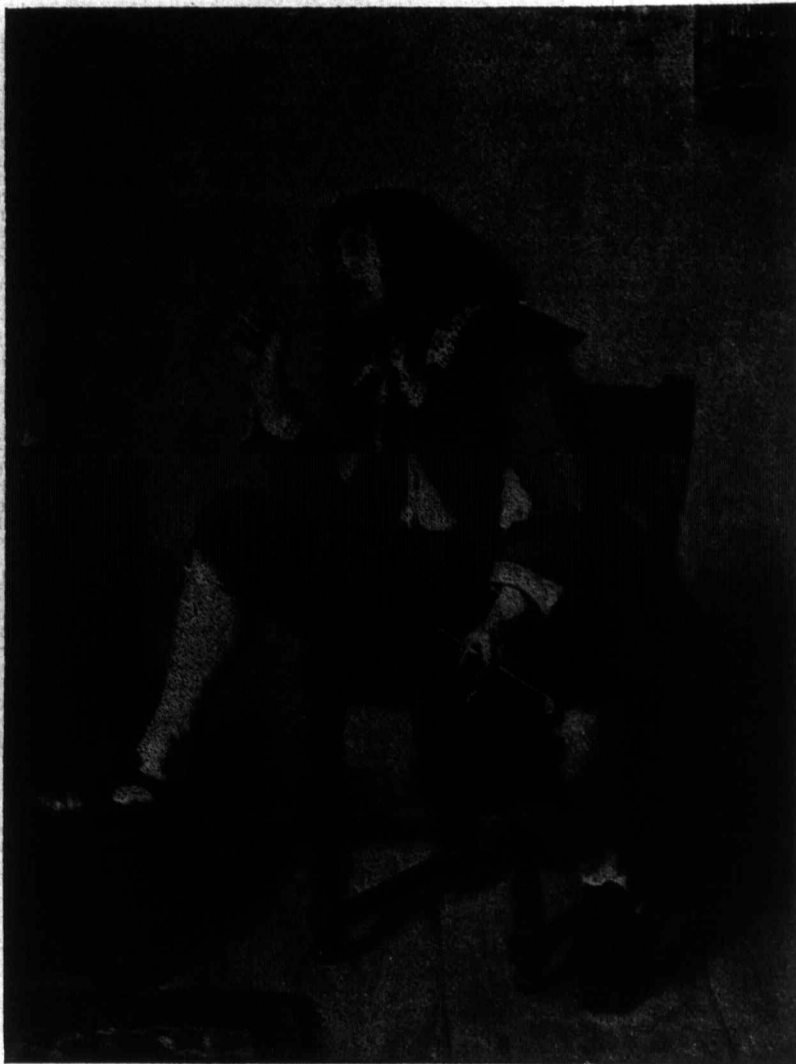
One cup white sugar, 4 eggs (whites and yolks beaten separately), a pinch of salt, 1 tablespoonful cold water, 1 level teaspoonful of baking powder, 1 cup flour. Pour into a dripping pan lined with oiled paper, and when cooked, spread quickly with jelly, and roll.

THE QUIET HOUR.

At Sunset.

It isn't the thing you do, dear,
It's the thing you've left undone.
Which gives you a bit of heartache
At the setting of the sun.
The tender word forgotten,
The letter you did not write,
The flower you might have sent, dear,
Are your haunting ghosts to-night.

The stone you might have lifted
Out of a brother's way,
The bit of heartsome counsel
You were hurried too much to say;
The loving touch of the hand, dear,
The gentle and winsome tone
That you had no time or thought for,
With troubles enough of your own.



"A SINGING LESSON."

The little act of kindness,
So easily out of mind;
Those chances to be angels
Which all we mortals find—
They come in night and silence,
Each chill reproachful wraith—
When hope is faint and flagging,
And a blight has dropped on faith.

For life is all too short, dear,
And sorrow is all too great,
To suffer our slow compassion
That tarries until too late;
And it's not the thing you do, dear,
It's the thing you leave undone,
Which gives you the bit of heartache
At the setting of the sun.

—Margaret E. Sangster.

Wasted Opportunity.

To-day I have chosen, for the opening verses of our Quiet Hour, a little poem by Margaret Sangster, which is probably familiar to most of you, as it has been quoted over and over again. This very fact shows that it strikes home. At any rate, it fits in with my subject. What a strange thing it is that people will go on congratulating themselves that they are "no worse than their neighbors," and, therefore, are in no danger of being condemned for their sins. Like the Pharisee, they thank God that they are not "extortioners, unjust adulterers, or even as this publican"—(some notorious evildoer of their acquaintance). They seem to think the only question under consideration is, what they are *not*, instead of being rather what they *are*. It is strange

that this should be so, when we have the Bible in our hands, so full of startling warnings against this false security founded on what might be called negative virtue—if there is such a thing. Take, for example, the vivid picture of the Last Judgment, given us by our Lord, in which the sheep are placed on the right, the goats on the left. Why are the latter condemned? Is there any hint given that they lived lives of reckless wickedness? See the reason for the terrible sentence—"Depart from Me, ye cursed, into everlasting fire." The offence is plainly stated by the Judge, and it is *not* open wickedness, but rather *neglected duty*; "for I was an hungered, and ye gave Me no meat; I was thirsty, and ye gave Me no drink; I was a stranger, and ye took Me not in; naked, and ye clothed Me not." We are told that the awful sentence will be a surprise, and yet it is not because men are unwarned of the danger of neglecting their opportunities. Again, think of the parable of the rich man and Lazarus. Was the rich man living a very wicked life? There is no hint of such a thing. He is simply represented as a self-indulgent person, who wasted the opportunity of ministering to the sick beggar at his gate. Then there is the parable of the barren fig-tree. The owner for three years looked in vain for fruit, and one year more of opportunity was given, with the warning: "If it bear fruit, well; and if not, then after that thou shalt cut it down."

A fig-tree was withered for the same offence—*no fruit*. The parable of the Talents teaches the same lesson, that we shall surely be punished if we do not put our opportunities to good account.

The five foolish virgins, too, were not accused of open wilful sin. They were only careless and neglectful—and yet they were shut out from the marriage feast. But it is unnecessary to quote further—these instances are surely enough to show that sins of omission are not to be treated lightly. Most of us have, probably, more reason to ask forgiveness for having "left undone those things which we ought to have done," than even for having "done those things which we ought not to have done."

But good works should not be performed in a cold, hard spirit of trying to satisfy a hard Master. If they are to be worthy of the name of "fruit" they must grow naturally from love to God and man.

"Love and believe! for works will follow spontaneous
Even as day does the sun; the Right from the Good
is an offspring.
Love in a bodily shape; and christian works are no
more than
Animate love and faith, as flowers are the animate
spring-tide.
Works do follow us all unto God; they stand and bear
witness.
Not what they seemed—but what they were only."

There is a warning in those last words. God will not judge our works as *they seem* to man, but as *they are* in His sight. "Take heed that ye do not your alms before men, to be seen of them: otherwise ye have no reward of your Father which is in heaven." *No reward!* How much money is given away for the sake of display? When a subscription list is taken around, we ask, "What are other people giving?" and our contributions are graded accordingly. We give, sometimes at least, not as an offering to God, but rather because we don't want to be thought less generous than our neighbors. It is not only *what* we do, but *why* we do it, that must be considered, otherwise we shall have "no reward of our Father which is in heaven."

Let it not be said of us when we reach the eleventh hour of our lives,— "Why stand ye here all the day idle?" Opportunities are about us every day, and they never wait—they must be seized at once.

Shall the King answer and say unto us, "Verily I say unto you, inasmuch as ye have done it unto one of the least of these My brethren, ye have done it unto Me"; or, "Inasmuch as ye did it not to one of the least of these, ye did it not to Me."

Every day that passes is helping to decide the question. Which shall it be? HOPE.

The Proper Tune.

This story is told of an eccentric Hastings parson. One day on visiting the belfry he found a whitewasher whistling a dance tune as he worked. The parson reproved him sharply for choosing such music for such a place. "Beg your pardon, sir," said the man, "but I forgot where I was." And then, to show he was sorry, he started whistling the "Old Hundredth." His hand, however, kept time with the music, and so the "Old Hundredth" made the whitewash brush go wonderfully slow. "Oh, get back to your dance tune," the old parson shouted, "or the job'll never be done."

The Sum of It All.

The boy that by addition grows,
And suffers no subtraction,
Who multiplies the thing he knows,
And carries every fraction,
Who well divides his precious time,
The due proportions giving,
To sure success aloft will climb,
Interest compound receiving.

—Dr. Ray Palmer.



The Improvident Squirrel.

Their home was in the hollow of a great oak tree. Jack Frost had been out the night before and opened the chestnut burs so that the nuts were all ready to fall. It was a bright, frosty morning in October. The mother squirrel said to her children, Bushy Tail, Bunny, and Sport:

"Now that the acorns, hickory nuts, walnuts, and chestnuts are falling by the hundreds, we must go to work and fill this hole, for you know that winter is coming, and if we don't work now, we won't have anything to eat when the snow covers the ground."

In the old tree were many little corners or closets. The mother took each little squirrel and showed him his own closet, and told him to go right to work and fill it. She then went off and left them to work.

It was great fun at first to see the nuts come tumbling down and be the one to get the plumpest and best. The three squirrels worked hard all day long; up and down the old oak they went, carrying the glossy brown acorns and chestnuts, now and then a beautiful, white hickory nut. Bushy Tail found one or two walnuts as big as his head.

At night, when the mother came home, they each took her to see what a big pile of nuts they had in their closets.

"Why, yes, my children, you have worked well; but you will have to work well for many days before you will have nuts enough to last you through the long, long winter."

The next morning Bushy Tail and Bunny went out again gathering nuts, but Sport felt lazy and said: "There'll be plenty of time to gather my nuts before the snow comes." So off he went to have a frolic with the neighbors. Each day was the same; instead of working, he would say: "Oh, there's plenty of time."

All this time Bushy Tail and Bunny had been very busy, and their closets were full to the brim. One cloudy evening in November the mother squirrel came home, called up her three children and said:

"Have you all filled your closets? I saw the big snow cloud as I came home; to-morrow the ground will be white with snow."

Bushy Tail and Bunny were quick to answer: "Oh, yes, mother, we have."

But Sport began to cry; when they asked him what was the matter, he told them how he hadn't worked, but had been frolicking through the woods, and that he had only a few nuts in his hole. His mother looked very grave, and said:

"I am afraid you will suffer during the long winter, for we have just nuts enough for ourselves."

Bushy Tail and Bunny said they could each give him a few of their nuts, but not enough to last him. Sport felt very sad to think how he had spent his time, and he hoped very much the snow wouldn't come; he might still have a chance to work.

When daylight came, you might have seen the three little squirrels, with anxious faces, peeping out of the big hole in the tree; for, sure enough, the snow had come in the night, and not a nut was to be seen. They all went back to Mother Squirrel to see what was to be done to help Sport.

Bushy Tail said: "Suppose we ask the little sunbeams to come down and take away the snowflakes; then we will go to work and help Sport to gather his nuts."

When they asked the sunbeams, they said: "All right!" and away they went. Soon the snow was gone.

The squirrels worked in earnest, but it was hard to get nuts now, as they were quite scarce; but they kept on until, at last, the closet of Sport was full too, and a happy Thanksgiving it was, for they didn't want to see Sport starve, although he had been so careless about his future.—Elizabeth Brown.

UNCLE TOM'S DEPARTMENT.

MY DEAR NEPHEWS AND NIECES,—

In the present age of cheap literature we enjoy a privilege too frequently undervalued. When a full set of Dickens' works may be purchased for less than a dollar, and the works of other great writers proportionately low, there is ample chance for all to commune at will with these great thinkers, and such communion cannot fail to be beneficial to the earnest reader. Perhaps some may say they have little inclination and less time for reading. The former can and should be cultivated; as for the latter, it is marvellous how much may be accomplished by utilizing the odd moments, few though they seem. A thorough acquaintance with several of the best works of prose and poetry is a tolerably fair education in itself.

If you have a taste for any particular line of reading, try to procure the best works of that kind,

and not only familiarize yourself with the principal characters therein, but also learn all you can of the biography of the author; and last, but not least, do not leave the preface unread, as it frequently proves one of the most interesting chapters.

Novel-reading is condemned by many, and certainly many novels are worthy only of condemnation, but such works as the Waverley novels will only make one brush up his half-forgotten history, while Dickens will bring him face to face with many of the sad realities, as well as the pathetic and humorous sides, of life. The perusal of fine poems has an ennobling effect on all who possess even a meager degree of the finer sentiments, for even the reading about noble deeds lifts "the soul from the common clod to a purer air and a broader view."

In every book we read we find frequent quotations, and it is much more interesting when we know where to place them. Shakespeare's words confront us everywhere, but of the later poets Tennyson is, perhaps, the most widely quoted. All the following extracts, taken from his short poem, Locksley Hall, are very common quotations:

"In the Spring a livelier iris changes on the turtle dove; In the Spring a young man's fancy lightly turns to thoughts of love."

"Love took up the glass of Time and turned it in his glowing hands; Every moment, lightly shaken, ran itself in golden sands."

"Love took up the harp of Life and smote on all its chords with might— Smote the chord of Self, that, trembling, passed in music out of sight."

"Cursed be the gold that gilds the straitened forehead of the fool!"

"Every door is barr'd with gold, and opens but to golden keys."

"Till the war drum throbs no longer and the battle flags were furled In the Parliament of man, the Federation of the world."

"Yet I doubt not thro' the ages one increasing purpose runs, And the thoughts of men are widened with the process of the suns."

"Knowledge comes, but Wisdom lingers."

"The heir of all the ages in the foremost files of time."

Many of our Canadian poets and their American cousins furnish us with gems well worthy of being committed to memory, and I hope my boys and girls will strive to benefit by them. How would you like to all read some long poem and make extracts from it, and then let us compare them? I think it would be pleasant, and am willing to take part in the game. What do you all say about it? Your loving— UNCLE TOM.

Puzzles.

[The following prizes are offered every quarter, beginning with months of April, July and October: For answers to puzzles during each quarter—1st prize, \$1.50; 2nd, \$1.00; 3rd, 75c. For original puzzles—1st, \$1.00; 2nd, 75c; 3rd, 50c.]

This column is open to all who comply with the following rules: Puzzles must be original—that is, must not be copied from other papers; they must be written on one side only of paper, and sender's name signed to each puzzle; answers must accompany all original puzzles (preferably on separate paper). It is not necessary to write out puzzles to which you send answers—the number of puzzle and date of issue is sufficient. Partial answers will receive credit. Work intended for first issue of any month should reach Pakenham not later than the 15th of that month; that for second issue not later than the 5th of that month. Leave envelope open, mark "Printer's Copy" in one corner, and letter will come for one cent. Address all work to Miss Ada Arnold, Pakenham, Ont.]

1—ANIMALS IN ANAGRAM. 1. The plane; 2, see law; 3, rail log; 4, fig fare; 5, toe plane; 6, shore; 7, tar skum; 8, O' colot. "MCGINTY."

2—NUMERICAL. A wise saying, which should be righteously heeded, consists of thirty letters. 27, 13, 24, 9, 4, are invariably quacks. 18, 25, 1, 17, 3, 14, 26, are dead to me. 2, 16, 2, 7, 20, is in your eye. 15, 20, 19, 8, 18, is what we all sigh for. 30, 10, 5, 24, are used in games of chance. 23, 28, 12, 3, is a small bay. 5, 19, 30, 13, 14, goes through the press. 15, 7, 11, 20, is frequently presented. 25, 22, 5, 6, is part of a foot. L. B. F.

3—RIDDLE. When Christmas logs burn on the hearth, And voices all are gay, My first can join the vocal mirth As merrily as they.

When winter snow's upon the ground My second handy comes; With that assistance warmth is found, And light in happy homes.

But when the summer sunshine rolls, And brown is every face, How actively my jolly WHOLE Upon the green takes place! L. B. F.

4—ANAGRAM. Brown had a barnyard chanticleer, With plumage mottled gray— Down South the bird was hatched, I hear, And christened Henry Clay.

Now Brown could read the future's roll In a most curious way; When quite prepared, in manner droll, "CLAY, EAT MY CORN," he'd say. "K. K."

5—AUTHORS TRANSPROSED. Ldsnhtlog, Nlntmo, Inbgornu, Tocst, Ynosnnet, Throwash, Arcapscpkhs, Snbru. BERNICE PHIN.

6—CHARADE. My FIRST is a consonant pure— It's sound, like another letter; My SECOND a plot of ground— For games, than others is better. My THIRD, it is a heap of earth That is found beside the wave; My WHOLE is a name about which, one time, Every Canuck would rave. "PILOT."

7—SQUARE. My first is used for weal or woe, So keep it at a distance; My second, like my first, lays low, The knight of weak resistance. My third arises in the breast When flagrant wrong becomes its guest. My fourth with any sight is classed— It may be foul or fair; A red-hot iron does my last. Now build me up the square! ESSEX.

8—DOUBLE ACROSTIC. 1. A species of malt liquor; 2, a root growing in the West Indies; 3, a sort of pear; 4, imposed on; 5, every large bird; 6, a slight alteration; 7, to hector. Primals and finals name two of Shakespeare's well-known characters. "ARRY 'AWKINS."

9—SQUARE. 1, Magnificent; 2, one who is carried; 3, maxim; 4, a beverage; 5, attire. F. L. S.

10—NUMERICAL ENIGMA. My 4, 10, 15, 18, 17, is a small rodent found in Russia. My 8, 14, 16, 4, 17, 5, to nestle. My 20, 1, 19, 3, 9, 12, is to produce quickly. My 6, 2, 7, 11, 12, an action of anguish. Whole is what we all like to be. "ARRY 'AWKINS."

11—ANAGRAM. Said Farmer Ben Binn to Builder Ruf. Tinn: "A house I must have pretty soon; It must have but two floors (carte blanche as to doors), And be neat as a new silver spoon. Then Tinn in a trice showed his diagrams nice, On which five ground-floor rooms were exposed. "Then over your heads will be fine rooms for beds; Four rooms 'bove these"—but Binn interposed. In a sentence oft quoted from an author quite noted: (He was almost tempted to swear!) "BUT I SAY THAT R NOT SO THERE!" "K. K."

Answers to August 1st Puzzles.

- 1—Damask-rose-bud. 2—David Harum. 3—Lock. 4—Vacation-holidays. 5—Whatever a man soweth, that shall he also reap. 6—haste 7—Longfellow, Hutton, Tennyson, Dewey, dates Milton, Kitchener. trial moral horse mud p o put caper 9—Adam Zad. 8—rub rabbit subjoin boots tis n

SOLVERS TO AUGUST 1ST PUZZLES.

"Sigma," "McGinty," L. B. Force, Maud, M. R. G., "Dennis."

ADDITIONAL SOLVERS TO JULY 15TH PUZZLES.

"Pansy," J. McLean, "Maud," Bernice Phin, "K. K., M. R. G."

COUSINLY CHAT.

"Pansy" and "Emma."—Will these new cousins send their real names next time, please? You both solve very well, and who knows but we may need your addresses at the end of the quarter!

Bernice P.—You are very welcome, little Assiniboia girl, and we do not expect too much from beginners, so do not fear to come again.

"Maud."—You are one of our successful new contributors, and with so many girls in the contest surely the boys will have a harder row to hoe.

"Pilot."—You'll be a valuable addition to our ship. How did we ever get along without a pilot? Yes, I know where your old home was, and I know a lady of the name you mention—L. R. (now Mrs. G.). If you ever visit the old home you must call and see me, that I may have the pleasure of hearing you play. It would be pleasant to correspond with distant cousins—why not try it? If you send a letter to any of them in my care I shall forward it. Your puzzles are pretty good.

"Thistle."—You are welcome, old friend, although as a rule thistles are not generally so. I am glad we are having more girls in the Corner. Where is your brother? We'd like to have him too.

"Essex."—Well, old fellow, it was a surprise indeed to hear from you again. You should not work so hard that you have not a few minutes to give to us occasionally. Remember, I expect a letter in the near future. Do you ever hear from our old friend Banks? He is at work similar to your own, I believe.

"Arty."—When do the rovers return? Did you know that Jack became my "really" cousin last month? J. N. is now a Winnipeger.

"You are as bad as a playful kitten in jumping at conclusions," remarked Keedick to his wife.

"Do kittens jump at conclusions?" asked Mrs. Keedick.

"Certainly, have you never seen kittens chase their tails?"

GOSSIP.

MESSRS. J. H. JULL & SON'S OXFORDS.

In the early 90's Messrs. J. H. Jull & Son, near Mt. Vernon, Ont., a station on the G.T.R., laid the foundation of their extensive Oxford flock, in the purchase of descendants of English-bred sheep selected from the best known and most successful prizewinners in that country. The flock has from time to time been replenished by purchases made from Canadian and English breeders, and when the writer called at their splendidly-equipped establishment, a few days ago, he found a strong and well-kept flock of up-to-date Oxfords. In the breeding pens were upwards of 70 fine breeding ewes, carrying in their veins a combination of the best English blood, where size, quality, and uniformity has been attained by the most careful and judicious mating. We also noticed a splendid lot of shearing ewes and rams, strong, well-matured, and uniformly well covered. Some 55 lambs of either sex were found remaining of the '99 crop, and among them we saw individuals that would easily qualify for any showyard competition in America. In 1898 the firm distinguished themselves at the leading shows, with their own and imported animals, by landing many of the best prizes offered, and as they secured the highly commended ram lamb at the Royal Show from Mr. Green, of King's Langley, England, which afterwards defeated the Royal winner, it will not be too much to expect the Messrs. Jull & Son to bring out another good lot (especially young things) at the coming fall fairs.

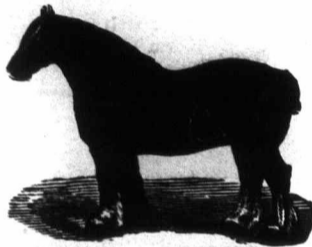
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 London Tp., will hold a stock sale of high-grade
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 high-grade **LINCOLN SHEEP** and lambs, some
 registered. **YORKSHIRE PIGS** and **HEAVY**
HORSES. Daily stage, London to Granton, passes
 farm daily. For further particulars apply to
A. M. HUNT, Auct., **FRANCIS LEWIS,**
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SEVERAL THREE YEAR OLD
FILLIES,
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 Thorncliffe Stock Farm, TORONTO.

English Shire and
Clydesdale Stallions.

Last importation just arrived Aug. 5. Imported more stock in 1898-99 to this country than all other importers together; and I also handle no second-hand horses from the United States, but buy direct from the Old Country, and nothing but the best the market can afford. I have them on hand from 3 to 5 years old, weighing 1,800 upwards. These horses must be sold, and at reasonable prices and terms, in order to make room for more. Write for description. Address:
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 Just landed from Scotland; also a few imp. and home-bred Shorthorn females.

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100 head to select from; 23 grand young bulls by Valkyrie = 21806 =, and cows and heifers of all ages, of the most approved breeding, served by (imp.) Diamond Jubilee = 28861 =, now at the head of our herd.
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 Farm 1 mile north of the town.

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Shorthorn Cattle and Lincoln Sheep. Herd prize and sweepstake at Toronto Industrial Exhibition, 1897 and 1898. Herd headed by imported Blue Ribbon = 17095 = and the famous Money-fuffel Lad = 30321 =. High-class Shorthorns of all ages for sale. Also prizewinning Lincolns.
 Apply
T. E. ROBSON, Ilderton, Ont.
 PLEASE MENTION FARMER'S ADVOCATE.



GOSSIP.
 Wm. Shier, Sanilac Co., Mich. U.S., writes:—"The FARMER'S ADVOCATE is the most reliable, up-to-date farm paper that we take, and we take several."

IMPORTANT SHIPMENT OF ENGLISH PEDIGREE SHEEP.
 Referring to the shipment of 317 sheep by Alfred Mansell & Co., Shrewsbury, per the SS. Monterey (Elder-Dempster Line), on July 24th, from Bristol, the Farmer and Stock-breeder says:

"In numbers and variety of breeds, Mr. Robert Miller, the well-known importer, of Stouffville, Ont., took the lead, his shipment comprising something like 230 sheep of various breeds, the Shropshires including the first prize pen of shearing ewes from Mr. P. L. Mills, three prize ewe lambs from Mr. J. Harding, and several rams and ewes from Mr. A. E. Mansell, Mr. R. P. Cooper, Mr. F. C. Parker, and Mr. F. W. Ridgway, Mr. J. S. Harding's prize ewe lambs, and a very superior two-shear ram from Mr. W. F. Inge. The Oxfords came from Mr. Treweeke, and a splendid selection of prize Cotswold rams and ewes from Messrs. Garne, Mr. William Houlton, Mr. T. Gillett, and Mr. C. Gillett. Lincolns from the prizewinning flock of Mr. Dudding, and Hampshires from Mr. Hudson. Altogether, this was a very valuable and well-selected lot of sheep, and reflects great credit on the judgment shown by Mr. Miller in selection.

MESSRS. R. MITCHELL & SONS' SHORTHORNS.
 A member of the ADVOCATE staff recently looked over the useful and valuable Shorthorns owned by Messrs. R. Mitchell & Sons, Nelson P. O., Ont., near Burlington Station. The cattle were found in good condition, notwithstanding the severe drought of the summer, the cows being large and well-fleshed, and giving evidence of good milking propensities in the size and shape of their udders, and the thrifty condition of the calves they are nursing.

The stock bull, Elvira's Saxon = 21624 =, has developed into an exceedingly good one, as would be expected from his breeding, being a son of the Royal Saxon = 10537 =, by the imp. Cruickshank bull, Excelsior, out of Matchless, of Cruickshank breeding, and his dam by imp. Duke of Guelders, also bred by Mr. Cruickshank. The herd has recently been strengthened by the purchase from Messrs. Cargill & Son of three splendid heifers rising one year old, and of choice breeding, as follows:

1. Blythesome Girl 3rd, sired by the grand imp. Nonpareil bull, Royal Member, dam Blythesome Girl (imp.), by Pride of Morning, is a large, beautiful heifer, red-roan, with immense heart-girth and well-covered back, and carrying a wealth of natural flesh.
 2. Ury Girl 4th, by Royal Member (imp.), dam Ury of Greenwood (imp.), by Gravesend, with pedigree running to the Isabella and Duke of Northumberland, is an excellent heifer, very attractive, and of modern type.
 3. Rosa Fame 2nd, by Royal Member (imp.), dam Rosa Fame, by Indian Chief (imp.), and has for grandam Rosalind (imp.), of the Heatherwick Rosebud tribe, is an extra straight, smooth heifer, thick-set and evenly fleshed, and is considered a model in form and quality. A few excellent bull calves and some heifers are held for sale.

R. J. & A. LAURIE'S TAMWORTHS AND

POULTRY.
 Carefulness and perseverance are the marked characteristics which we found at Messrs. R. J. & A. Laurie's stock farm, near Wolvevton, Ont., upon our visit to their home a few days ago. In the Tamworth pens we found the result of judicious mating and management in their long list of up-to-date animals in prime form. Their five brood sows compose a combination of the most approved pedigrees, a glance at which revealed the fact that in the herd throughout was the blood of such sires as Nimrod, Glen Sandy, and Briery Banks Hugo, animals whose names appear among the best show and breeding stock in the breed. At present Sandy 3rd 639, by Glen Sandy 17, and out of Minnie 559, by Short Nose (imp.), heads the herd, and from him the firm have on hand and have disposed of some highly satisfactory stock. At our recent visit we found Sandy in excellent form, full of Tamworth characteristics and bacon quality, and promising to make a very large animal at maturity. The young boar, Oak Hill Toby 1298, by Glenside Toby 547, and out of Glenside Girl 21st 817, with pedigree running through Buffalo Bill, Revell's Boar (imp.), Gun Hill Prince, and Monarch, is also doing service here, and in him we found a good individual, carrying as he does another long line of the famous ones of the past and present days, which cannot fail to make an impression of the right kind. Among the brood sows we saw the aged full sisters, Miriam and Silk Gown, by Briery Banks Hugo, and out of Lady Crompton, a pair of sows which won the highest honors at all the local shows in '98, not only for themselves, but established an enjoyable reputation for their owners through their uniformly good progeny. The former had a nice litter at foot, while the latter was due early in September to Sandy 3rd. Spring Bank Blossom, by Wolvevton Chief, is also due in October to O. H. Toby. She is a useful three-year-old sow, kept in the best possible breeding form. Oak Hill Sonnet 1023, by Nimrod, and out of Miriam, established herself as a producer of choice things when she farrowed O. H. Kirshy and O. H. Lena to O. H. Toby, for in them we found a splendid, well-doing pair of animals, strong in constitution and excellent in quality. The firm intend visiting the Toronto Fair again this fall with a long string, and will carry along a limited number of young things of both sexes for disposal.

In poultry the firm have advanced very rapidly, and have a system of farming out their stock which is giving the best of satisfaction, as no two breeds are kept at the same place, and all overcrowding is avoided, minimizing the possibility of cross-breeding and rendering the stock much less liable to disease than could otherwise be done with the large stock the firm carry, and, although a great number of distinct breeds of fowls are kept on hand, the most rigid and careful search is made for select foundation stock and fresh blood, and many of their pens carry as many as from 75 to 100 birds for sale from which to select. The firm report a large and increasing business along this line, which cannot but still increase under their careful and persevering management. Space will not permit of the enumeration of the breeds they carry. Watch their ad.

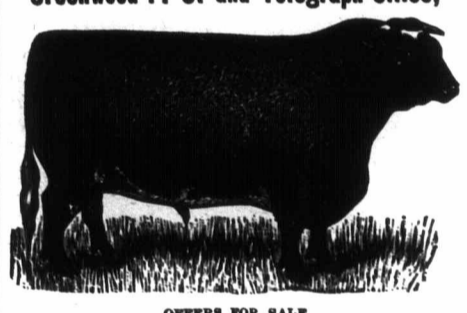
Large and Unreserved Sale of **40 Reg. Ayrshire Cattle** By Auction at **BROOK HILL FARM, TROUT RIVER, QUE.**
 On Tuesday, October 3rd, 1899, at 10 a. m.,
 Comprising one bull 4 years old, one bull 3 years old, two bulls 2 years old, and four bull calves; thirty cows and heifers in milk, and several 2-year-old and yearling heifers. All animals tuberculin tested. Terms: \$25 and under, cash; over \$25, 10 months' credit on furnishing approved joint notes; 4 per cent. discount on all cash payments over \$25. This stock must be sold without reserve, as the proprietor has given up a rented farm, and is going out of the dairying business for awhile. The farm is situated one mile east from Carr's Crossing, G. T. Ry., 5 miles west from Huntingdon, N. Y. C. Ry. Send for catalogue to undersigned.
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Have 9 bull calves for sale, from 1 to 8 months old, price from \$45 to \$80 each (registered). Also heifers and heifer calves; 30 Berkshire pigs, from 5 weeks to 5 months old, from \$5 to \$10 each (register-red).

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 Shorthorn Cattle, Oxford Sheep, and Bronze Turkeys. Young bulls for sale.
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 4 Imported Clydesdale Stallions.
 10 Scotch-bred Shorthorn Bulls.
 10 Yearling Shropshire Rams, 3 of them imp.
 20 First-class Ram Lambs.
 PRICES REASONABLE.
Claremont Stn., Pickering Stn.,
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Secretary.

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Young bulls and Heifers
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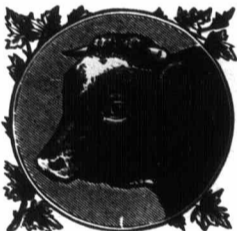


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Young Shorthorn bulls,
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Herd Established 1855.
A number of young bulls, cows and heifers for
sale. Herd headed by imported Christopher 28859,
and Duncan Stanley = 16364 =. Grand milking cows
in herd. Also a number of Leicesters of both sexes,
from imported foundation.

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Six bulls from 3 to 12 months old;
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eight 2-year-old and yearling heifers
and heifer calves of choice quality
and breeding.



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Burlington Jct. Station, Nelson P.O.

SHORTHORN CATTLE AND LINCOLN SHEEP.

Imp. Baron Blanc 11th at head of herd. Seven
young bulls for sale—good ones. Also a few females.
Stud rams all imported from H. Dudding, Esq.; the
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SHORTHORNS

I have six young females for sale—three are in
calf and three old enough to be bred. These heifers
have four or more crosses of the finest Booth sires,
on imported Marr and Gordon Castle foundation, a
desirable and needed line of breeding.

D. ALEXANDER, Brigden, Ont.

HAWTHORN HERD

OF DEEP-MILKING SHORTHORNS.
3 heifers bred to Beau Ideal = 22554 =,
of first-class quality and A 1 breeding.

Wm. Grainger & Son, - Londonboro, Ont.

SCOTCH SHORTHORN BULLS AND HEIFERS

HERD ESTABLISHED IN 1872.
Such sires as imported Royal George and imported
Warfare have put us where we are.

A. & D. BROWN,
ELGIN COUNTY, IONA, ONTARIO.

BONNIE BURN STOCK FARM

Forty rods north of Stouffville Station, has for sale
three excellent young Shorthorn Bulls, yearling and
two-year-old Heifers in calf. Shropshire Lambs, both
sexes; also Berkshires. At very moderate prices.

D. H. RUSSELL, Stouffville, Ont.

GOSSIP.

One of the representatives of the FARMER'S
ADVOCATE writes that in making a tour among
the leading Holstein breeders in Western
Ontario, he found the herds of Messrs. G. W.
Clemons & Son, near St. George; Messrs. A.
& G. Rice, at Currie's Crossing; and Messrs.
Rettie Bros., near Norwich, in fine form for the
coming exhibitions, and that in all probability
the breed would be represented by the best lot
ever brought out together at the coming 1899
shows. The demand for good Holsteins has
been encouraging, many young animals having
been sold before they were old enough to ship.

IMPORTANT AUCTION SALE OF AYRSHIRES.

Mr. W. F. Stephen, Trout River, Quebec, an-
nounces, in an advertisement in this issue, that
on October 3rd, at his farm, 1 mile east of Carr's
Crossing, G. T. R., and five miles west from
Huntingdon, N. Y. C. R., he will sell 40 head of
choicely-bred Ayrshires—cows, heifers, and
young bulls. Catalogues will be ready about
September 10th. Send for one and study the
pedigrees and descriptions.

"BELVOIR" AND THE HERDS AND FLOCK OF RICHARD GIBSON.

Near the pretty rural village of Delaware,
nestling in the valley of the River Thames,
three miles from Komoka, a station with a
train service equal to that of some cities, and
twelve miles from the City of London, Ont., is
the beautiful home and fertile 300-acre farm of
Mr. Richard Gibson, one of the very best all-
round judges of all classes of stock on the con-
tinent of America. The spacious, handsome and
substantial dwelling, beautifully located, com-
manding a charming view of pastoral landscape,
and surrounded by wide-spreading maple, ever-
green and other ornamental trees and neatly-
trimmed cedar hedges, strongly reminds one
of some of the stately homes of England. The
walls of the wide hall are decorated with
costly paintings and trophies of the chase, and
with numerous Indian relics and weapons of
warfare found in the furrows of the farm;
while in glass cases, neatly arranged, is an en-
viable collection of red and blue prize ribbons,
emblems of the victories of peace and sou-
venirs of the shepherd's winnings in bloodless
battles in the great competitions at leading
shows in Canada and the United States, in
which representatives of the Belvoir Shrop-
shires have been signally successful. The
library—the sanctum of the proprietor—con-
tains a splendid collection of standard works
on live stock and kindred subjects, herd books
galore, portraits of eminent old breeders, and
pictures of famous animals that have figured
in the history of the breeds, including that of
the \$40,000 cow sold at the dispersion of the
New York Mills herd of Shorthorns, of which
Mr. Gibson was manager at the time of that
memorable event.

The stock at Belvoir embraces Clydesdale
horses, Shorthorn and Jersey cattle, Shropshire
sheep, and Yorkshire swine. At the head of
the Clydesdales is the big and well-balanced
imported stallion, Home Secretary (5375) 4794,
now in his fourteenth year, but well preserved,
as fresh looking as a five-year-old, and as use-
ful as ever. A bay son of Windsor (2509) and
of Craigleuir Bess, by Lord Derby, his breed-
ing is in the purple, and to show that he is not
open to the charge of being under size, it is
only necessary to state that at four years old,
when he was sold for \$1,800, in show form, he
kicked the beam at 2,300 lbs., and is without a
suspicion of coarseness, while such stout, flat
bone, strong arms, big knees and admirable
fore pasterns are rarely found in combination.
The two grand brood mares, Jenny Dean 3415, by
Nasmith, by Edward of Wales, by Prince of
Wales, and out of Jennie Roy, by Darnley, and
Lady Mab 1st, by St. Cuthbert, are breeding
regularly, and have a number of capital fillies
and young mares to their credit. The former
was sold at one time for \$1,025, and has been a
very successful prizewinner; the latter sold
for \$725, and won several first prizes at State
fairs and at the Chicago Horse Show. A pair
of four-year-old mares, bred from these ma-
trons, are a capital team, broad and low-set,
with wide chests, deep ribs, strong, short
backs, and a model class of bone. They would
make grand brood mares or a splendid team
for anyone needing such a daughter of the
imported mare, The Countess 4820, and by Mc-
Lennan, is doing good work as a breeder, and
has a yearling and also a colt by Home Secre-
tary that are very promising, and have lots of
size and quality.

The Shorthorns at Belvoir are principally
founded on some of the best branches of the
Bates' families, being stylish and symmetrical
and mostly good milkers. On these Booth-bred
bulls were used to secure depth of flesh, and
recently Scotch-bred bulls have been intro-
duced with good results. The bull in service

A Few Choice Durham Heifers In Calr.

Two bulls; two bull calves; all of choice
breeding. Berkshire boars; brood sows and
sow pigs. Prices right.

A. J. C. SHAW & SONS,
THAMESVILLE, ONT.

SPRINGHURST SHORTHORNS

Herd bred for practical usefulness, and
produces as large a proportion of top
show cattle as any herd in Ontario.
Young stock, both sexes, for sale.

Exeter Station, G. T. R., **H. SMITH,**
half mile from farm. -om HAY, ONT.

Shorthorns & Berkshires

CHOICE calves of both sexes for sale; also
two good stock boars, and a fine lot of
young pigs.

Jno. Racey, Jr.,
LENOXVILLE, QUE.

ELMHURST FARM.

FOR SALE—One extra good Shorthorn bull,
Golden Flash = 26411 =; calved May 25th, 1897.
-om **W. J. BIGGINS,** Clinton, Ont.

Shorthorns and Shropshires.

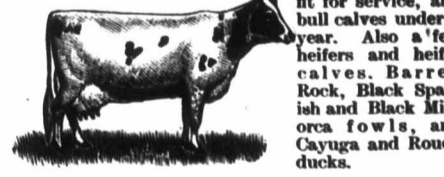
I have a few promising young bulls on
hand, and am booking orders for Shrop-
shire lambs for fall delivery; well covered.

GEORGE RAIKES, - BARRIE, ONT.

FOR SALE: A NUMBER OF

Choice Ayrshire Bulls

THE IMP. **Neidpath Jock.**



A few young bulls
fit for service, and
bull calves under a
year. Also a few
heifers and heifer
calves. Barred
Rock, Black Span-
ish and Black Min-
orca fowls, and
Cayuga and Rouen
ducks.

JAS. McCORMACK & SON,
ROCKTON, ONTARIO.

MAPLE CLIFF Dairy and Stock Farm.

AYRSHIRES Three young bulls fit for
service, and bull calves.
BERKSHIRES, TAMWORTHS,

Booking orders for spring litters. -om
R. REID & CO., HINTONBURG, ONT.
Five minutes' walk from Cen. Expl. Farm, Ottawa.

WM. WYLIE, 228 BLEURY ST., MON- TREAL, OR HOWICK, P.Q.

Breeder of high-class
Ayrshires. Young
stock always for sale;
bred from the choicest
strains procurable.
Breeding stock selected
from the most
fashionable strains
and prizewinning
stock of the day. Farm located at Howick, Que.
5-1-y-o

CHOICE AYRSHIRE BULLS

Three calves, 5, 8 and 12 months old, also
one 1 month old, from that fine cow, Daisy
1st of Auchinrain (imp.), and all sired by
Craigielea of Auchinrain (imp.). -om

W. W. BALLANTYNE,
Formerly Thos. Ballantyne & Son, Stratford, Ont.

"NEIDPATH FARM" adjoins city, main line G.T.R.

PLEASE MENTION FARMER'S ADVOCATE.

at present is Scottish Archer = 25645 =, a red
two-year-old of good form and substance, sired
by imp. Scottish Pride, a Dublin-bred bull im-
ported in dam, got by the famous Pride of the
Morning, and out of Missie 142nd, of the well-
known Upper Mill family of that name. The
dam of Scottish Archer was Clarissa, of the
Kinellar Claret tribe, and was sired by imp.
Eclipse, a Highland Society winner, bred at
Collynie. A very promising lot of young
heifers and bulls, the get of this and the
former stock bull, are growing up in good
form. The Jerseys are a handsome and useful
lot, headed by the three-year-old bull, Pedro
of Snelgrove, a first prize winner at the Western
Fair as a yearling, a grandson of the sweep-
stakes cow in the dairy test at the Provincial
Dairy Show in 1895, and winner of second
honors at the Toronto and Ottawa Shows the
same year. The first prize cow and champion-
ship female at the Toronto Industrial in 1895
was the beautiful Belvoir Pet, bred by Mr.
Gibson, and a better type of Jersey cow, or one
swinging a better milk vessel, has not ap-
peared there since that time. There are a num-
ber of females of the same family as Belvoir Pet
in the herd which have won first-class honors
at the Western Fair and are models of the
breed, and as Mr. Gibson purposes going out of
the dairy business for the present, and offers
his Jerseys for sale, a good opportunity is
presented for anyone wishing to lay the founda-
tion of a good herd.

The Belvoir flock of Shropshires is descended
from that of Bulwell, which was established
in 1877, on selections from the flocks of Bowen
Jones, Crane, Tanner, Harding, and Faun. In
1879, some Bradburn ewes were added. In 1881,
fifteen were purchased from Mr. Minton at
big prices, and in 1883 additions were made
from the flocks of T. J. Mansell and Crane and
Tanner. In 1889, Mr. Gibson concluded the
purchase of this flock, and upon this founda-
tion the present Belvoir flock has been built.
Since that time only imported rams of high-
class quality and those bred from choice im-
portations have been used, among which may
be named imp. Bulwell Prince, a Royal win-
ner; imp. Bonnie Belvoir, a son of the noted
Bonnie Bear; imp. The Sort, bred by H. Wil-
liams, a son of Rare Sort and twin brother to
Newton Lord.

It has not been Mr. Gibson's custom for
several years to feed ewes for show purposes,
so that the best of the young ewes, which, if
fitted, would have been mostly spoiled for
breeding purposes, have gone into the flock
rugged and robust to keep up its strength and
contribute to raising the standard of excel-
lence, while only rams and wethers have been
fitted. By rigid selection and culling out of
those below the standard, a singularly uniform
flock has been maintained, quality being made
the first desideratum, together with constitu-
tion, and the stock of yearling rams now on
hand, mostly by imp. The Dandy, bred by
Parker, and by Prince Royal and Golden
Crowns, are such as to satisfy the most fas-
tidious as to quality, character, color, flesh,
fleece and skins. They are healthy, muscular
fellows, on short legs, with strong necks well
fitted into the shoulders, good masculine, light-
colored, well-covered heads without any
coarseness, firm, fleshy backs, full twists, a
good leg of mutton, and the best class of bone.
The ram lambs of this year are a real good lot,
of similar character, by imp. Martinette, bred
by Mansell, out of the same ewe as the famous
Phenomenon, and by imp. Watchman, bred by
Williams, by Farmer Newton, and a few by
The Claimant, bred by R. P. Cooper, Shen-
stone, and got by Dunsmore Owl.

The success of the Belvoir flock at the lead-
ing fat stock shows in Canada and the U. S.
since 1895 with wethers has been phenomenal,
and this, after all, is the true test of quality,
for the butcher's block is the ultimate way of
all such flesh. In 1895, at the National Live
Stock Show of America, at Madison Square,
New York, with four sheep, they won first for
ram lamb, first and second for wether lambs,
and sweepstakes for best wether lamb in the
show, of any age or breed. At the Provincial
Show at Guelph in 1895, first for wether, first and
fourth for wether lambs, and first for pen of three
lambs. In 1896, at New York, five sheep shown
won first for shearing wether, first and second
for wether lambs, and first for pen of three
lambs; and at Guelph, the same year, second
for shearing wether, first for wether lamb,
and first for pen of three. In 1897, at the Pro-
vincial at Brantford, first for wether lamb,
first for three lambs, and two firsts given by
the Shropshire Association, a record which
was substantially repeated in 1898; so that Bel-
voir enjoys the enviable notoriety of never
having been beaten for wether lambs or for
pens of three. Mr. Gibson advertises in this
issue, stock for sale of all classes enumerated
in this review.

By Auction at

10 a. m.,

all calves; thirty
tuberculin tested,
notes; 4 per cent.
the proprietor has
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PROP.,
RIVER, QUE.

& Sons,

O.
OFFICE,

allions.
Bulls,
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ASONABLE.

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G.T.R.

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STOCK



THE

Basins.

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RRISON,

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FURNITURE

COMPANY, LIMITED

ILLE, ONTARIO

PEWS,

ALTA, BANA,

DESKS, etc.

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DALLAS, TEX.

Thirteenth Importation.

Am Sailing for England, Scotland, Jersey, and Guernsey, October 14th, and would be pleased to have commissions to select and import any class of farm stock, particularly Jerseys, Guernseys, Ayrshires, Herefords, Red Polled and Polled Angus cattle, Dorset and Lincoln sheep, or Hackneys. Have made twelve importations without loss or accident for best breeders in America and Canada. Send for circular and estimate cost on stock required. Address, F. S. PEER, MT. MORRIS, N. Y.

Choice Ayrshires for Sale.

Herd now headed by Royal Star of St. Ann's, 1st prize two-year-old at Toronto, 1st and sweepstakes at London, 1898. For sale: One fine bull calf seven months old, sired by a Morton bull; also younger ones, sired by Royal Star. Cows; fresh milkers, and cows due to calve in August; No. 1 stock; size, constitution, dairy and show combined; also heifer calves; at reasonable prices. All kinds of Cochins and Brahmas, R. P. Rocks, B. and White Minorcas. Write for prices and full particulars. -om

WILLIAM THORN,

Trout Run Stock Farm, Lynedoch, Ont.

Ayrshire Bull Calves of 1899

3 YET on hand, and more to come within the next month, from some of our best imported cows. Will sell at reasonable prices. Address:

ROBT. HUNTER,

Manager to W. W. Ogilvie. LACHINE RAPIDS, QUE.

MEADOWSIDE FARM,

J. YULL & SONS, Props., Carleton Place.

Breeders of high-class, deep-milking Ayrshires. Sweepstakes young herd at Ottawa. Shropshire sheep from prizewinning stock. Berkshire pigs and Barred Plymouth Rocks. Young stock for sale. Visitors met at Queen's Hotel. Give us a call. -om

AYRSHIRES FOR SALE.

The kind that can speak for themselves. Size, constitution, dairy and show combined. Six young bulls for sale, by Glencairn 3rd (imp.), dam Primrose (imp.). Five from Napoleon of Auchenbrain (imp.). Their dams are all Glencairn heifers. Five of their dams were shown last fall at Toronto, London, and Ottawa. Also a few good cows. No culls sold.

JAMES BODEN, TREDINNOCK FARM, -om STE. ANNE DE BELLEVUE, QUE.

Ayrshire Cattle and Berkshire Pigs.

The bull Tom Brown and the heifer White Floss, winners of sweepstakes at World's Fair, were bred from this herd. Young stock for sale. Also Leicester sheep & Berkshire swine.

D. BENNING & SON,

5-1-y-o Glenhurst Farm, Williamstown, Ont.

HIGH-MILKING AYRSHIRES.

Descended from some of the most noted prizewinners at the World's Fair, Chicago, and other important competitions. None but the best are bred from. Young stock of both sexes for sale. Leicester. -o

DONALD CUMMING, LANCASTER.

4 Yearling Ayrshire Bulls for Sale.

4 number of spring calves, sired by Douglas of Loudoun.

F. W. TAYLOR, Wellman's Corners, Ont. -o

GLYDESDALES, AYRSHIRES and POULTRY.

We are now offering a limited number of imported stallions and mares, and booking orders for young Ayrshires from our show cows. Shetland ponies and fancy poultry. E. Ness & Sons, Howick, Que.

MILK FEVER CURE.

IT is now KNOWN that the udder is the seat of milk fever. Schmidt's udder injections CURED 90 per cent. of the first 412 cases treated. TREATMENT for 1 severe or 2 mild cases, with instrument (specially designed for the purpose) and full printed instructions by mail, \$3.00. Extra bottle for 1 severe or 2 mild cases, \$1. Extremely simple. No drenching. -om JOHN SPENCER, V.S. Bowmanville, Ont.

INGLESIDE HEREFORDS.

UP-TO-DATE HERD OF CANADA!

TAMWORTHS

CHOICE PIGS SIX TO SEVEN WEEKS OLD.

Send for Illustrated Catalogue. Address, -om

H. D. SMITH, COMPTON, QUE.

GALLOWAYS & SHROPSHIRE

2 BULL CALVES by the sweepstakes bull of '98 at Toronto. In Shropshires we have a bunch of useful shearlings and ram lambs to offer. Will be at Toronto Fair with a few.

T. LLOYD-JONES & SONS,

BURFORD, ONT. -o

NOTICES.

Thorold Cement at Toronto Fair. - We desire to call the attention of our readers to the advertisement of the Estate of John Battle, manufacturers of the celebrated Thorold hydraulic cement, which will be found in another column. This firm has been most successful with the many structures in which their cement has been used. A unique method of advertising their goods has been found in the construction, on the Exhibition grounds, Toronto, of a miniature barn - basement walls and floor, all of which are built with Thorold cement. To all who visit the Exhibition a hearty invitation is extended to call and inspect the "new barn." This structure will prove especially interesting to the farmers, who during the last year or two have evinced quite an interest in the possibilities of cement for farm building purposes. A representative of the firm will be present, who will cheerfully give any information required as regards the use of cement for building purposes.

The Use of Queenston Cement - Mr. Isaac Usher, head of the widely-known cement manufacturing establishment at Queenston, Ont., who recently returned from a tour of Farmers' Institute work for the Manitoba Department of Agriculture, reports that Province making great progress and improvement. In reply to an enquiry regarding the continued use of cement in farm structures, he said their present capacity of 2,000 barrels per week output would have to be increased at least 100 barrels per week during the coming season to meet the growing demand. Among the special structures which they put up this season was an immense cold storage building at St. Catharines, Ont., and a fine residence for himself. The main part was 34 x 40 feet, and the wing 20 x 20. The walls were 12 inches thick for the first story and 9 inches above. All the first-floor partitions below are also 6-inch concrete cement. The material for the walls was mixed five parts of gravel to one of cement. The basement is partly floored with cement, and a large cistern is built of the same material. The house is finished in a very stylish and attractive manner throughout. In addition to his cement business, Mr. Usher is now conducting a farm at Queenston, which he recently secured, and on which he purposes getting together a small herd of Shorthorn cattle, and also of Yorkshire swine. He is putting in winter wheat this season, and will feed export cattle on a considerable scale during the winter. Mr. Usher himself comes of an old stock-rearing family in Cumberland, Eng., and has a natural love for agriculture. Speaking of farm buildings that are being erected throughout the country, he finds very much more attention now being paid to ventilation, his own economical system giving very general satisfaction.

GOSSIP.

Messrs. Francis Lewis & Son, of Ballymote, a few miles north-east from London, Ont., announce elsewhere a large sale of stock for Oct. 20th, including some pure-bred and 100 head of grade Lincoln sheep, excellent grade Shorthorn cattle, and Yorkshire-bred swine.

John Miller & Sons, Brougham, Ont., announce in their advertisement the arrival of their new importation of Clydesdales, Shorthorns, and Shropshires, and offer for sale some of these and a number of the same classes of stock from their home-bred herds and flocks.

A very important meeting of the directors of the Dominion Cattle, Sheep and Swine Breeders' Association will convene in the tent of the Superintendent of Farmers' Institutes, Industrial Fair Grounds, Toronto, at 8 o'clock, on the evening of Wednesday, September 6th. You are urgently requested to be present. The Hon. Sydney Fisher and the Hon. John Dryden are expected to be in attendance.

MESSRS. THOS. LLOYD-JONES & SONS' GALLOWAY CATTLE AND SHROPSHIRE SHEEP.

Adjoining the village of Burford, a station on the Harrisburg and Tilsonburg branch of the G. T. R., in one of the finest agricultural districts in the Province of Ontario, is the extensive stock and grain farms of Messrs. T. Lloyd-Jones & Sons, whose special and personal attention is centered in their herds and flocks of Galloway cattle and Shropshire sheep, and with the former, though their herd is not large, the firm have been able to command an enviable place in the leading showyard competitions in Ontario. The stock bull, College Gambler, heads the herd. He was bred at the Agricultural College farm, Guelph, and is a typical representative of the best of the breed, being true to the type in form, hair and handling, and is proving a satisfactory sire. In 1898 College Gambler won two firsts and a second prize, including the sweepstakes for the best bull of any age at Toronto Exhibition in strong competition. Two strong bull calves were on hand at the time of our visit, which were full of the beefy characteristics of the Galloway breed, and should find ready buyers.

Forty of the 100 head of Shropshires are breeding ewes, eight are shearing ewes, and eleven shearing rams. Of this year's crop about thirty-five ram lambs are held for sale. They are sired by a very choice ram from the flock of Mr. G. H. Green, Leintwardine, Herefordshire, England, selected to order by Mr. Brethour last year, and in him the writer found a strong, useful, well-covered sheep, full of good Shropshire character, which he has transmitted to his progeny in very high degree. Coming as he did from one of the oldest flocks in England, we would consider his purchase a wise move upon the part of the Messrs. Lloyd-Jones. The breeding foundation of the flock was laid half a dozen years ago, and at that time the most approved animals were selected from several of the best Canadian flocks, tracing to English origin. And as we found exceptionally good facilities at hand, we cannot but foresee for the firm a bright future in their undertakings. Watch their advertisement, and see them at Toronto Fair, or write for prices.

F. W. STONE ESTATE, GUELPH, ONTARIO.

The first Hereford herd established in Canada by importations in 1859 of the best prizewinners of England, followed by repeated further importations, including winners of first prize at Royal Agricultural Show. Choice young Hereford Bulls for sale. Also McDougall's Sheep Dip and Cattle Wash, fresh imported, non-poisonous and reliable; thoroughly tested by over forty years' use on farms of above estate. -om

Jersey Cattle

THAT WILL PUT

MONEY IN YOUR POCKET.

Mrs. E. M. Jones,

Box 324. BROCKVILLE, ONT., CAN.

BRAMPTON JERSEY HERD.

Offering high-class A. J. C. C. cows and heifers in calf, and heifer calves; 9 choice young bulls. High-grade cows in calf; and Berkshires.

E. H. Bull & Son, BRAMPTON.

S. WICKS & SONS

MOUNT DENNIS, ONT.

Offer two Registered A. J. C. C. Jersey Yearling Bulls. These are grand younglings; cheap if sold at once. We have also some fine Registered C. K. C. Collie Pups; also some fine young Registered Bitches. Manufacturers of the Skee Hot Water Incubator. Hatches 100 per cent. The best and most scientific incubator in the market. -om

Deschenes Jersey Herd.

HEADED BY LADY'S ROTTER OF ST. LAMBERT 47570. 4 young bulls fit for service - registered. Also Tamworth swine from diploma herd, Canada Central Fair, Ottawa, 1898.

R. & W. CONROY, DESCHENES MILLS, QUEBEC.

Jersey Cows and Heifers

In calf to fine registered bull, whose dam has tested 40 pounds milk per day, and 15 1/2 pounds butter per week. Some pure-bred, seven-eighths and three-quarter bred Jerseys from two to five years of age. Rich milkers and large producers. For prices write

W. C. SHEARER, BRIGHT, ONT.

MAPLE CITY JERSEYS.

FOUR JERSEY BULL CALVES FOR SALE. All descended from the best St. Lambert blood; age from 9 to 11 months old; bred from very choice prize-winning stock. Herd took first prize the last three years wherever shown. Prices right.

W. W. EVERITT,

Box 552, Chatham, Ont.

Meadowbrook Jerseys, Tamworths.

Bulls and Heifers for sale from herd that averaged \$63.10 per head for butter-fat alone last year. Sows that are bred and boars fit for service from first prize exhibition stock. -o EDGAR SILCOX, Shedden.

GLEN ROUGE JERSEYS.

WILLIAM ROLPH, Markham, Ont., offers twelve Jersey Bulls and Heifers (pure St. Lamberts), out of tested cows. Grand individuals. Prices right.

We Now Have on Hand

30 Holstein Bull Calves

That are royally bred. Their dams and their sires' dams have made large official tests. They have a combination of blood of the richest and largest producing strains known. We have forty yearling heifers, and one hundred cows and heifer calves. We are not going to show this fall. A grand opportunity to secure animals of either sex, and show animals of highest order. You will find our prices right. There is no quarantine, and we furnish papers to pass them through without duty. Write for what you want, and get our prices before buying.

Henry Stevens & Sons, Lacona, N. Y.

Lynnfield Holstein Herd.

Do you want to buy young cows that are great milkers, also two-year-old heifers, bred to our stock and show bull, Homestead DeKol Belle Boy. We have also some fine heifers nine months old. For choice Holstein-Friesians write or visit me.

C. M. KEELER,

GREENBUSH P. O., ONT.

MAPLE HILL..

HOLSTEIN-FRIESIANS

The Gold Medal Herd of '97 and '98. A few choice cows and heifers now for sale, mostly bred to the butter bull, De Kol 2nd's Paul De Kol Duke. See my herd at the big fairs.

G. W. CLEMENS, ST. GEORGE, ONT.

Oh, Yes! We sell Holstein Bulls. Sold 7 in May. Have 12 now on hand; oldest 9 months old; bred right and are right. Write for particulars. Male or female. State just what you want.

A. & G. RICE, Currie's Crossing, Ont.

Oxfords...

We will visit the Toronto Fair again with a strong class of home-bred and imported stock. We carry over 60 breeding ewes, and have a lot of splendid young stock on hand.

J. H. JULL & SON,

Burford Station. Mt. Vernon, Ont.

GOSSIP.

HENRY HERRON'S CHESTER WHITE PIGS AND POULTRY.

When the writer called upon Mr. Henry Herron, at Avon, Ont., a short time ago, that gentleman, although busily engaged in harvesting, devoted his usual time to the care of his Chester Whites - the pride of his stock, now numbering forty odd head, of all ages; and in glancing over their pedigrees we noticed a variety of breeding, tracing to the most noted families and up-to-date herds of the breed; and in viewing the animals as a whole, they show to a marked extent what may be accomplished by judicious mating and management. Mr. Herron's system has been in line with that most earnestly advocated at the present day, and being adopted in the large herds of all breeds that are up to date; and no overcrowded places of confinement are permitted in the Avon pens.

A splendid lot of fresh young brood sows have produced strong litters of the right type this season to the service of the young stock boar, Chief 896, by Combination Choice 710 (imp.); dam Hugh's Choice (imp.) 898. Chief was farrowed March, '97, and we saw him when a few months old, when his owner held him in the highest esteem. At our recent visit we soon learned that Chief had not abused the confidence then placed in him, in either conformation or performance, for he has grown into a large, well-formed animal, with a grand back and loin, smooth shoulders, and well developed hams, carrying his even substance well down his sides, and supported upon the best of bone. His stock are coming choice, and visitors make quick selections from his progeny, for Mr. Herron commands a splendid local demand, where the character of his stock is best known.

Two young boars, out of Pride of Avon and Queen, respectively - the former farrowed in April, '98, the latter in last October - are very promising young sires. The brood sow list includes some equally worthy individuals, and although space will not admit of entering extensively into detail, we feel it our duty to give a passing notice of Bessie 1082, by Dominion King 764 (imp.), dam Susie 777 - a sow of exceptional quality and a successful matron. Bessie, at the time of our visit, though roaming in the grass plot, was in showyard bloom, with the imported sow, Delavan Maid 1315, by Banker 7193a, and out of Lady W 2nd 8060, her companion. Delavan Maid was imported from her breeder, N. G. Alexander, Delavan, Ill., one of the most noted breeders of Chesters, and in her purchase we would consider Mr. Herron had acted wisely, not only bringing in new blood, but exceptional quality. She is at present nursing ten smart pigs. Two of her daughters (imp. in dam) are being retained as matrons in the herd. Watch Mr. Herron's ad., and visit his pens at the Western Fair, or write him for prices, etc.

Poultry is being taken up, and some fine young pens of Black Spanish, Brown Leghorns, Black Minorcas and B. P. Rocks are being reared from the stock of the most noted fanciers in their respective breeds.

"BELVOIR."

We are offering the best lot of

Shearing Shropshire Rams

That have as yet been produced at Belvoir. The flock descends from England's best blood, and has been carefully bred, the rams used having been all imp., viz., a son of Bonnie Beau, a twin brother to Newton Lord, a son of Farmer Newton, a son of Dunsmore Owl, and a Mansell out of the same ewe as his noted Phenomenon. RAM LAMBS, YEARLING EWES and EWE LAMBS are for sale. Some imp. CLYDE MARES and a stallion. These are extra good and worthy of attention of any wanting first-class stock. Also JERSEYS for sale, and YORKSHIRE SWINE. We sell on honor, and guarantee satisfaction.

RICHARD GIBSON,

DELAWARE, ONT.

Shropshire Rams and Ewes

Newly imported from the greatest English breeders. Home-bred rams and ewes of best quality. Scotch Shorthorns and Clydesdale horses for sale at moderate prices, and in large numbers, by

ROBERT MILLER,

STOUFFVILLE, ONT.

SHROPSHIRE

Shall have a fine lot of choice early lambs for the fall trade. We import and breed only the best.

J. P. PHIN, Hespeler, Ont.

SHROPSHIRE RAM LAMBS

Out of ewes from imported foundation, and sired by (imp.) Flashlight. Extra well covered and good size.

W. S. CARPENTER, SIMCOE, ONT.

Shropshires for Sale.

Shearing Rams and Ewes, and Ram and Ewe Lambs.

W. E. WRIGHT, Glanworth, Ont.

SHROPSHIRE SHEEP.

Shearing rams and ewes; also this season's crop of lambs; extra well covered; from the highlands of Simcoe Co.

Chas. H. Rowe, Orillia, Ont.

SHROPSHIRE!

We are offering twenty-five strong, well-covered lambs from descendants of Miller importation.

ROWAT BROS., Hillsdale, Ont.

SHEEP BREEDERS' ASSOCIATIONS.

American Shropshire Registry Association, the largest live stock organization in the world. Hon. John Dryden, President, Toronto, Canada. Address correspondence to MORTIMER LEVERING, Secretary, Lafayette, Indiana. -om

20 - Imported Scotch Shorthorns - 20

2 BULLS, 1 and 2 YEARS OLD; 14 HEIFERS, 2 YEARS OLD; 4 YEARLING HEIFERS.

THIS importation came out of quarantine on the 12th July, and representatives of many of the leading Scotch families are amongst them, including Minas, Brawith Buds, Secreta, Mysias, Beauties, Lady Mays, Lustres, etc. The home-bred herd contains Indian Statesman = 2304 =, and 15 young bulls from 6 to 18 months old, and 50 cows and heifers of all ages Registered Shropshires, yearling rams and ewes, ram lambs from imp. Flashlight. Any of the above will be sold at reasonable prices. Correspondence or a personal visit solicited. Catalogues on application.

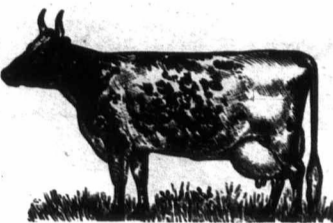
Burlington Junction Station and Telegraph Office, G. T. R., within half a mile of farm.

W. G. PETTIT & SON,
FREEMAN, ONT.

ALEX. HUME & CO., Menie P. O., Ont.,
IMPORTERS AND BREEDERS OF

Ayrshire & Yorkshires

WE now offer at a bargain our grand stock bull, White Chief of St. Ann's—2088—His dam is White Floss, of continental fame, and his sire Glencairn III. (imp.), as well known. A yearling bull, sired by Prince of Barcheskie. Bull calves from 4 to 7 months old. Young cows just calved. Yearling heifers. Heifer calves dropped since Aug. 1st, 1899. All of choice breeding and fashionable colors. February and March sows, April boars, and young pigs just ready to ship. All of proper type and breeding.



PURE-BRED GUERNSEY CATTLE

Chester White Swine.



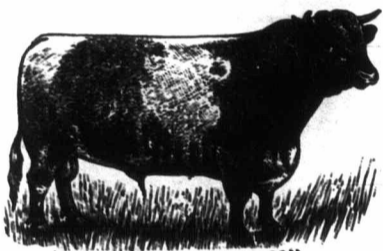
Duroc-Jersey Swine.

FOR SALE—Two young Bulls ready for service, and Heifers bred. First-class Pigs of all ages imported and prize-winning sires and dams. Twenty head of HOLSTEINS for sale. Write for particulars and prices to **WM. BUTLER & SONS, DEREHAM CENTRE, ONT.**

2 Imported Shorthorn Bulls 2

4

2 - YEAR - OLD HEIFERS.



4

1 - YEAR - OLD HEIFERS.

HEIFERS ALL IN CALF TO IMPORTED BULLS.

Correspondence or a personal visit solicited. Catalogues on application.

H. CARGILL & SON, CARGILL, ONT.

Cargill Station and Post Office on G. T. R., within half a mile of barns.

FAIRVIEW'S

SHROPSHIRES AND IMPORTATION.

WHO wants a choice ram, or a ram lamb of best quality, or extra good ewes to tone up flock. Of unsurpassed quality and breeding. Come or write, or see exhibit at leading fairs.

ALL WELCOME. COME EARLY.

JOHN GAMPBELL
WOODVILLE, ONT.

JAMES COOPER & SON, KIPPEN, ONT.,
IMPORTERS AND BREEDERS OF
Registered Shropshires.

SHROPSHIRES of the best English blood. Fashionably bred and true to type. Only the best specimens of the breed kept. Selection in breeding our stronghold. ram and ewe 20 yearling rams lambs for sale. also to sell. A limited number of yearling ewes.

GOTSWOLDS.
Females of all ages; also this season's crop of ram lambs; all from imported stock; extra well covered.
John I. Balsdon,
BALSAM, ONT.

Oxfords Galore....

WE have 300 to select from this fall, of all ages; bred up from the best English flocks. We employed the 1st and 2nd prize imported rams last fall.

PETER ARKELL & SONS,
TEESWATER, ONT.

OXFORDS Bred up from Arkell, Tolton, and Evans foundation, upon which have been employed sires from imported stock. Bronze Turkeys and Collies later.
ANDREW ELLIOTT,
POND MILLS, ONT.

HENRY ARKELL, ARKELL, ONTARIO.
IMPORTER AND BREEDER OF

OXFORD-DOWN SHEEP.

Animals of all ages and both sexes for sale. Have some imp'd RAM LAMBS. Prices reasonable.

MAPLE LODGE LEICESTERS.

A grand lot of ewes and rams for sale, all ages. All the FIRST prizes offered for flock at Toronto, London, and Brantford Winter Show, including the gold medal (1898), came to our flock. A very choice lot of young Shorthorn Bulls and Heifers also for sale—milk strains.

ALEX. W. SMITH,
MAPLE LODGE P. O., ONT.

6 CHOICE REG. LEICESTER RAMS 6

Strong, even, well-covered sheep, especially selected from flock of 1898. Also ram and ewe lambs. Write

E. GAUNT & SON,
LUCKNOW, ONT.

LEICESTERS.

100 head to select from, among which are some specially good shearing ewes and rams. We employed two rams last fall, bred direct from imported stock.

C. & E. WOOD, FREEMAN, ONT.

LEICESTERS. I will be at Toronto this fall, and have a big flock at home. We have studied size, quality and constitution for years. See "Gossip," and call on us before buying.
J. M. GARDHOUSE, Highfield, Ont.

OAK LODGE HERD

Large Yorkshires

The oldest established and largest herd in America. This herd has a uniform and fixed type, acknowledged by the best judges to be what the market demands. It has a record of its own in the showings, winning more prizes at the largest Canadian and American shows than all other herds combined. Parties wishing high-class stock should examine this celebrated herd at the leading shows. All stock fully guaranteed.

J. E. BRETHOUR,
BRANT COUNTY, ONT. BURFORD, ONT.

GOSSIP.

The Farmer and Stock-breeder, England, says:—"Cotswolds are selling much better this year. Last year they were a drug on the market. When one recollects the extent of the Cotswold trade in Canada and the States, one marvels that depression should exist in ram-breeding here."

The annual meeting of the American Shropshire Registry Association will be held Monday morning, September 4th, 1899, 10 o'clock, in the parlour of Shaftesbury Hall, on Queen street west, near Yonge street, in the City of Toronto, Canada. This will be during the great Toronto Exposition and Show. Railroads will sell round-trip tickets, half fare, on all roads leading into Toronto.

Referring to the shipment of 317 sheep by Alfred Mansell & Co., Shrewsbury, per SS. Monterey (Elder-Dempster Line), on July 24th, from Bristol, the London Live Stock Journal says: "The shipment included a beautiful lot of shearing ewes (Shropshires) from M. D. Bultar's prize-winning flock for the Hon. John Dryden, Brooklin, Ont.; and ten ewes, bred by Mr. A. E. Mansell, and one ram for Mr. W. C. Edwards, M.P., Rockland, Ont."

A. C. Hallman, New Dundee, Ont., writes: "I have again decided to make an exhibit at Toronto, where I will be pleased to meet all my old friends and many new ones. My herd of Tamworths is more complete than ever. My imported prize-winning boars, Whitacre Crystal and British King, are giving me excellent service. Have bred 30 young pigs sired by these boars, and out of very select dams. My Holsteins are still kept up to the high standard they have reached at the leading shows in Canada. My new herd bull, Judge Akrum De Kol, is a dandy, and shows very rich quality, and would make the best of them hustle if brought out."

SHROPSHIRE SHEEP FOR CANADA.

"On July 31st," says the London Live Stock Journal, "Alfred Mansell & Co., of Shrewsbury, shipped, per steamship Tritonia, from Glasgow, on account of Mr. John Miller, Brougham, Ont., twenty very nice shearing ewes from Mr. R. P. Cooper's prize-winning flock, sired by Shrestone Dreamer, purchased by Mr. Cooper at 165 guineas; Hatton's Reserve, bred by Mr. J. Beach; Shenstone Patriot; and Haydon's Demster; also three good rams from the same flock, and a very promising ram lamb, bred by the Duke of Sutherland, by Lilleshall Dreamer, a son of the 175-guinea Montford Dreamer. These sheep were personally selected by Mr. Miller, with the assistance of Mr. Alfred Mansell, of the above firm, and will form a valuable addition to Mr. Miller's flock of Shropshires."

AYRSHIRE SALES FROM TREDINNOCK HERD.

Mr. James Boden, manager of Mr. Reford's noted herd of Ayrshires, at St. Ann's, Que., writes:—"We have had a very successful summer at Tredinnock, visitors and letters being the order of the day, and all pleased with what they got and saw. Prices never better. Calves, from \$110 to \$150; two-year-olds and cows, from \$150 up to \$200. I have just sold to Mr. Yule, for Premier Greenway, of Manitoba, 7 head of our young stock. In the lot was the first prize two-year-old heifer, 3 of the first year herd of year-olds, 2 of the first prize calves at all the leading shows last year, and a heifer calf—the flower of the flock. They were a fine lot, and they were very hard to buy, as they were the best of our young stock. To E. B. Angus, of Lennoxville, Que., a pair of cows and 1 heifer calf; to the Experimental Farm, Ottawa, the first calf by imp. Napoleon, and out of one of our best cows; to A. A. Reid, of Landsdowne, Ont., 1 bull calf, son of the first prize two-year-old heifer sired by Napoleon; 1 bull calf to Napoleon Lachapell, of St. Paul Hermite; the first prize year-old bull calf at London; to David Leitch, of Grant's Corners, Ont., one of the first prize calves to Easton Brothers, of Charlottetown, P. E. I.—this is a beauty, and the makings of a fine cow; 1 cow and 2 calves to the Charlemagne Lumber Company. Not a bad summer's work. We have still two young bulls left, and we have 15 cows calved since the 1st of August—7 bulls, 8 heifers—so can supply a few more. Our cows are milking splendidly, but pasture is scarce, having no rain for a long time."

CLYDESDALES FOR CANADA.

"Mr. John Miller, Jr., of the well-known firm of John Miller & Sons, Brougham, Ont.," says the Scottish Farmer, "sailed from Glasgow on Monday, by the Donaldson Line steamer, with four well-bred Clydesdale horses, purchased from Messrs. A. & W. Montgomery. One of these horses was Earl of Lothian (10540), bred by the Duke of Buccleuch, and half-brother to the celebrated Cawdor-cup champion and H. and A. S. champion of this year, viz., Hia-watha, both being got by the well-known prize horse, Prince Robert. The dam of Earl of Lothian was Lady Lothian (12084), whose sire was Craig Isla (6641), which won first at the Royal, and her dam was the noted Darnley mare, Lady Cairn (9445). Another is Border Duke (10514), bred by Lord Polwarth, and got by Ferguson (8526), out of the noted prize mare, Duchess of Robgill (11940). This mare was got by MacGregor, and her dam was the well-known Mary of Threave (4991), which gained first prizes at Kirkcubright and Dalbeattie as a brood mare, and also at other shows in the South of Scotland. Ferguson, the sire of this colt, is known as a good breeding horse, and particularly well bred. The third two-year-old is Prince Brilliant (10608), a brown colt bred by Mr. John Adair, Springbank, Stranraer, and got by William the Conqueror from Una (8002). This is a particularly well-bred colt, and a good one. His sire is too well known as the sire of big, weighty horses to require comment. His dam was own sister to the well-known prize horse, Bonnie Bosson, owned by Mr. Wm. Renwick, which stood fourth at the Glasgow Stallion Show some years ago, and won other prizes. Una was also dam of the well-known prize horse Prince Grandeur, and she has also bred other stock which have taken good positions. The fourth colt is a yearling bred by Mr. Robert Turner, Cairnton, Portsoy, and got by the well-known prize horse, Royal Standard (8547), out of May Montrose (5696). This is a right good colt, and there must be better young Clydesdales in Canada than we know about if some of these do not take leading positions at the Toronto Show."

EUROPEAN ADVERTISEMENTS.

Hampshire Down Sheep.

SPLENDID GOOD GREAT
MUTTON. WOOL. WEIGHT.

This highly valuable English breed of sheep is unrivalled in its

Rapid and Wonderfully Early Maturity,

possessing, too, a hardiness of constitution adapted to all climates, whilst in the quality of

MUTTON AND LARGE PROPORTION OF LEAN MEAT IT IS UNSURPASSED.

Full information of

JAMES E. RAWLENCE,

Secretary, Hampshire Down Sheep Breeders' Association,

SALISBURY, ENGLAND.

HENRY DUDDING, RIBY GROVE, GREAT GRIMSBY, LINCOLNSHIRE, has always for inspection and sale from the largest and most noted flock of pure Lincoln Longwool Sheep in the country, both Rams and Ewes of all ages. Representative specimens from this flock have secured for many years past at the Royal Shows champion and other prizes; whilst they have also at both the Paris Exhibitions, Vienna, Amsterdam, Chicago, Palermo, secured champion awards, and at all the leading shows in Australia, New Zealand, Canada, and the States. Riby sheep and their descendants have secured the highest honors. Wool is a leading feature in the flock, its quality being amply testified by the fact that wherever exhibited it has each time secured the premier prize including that at Windsor in 1889. The record of its careful breeding and consistent success is world-wide, and the present members of the flock are fully equal to any that have preceded them during the past 130 years in which it has been in existence, descending from father to son without dispersal. The flock holds the record for the highest price ram of 1898 (i. e., 1,000 gs.), and for the highest recorded average for an auction sale of fifty-two rams (i. e., £86 19s.) at the annual sale in July, 1898. A grand selection of yearling and other sheep on offer, sired by the most carefully selected sires obtainable, in which are contained all the best strains of the present day. Telegrams: "Dudding, Keelby."

The Danesfield Pedigree Stock

IMPORTERS desirous of securing selections of either Shire horses, Aberdeen-Angus cattle or Hampshire Down sheep should inspect the stud, herd and flock, property of Mr. R. W. Hudson, which are kept in the highest degree of purity, the care and selection can produce at Danesfield, Marlow, Bucks, England. Specimens of horses, cattle and sheep have been largely exhibited at the principal English shows during 1899 with very prominent success. For full information, etc., apply:

MR. COLIN CAMPBELL,

ESTATE OFFICE,

DANESFIELD, MARLOW, BUCKS, who will be happy to make arrangements for inspection, or to quote prices.

J. E. CASSWELL, Laughton, Folkingham, Lincolnshire.

breeder of Lincoln Long-wooled Sheep, Flock No. 46. The flock was in the possession of the present owner's great-grandfather in 1785, and has descended direct from father to son without a single dispersion sale. J. E. Casswell made the highest average for 30 rams, at the "Annual Lincoln Ram Sale," 1895 and 1897. The 1896 rams were all sold for exportation. Ram and ewe hoggs and shearings for sale, also Shire horses, Shorthorns, and Dark Dorking fowls. Telegrams: "Casswell, Folkingham, Eng." Station: Billingham, G. N. R.

W. W. Chapman,

Secretary of the National Sheep Breeders' Association, Secretary of the Kent or Romney Marsh Sheep Breeders' Association, and late Secretary of the Southdown Sheep Society.

Pedigree Live Stock Agent, Exporter and Shipper. All kinds of registered stock personally selected and exported on commission; quotations given, and all enquiries answered.

Address: FITZALAN HOUSE, ARUNDEL ST., STRAND, LONDON W. W. Cables—Sheepcote, London.

FAMOUS ALL OVER THE WORLD.

ALFRED MANSELL & CO.,
LIVE STOCK AGENTS AND EXPORTERS, SHREWSBURY.

BRITISH STOCK selected and shipped to all parts of the world. Write for prices to ALFRED MANSELL & CO., Secretaries of the Shropshire Sheep-Breeders' Association, Shrewsbury, England.

PINE GROVE FARM HERD OF LARGE YORKSHIRES.

Imported and Canadian-bred, from the Hasket family, which has taken more prizes at the leading fairs in Canada and the World's Fair at Chicago than any other family of Yorkshires in America. Young boars and sows fit for breeding for sale. Correspondence solicited, which will receive prompt attention.

JOSEPH FEATHERSTON, Streetsville, Ont.

W. R. BOWMAN, MT. FOREST, ONT., Is offering Yorkshire Boars and Sows weighing 75 lbs. at \$7 each; Sows safe in pig, weighing 150 lbs., at \$12 each; Shropshire and Suffolk Ram Lambs weighing 110 lbs. at \$10 each. All stock registered.

Large Yorkshires.

Have a very fine lot to select from, of good length, and easy feeders. Pigs farrowed from March to September. Can furnish pairs not akin. Stock shipped to order. Satisfaction guaranteed.

E. DOOL, - HARTINGTON, ONT.

Yorkshires and Berkshires

BOARS and sows, both breeds, all ages. Sows safe in pig. Pairs supplied not akin. All of the best breeding and most approved type. Write for prices.

JAS. A. RUSSELL, Precious Corners, Ont.

Yorkshires, Holsteins, & Cotswolds

Boars and sows not akin for sale, of the bacon type. Thoroughbred and high-grade Holsteins, also a three-sheared ram for sale.

R. HONEY, WARKWORTH, ONT.

SNELGROVE BERKSHIRES.

We intend to exhibit our Berkshires at the coming Toronto Industrial Exhibition. Our exhibit will include some really good young boars and sows from 6 to 12 months old that are just the sort that are now wanted, and are for sale. Can supply young pigs from 6 to 10 weeks old, of the most approved type and breeding.

SNELL & LYONS, SNELGROVE, ONT.

LARGE ENGLISH BERKSHIRES.

Head headed by four first prize stock boars of large size, strong bone and fine quality. Young Boars and Sows, all ages, for sale. Orders booked for spring pigs.

GEORGE GREEN, - FAIRVIEW P. O., ONT. on Telegraph and Station: Stratford, G. T. R.

SPRING OFFERING

Yorkshires AND Berkshires

A fine lot of boars and sows eight weeks old. Pairs and trios supplied, not akin, of the best breeding and individual merit. A number of Yorkshires boars fit for service, and fine lengthy sows in pig to an imported boar. Berkshires, all ages, quality of the best. Write H. J. DAVIS, BOX 290, WOODSTOCK, ONT. -om Breeder of Yorkshires, Berkshires, Shorthorns.

Large English Berkshires.

HERD headed by two imported boars—Nora B's Duke and Royal Star III, half-brother to Columbia's Duke, which recently sold for \$1,200. Choice pigs, all ages. Write for prices. H. BENNETT & SON, St. Williams, Ont.

MAPLEHURST BERKSHIRES.

Modern Bacon Type. OUR early litters are all sold. We offer only a few choice sows and boars of May and June farrow. Orders booked now for August and September pigs—distinct strains. Correspondence invited. J. J. FERGUSON, BOX 373, -om SMITH'S FALLS, ONT.

Springridge Poland-Chinas

Now offering the 2-year-old sire, Blackmoore, and a few of his young females, and booking orders for young stock from the royally-bred Goldbug, lately added to the herd. WM. J. DUCK, MORPETH, ONT.

OXFORD HERD OF POLAND-CHINAS

The home winners of the winners. Headed by the imported boars, Conrad's Model and Klondike, assisted by Bacon Boy and Lennox. Has won 64 out of a possible 69 first prizes. Stock of all ages for sale. Write for prices or come and see. W. & H. JONES, OXFORD CO. -om MT. ELGIN, ONT.

POLAND-CHINA SWINE.

Brood Sows. Boars for service. Young stock of both sexes from 5 to 3 mths. old. L. Brahmas and B. P. Rocks. Young birds for sale; also Turkeys of both sexes. J. F. M'KAY, PARKHILL, ONT.

Ohio Improved Chester White Pigs.

Choice young stock, both sexes, 2 to 4 months old, bred from imported stock, fit to show, for sale. Also one imported boar and a few sows. Write for prices. T. E. BOWMAN, Berlin, Ont.

GOSSIP.

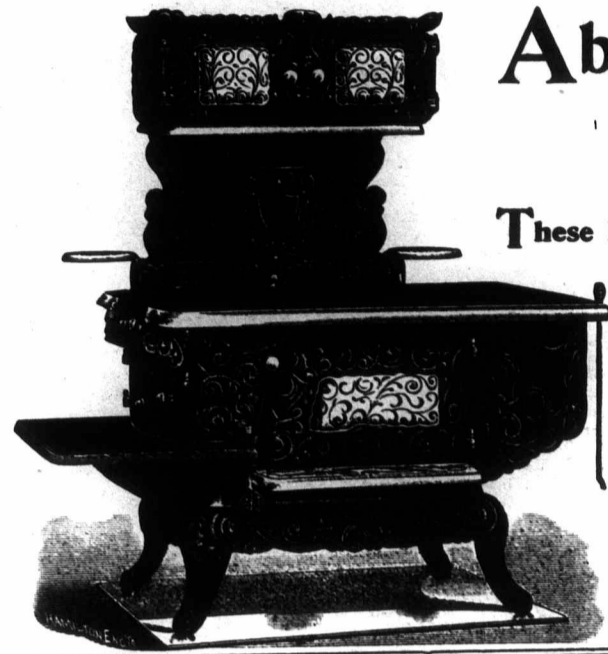
The prize list of the Quebec Provincial Exhibition, to be held in the City of Quebec, Sept. 11th to 16th, has been issued, and shows a very creditable list of prizes offered in a large variety of classes. The address of the Secretary is M. P. T. Logare, 273 St. Paul st., Quebec.

A GREAT HERD OF YORKSHIRES.

One of the staff of the FARMER'S ADVOCATE recently had the pleasure of looking over the magnificent "Oak Lodge" herd of Yorkshire swine, owned by Mr. J. E. Brethour, Burford, Ont., whose new advertisement appears in this issue, and consisting at present of about 280 head, of different ages. The foundation of the herd was well laid, some fifteen years ago, on an importation of first-class stock, bred from the winners of championship honors at the Royal and other leading English shows, and by judicious breeding and careful selection during all these years, with a specific object in view, namely, the production of a prolific, thrifty, and early-maturing class of pigs of the type required by the best trade. Mr. Brethour has succeeded in securing strong constitutions, easy-feeding qualities, and a fine quality of fat, flinty bone of the best texture, so that this herd, as at present constituted, both from the feeders' and consumers' standpoint, comes as near to the standard required by the export trade as any herd, of any breed, that has come under our notice.

To show that the herd is up-to-date in individual merit, it is only necessary to refer briefly to the prizewinning records of some of its representatives at the leading shows last year, when, at Canada's greatest show, at Toronto, they won 8 out of a possible 11 first prizes, including the sweepstakes herd prize, won for the seventh time at this show, for the best boar and two sows, any age, and the family prizes for best boar and four of his get under six months, and for the best sow and four of her produce under six months. At the Illinois State Fair, at Springfield, they won 7 first prizes, and at the Trans-Mississippi International Exhibition, at Omaha, no fewer than 17 first and 12 second prizes, including the first for herds of one boar and three sows, over a year and under a year, open to all; first for herds of one boar and three sows, over a year and under a year, bred by exhibitor; first for four swine, the get of one boar, bred by exhibitor; first for four pigs under 6 months, produce of one sow, and sweepstakes for best boar and for best sow, any age, open to all, and also for best boar and best sow, bred by exhibitor. At the Ontario Provincial Fat Stock Show the Oak Lodge entries won four first prizes, including those for best four bacon hogs, any breed or cross, and for the best three pigs, offspring of one sow, bred by the exhibitor; also second prize for the best three export bacon hogs, with pure-bred Yorkshires.

To meet the ever-increasing demand for stock from his herd, and to introduce fresh blood, Mr. Brethour, in the summer of 1898, made an extensive importation, selected by himself, from such noted herds as those of Messrs. Philo L. Mills, Denston Gibson, C. E. Duckering, Daniel Daybell, F. Walker-Jones, and Radcliffe College. Of these, some twenty were breeding sows, most of which were in farrow to noted English boars, their litters ranking as imported pigs, and thus giving him practically a very large stock of imported sows, among which were the first, second, and fourth prize pens of three young sows at the Royal Show at Birmingham, most of which are retained in the herd, in which are also included high-class representatives of such leading families as the Cinderellas, Buttercups, Prides Fashions, Marions, Victorias, and Prim roses; noted for producing large litters of the most approved pattern, and measuring quite up to the standard of the ideal bacon hog. Space forbids individual mention of even the principal matrons in the herd, and we can only briefly refer to some of the sterling sires in service, among which is imported Riddington Lad (4031), bred by Mr. Mills, winner in 1896 of first prize, the championship, and gold medal for the best Yorkshire, of any age or sex, at the Royal Show of England; imported Oak Lodge Royal King (3044), from the herd of Mr. Daybell, first prize in 1898 at the Royal and at Nottingham in his class; imported Oak Lodge Swell (3043), from Mr. Mills' herd, reserve number at the Royal in 1898; British Hero 4th, bred by Mr. Denston Gibson; Oak Lodge Conqueror (2475), in 1898 a winner in his class at Toronto Industrial Exhibition, and first for a boar and four of his get; also first at the Western Fair, at London, and at other Fairs; and last, but by no means least, the splendid yearling, Oak Lodge Challenge, who weighed 460 lbs. at 10 months old in August, 1898, and won first prize in his class as under a year, and headed the first prize herd at the Toronto Industrial and the Western Fair in 1898. He has never been beaten in the showing, and his present appearance justifies the impression that he is not likely to take second place in any contest this year. He certainly caps the climax for quality, style, and symmetry, combining length and depth and levelness with activity and vigor, and standing on a grand set of legs, rightly placed, of the very best quality of bone, and on which he carries his present 600 lbs. of weight easily. While Mr. Brethour has imported many of the Royal winners, and the best that money could buy in Britain, it has frequently been remarked by competent judges that he has bred better ones than he has imported, which is a high tribute to his judgment and skill as a breeder, and the records of the showyards confirm the correctness of the statement, for his best winnings have been almost invariably made with animals of his own breeding. The show herd which will make the circuit of the leading exhibitions this season is certainly a grand selection of uniform excellence and high-class character, and should be seen by all who are interested in this class of stock. They have not been forced into an over-fat condition, but have been given ample exercise, have developed muscle and lean meat of firm and even quality, and thus will hold their own when subjected to change of conditions. Sales from Oak Lodge have been more numerous during the past year than in any former year in the history of the herd, orders being almost daily received from all parts of the Dominion and the States; but the natural increase of large and strong litters has well kept up the stock, and a grand lot of pigs of spring farrow are ready for shipment, as well as a few good young boars nearing a year old, and young sows of different ages are held for sale.



Aberdeen

FOR COAL AND WOOD.

Victorian

FOR WOOD.

These Ranges were specially designed for Canadian needs. They are particularly attractive in design, as will be readily seen from the cut. In baking they are remarkably fast and even. Both the Victorian and the Aberdeen have gained a great reputation for strong, unvarying drafts; this of itself insures perfect operation. Send for booklet.

The Copp Bros. Co., Ltd. HAMILTON. BRANCHES: TORONTO AND WINNIPEG.

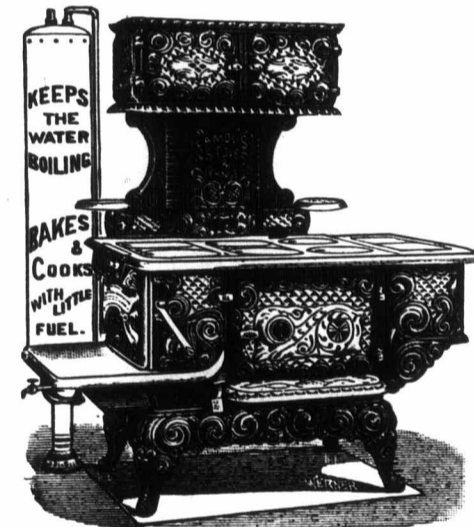
AGRICULTURAL COLLEGE

The Ontario Agricultural College will reopen on SEPTEMBER 26th, 1899.

Full courses of Lectures, with practical instruction in Agriculture, Live Stock Dairying, Horticulture, Poultry, Beekeeping, Veterinary Science, Chemistry, Geology, Botany, Entomology, Bacteriology, English, Mathematics, Bookkeeping, and Political Economy. Year shortened to suit farmers' sons.

Send for Circular giving terms of admission, course of study, etc.

JAMES MILLS, M. A., PRESIDENT. GUELPH, ONTARIO.



Forty-two styles and sizes. They bake, cook, roast and broil with less fuel than any other ranges.

THE REASONS WHY:

A Thermometer shows the exact heat of oven from outside without opening oven door. Oven is ventilated, drawing fresh, warm air into it, and forcing all fumes from roasting up chimney. Fire-Clayed Bottom prevents the heat escaping from it. A Small Basting Door can be opened to baste meats or look at baking without cooling the oven. Clinkerless Duplex Grates. Heavy Sectional Cast Iron Linings that cannot crack or crumble. Every Range Guaranteed. If your local dealer cannot supply, write our nearest house.

THE McCLARY MFG. CO.

London, Toronto, Montreal, Winnipeg, Vancouver.

"THE RAZOR THAT HAS MADE US FAMOUS"

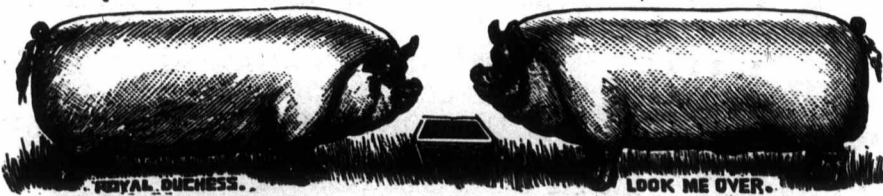
IF YOU SEND ONE DOLLAR (\$1) to Stanley Mills & Co., of Hamilton, Ont., they will at once mail you a first-quality concave or hollow-ground RAZOR—a magnificent Razor—with fancy, strong celluloid handle; a Razor that is worth and was made to sell for \$3.00. It is an English-made Razor, ground in Germany by the finest cutlers in the world. No better Razor can be made. Our price is only \$1.00 each, post-paid to any Canadian address. When ordering, say if you want round point or square point.

Write for our free catalogue. STANLEY MILLS & CO., Hamilton, Ontario.

BRAND THIS IN YOUR BRAIN: "If it comes from ABELL'S, it's good."

Farmers and Threshermen: See the NEW ABELL PATENT "Cock o' the North" THRESHING OUTFIT AT THE TORONTO AND LONDON EXHIBITIONS. THE JOHN ABELL ENGINE & MACHINE WORKS CO., Ltd., TORONTO.

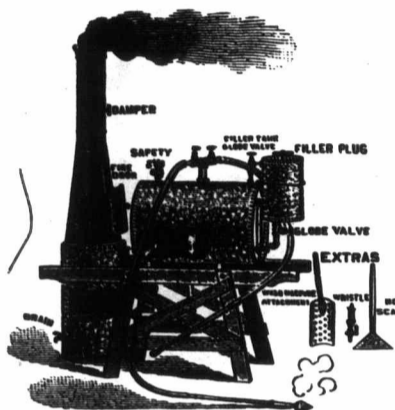
Summer Hill Herd



The largest herd of imported and Canadian-bred YORKSHIRES of the large English type in Canada. Twenty-five marked imported sows, among them being several Royal winners. Six imported sows sired by Biddington Lad, Royal winner and gold medal boar for the best pig of the white breed. Have three imported stock boars bred by such noted breeders as Sanders Spencer and Philo L. Mills. Twenty-five April pigs (imported) of both sexes for sale. Also a number imported in dam. Two hundred Canadian-bred pigs of all ages for sale. Write for prices. Personal inspection preferred. I prepay express charges, and guarantee stock as described.

D. C. FLATT, MILLGROVE, ONT.

THE IMPROVED RELIABLE FEED COOKER



This machine was designed and constructed not with the idea of putting a cheap cooker, but THE BEST COOKER, UPON THE MARKET. That we have succeeded fully is evidenced by the experience of the users of the "RELIABLE." We quote one here:—

Oak Lodge Stock Farm, Burford, Ont., Feb. 4 '90. Messrs. Rippley Hardware Co., Grafton, Ill. Gentlemen,—I am in receipt of your letter of January 19th. I would have replied earlier, but I wished to thoroughly test the Cooker before making any statements. I have made a pretty thorough test of it, and I am satisfied that it does all you claim for it. My hogs have done much better since I started using your Cooker. I am feeding ground grain, which I scald and feed while warm. I am also using the Cooker as a means of heating my hog pens, by having steam pipes running through the pens. Last week when the thermometer was several degrees below zero, the pens were quite comfortable, and I saved several litters of young pigs that I am sure would have perished with the cold. I take pleasure in recommending your Cooker. Yours truly, J. K. BRANTHOUR.

We have hundreds of others equally good, and guarantee all to be genuine, under forfeiture of \$500. We make further claims in our circulars why the "Reliable" is the best cooker on the market. We positively guarantee the "Reliable" to do all that we claim for it. SPECIAL PRICES quoted for August and September to get one introduced in a locality before winter. This Cooker is used by the best Experiment Stations in the United States. Burns wood, coal, cobs, coke, etc. Made in two sizes. Write for circulars, testimonials, prices, etc. See it at TORONTO and LONDON FAIRS. We pay duty.

Ripley Hardware Company, Grafton, Ill.

Queenston Cement Best and Cheapest for Walls and Floors.

When building barn basements or stable walls of any kind—stone, brick, or concrete—be sure to put a six-inch tile through the walls opposite the feed alleys, at about the floor level. It will pay you to investigate our system of

Ventilation.

Fully covered by letters patent, but to our patrons we make no charge.

Write for pamphlet containing valuable information, prices, etc.

Isaac Usher & Son, Queenston, Ont.

MICA ROOFING

USE MICA ROOFING on all your Buildings. IT IS CHEAPER THAN SHINGLES. WATERPROOF. FIREPROOF.



USE MICA PAINT to Repair Leaky Roofs. Shingle, Iron or Tin Roofs painted with it will last twice as long.

RAPIDLY TAKING THE PLACE OF SHINGLES. Is put up in rolls of one square each, 40 feet long by 33 inches wide, and costs only \$2.25, including nails, thus affording a light, durable and inexpensive roofing, suitable for buildings of every description—especially flat roofs—and can be laid by any person of ordinary intelligence.

HAMILTON MICA ROOFING CO., OFFICE: HAMILTON, ONT. 101 REBECCA ST.

PLEASE MENTION FARMER'S ADVOCATE.

GOSSIP.

Geo. Hill, Delaware, Ont., offers three young Ayrshire bulls for sale in this issue. Write him for particulars of ancestry, condition, prices.

The annual sale of Suffolk sheep at Ipswich, England, August 9th, attracted a large company from all parts of the kingdom, and competition was very keen for the best ram lambs, all previous records at Suffolk sheep sales being eclipsed by the price of 145 gs., given by Mr. S. R. Sherwood, of Playford, for a grand ram lamb bred by Mr. Herbert Smith, of Walton Range, whose consignment averaged over 30 gs. apiece. Mr. Thomas Goodchild, of Great Yeldham, gave 100 gs. for a ram lamb of beautiful quality, bred by Mr. S. R. Sherwood. Prices for ewes ran from £10 up to £14 per head; 120 shearing ewes from one flock averaged \$36 per head; and 80 two-shear ewes made an average of \$24; 1,200 ewe lambs averaged \$18, with a top price of \$37.

During a recent visit in the vicinity of Teeswater, Ont., a representative of the FARMER'S ADVOCATE called and looked over the extensive flock of Oxford Down sheep owned by Messrs. Peter Arkell & Sons, which are among the most up-to-date of the breed in the Dominion, and as they were founded upon selections made from time to time from the flocks of Wm. Arkell, Kempford, England, the quality of their breeding is unquestionable, as that gentleman frequently captures many of the best offerings at the big sheep competitions in that country. The sires most recently employed have also been selected from the best English flocks, and the present crop of lambs are the get of two imported rams which in '97 won the 1st and 2nd at Toronto. The flock of over 300 is made up as follows: Breeding ewes, 130; shearing ewes, 50; and a score of rams of the same age. Of the 120 lambs of this year's crop, about made her family name pur-chasers will have a wide range for selection, and any and all ages and both sexes are for disposal. See their ad.

ROBERT MILLER'S IMPORTATION AND SALES OF SHROPSHIRE AND COTSWOLDS.

Mr. Robert Miller, Stouffville, Ont., writes:—"Shropshires.—My 1890 importation consisted of 178 head, among which was one great 2-shear ram for Follyfarm, Abington, Pa.; one good 2-shear ram for W. M. McFadden, West Liberty, Iowa; a good 2-shear breeding ram for Follyfarm; the choice yearling ram from Philo L. Mills' flock for Follyfarm; the first prize Highland Society aged ewe, with mate; the first prize pen of ewes at Royal and Shropshire and West Midland for Follyfarm, except one ewe of the five that went to McFadden Bros.; the choice ewe lambs from second, third and fourth prize pens at Royal; also first prize pen in tenant farmers' class at Shropshire and West Midland. Follyfarm will show at Toronto and London, then Indianapolis or some show in the West, the strongest collection I have ever seen. Messrs. McFadden will show at Iowa and Western Shows. T. W. Davison, Mechanicsburg, Ohio, will show a beautiful yearling ewe imported for him, and many others will show sheep sold to them since importation reached home.

Cotswolds.—Before the Royal Show I went to see the best Cotswolds, and had bought or gotten an option on the second prize yearling ram, which I liked best, and still think him the best ever imported by me; the first, second and third prize ewes and some lambs. I bought lambs that I liked better than those going to show. George Allen, of Oriol, Ont., will show the strongest flock it has been possible to buy in England for many years. George Harding & Son, Waukesha, Wis., got nearly all the balance of Cotswolds, including rams and ram lambs, ewes and ewe lambs. They sold some to remain in Canada."

E. GAUNT & SON'S LEICESTERS AND SHORTHORNS, NEAR LUCKNOW, ONT.

At the dispersion sale of Messrs. E. Gaunt & Son, three Shorthorn females were retained, and during a short visit to their home, a few days ago, the writer took a look over the stock in general, and did not overlook the little Shorthorn herd. The first to attract our attention was the six-year-old Cruickshank cow, sired by Earl of Moray, and out of Edna Buckinghan, a massive, thick, smooth, and level cow, carrying a great wealth of natural flesh, of the low-set, early-maturing sort so much sought at present. She is an all-round good animal. Next we came to the red Missie of Needpath 16th, by Indian Prince (a son of imp. Indian Chief), and in her we found a splendid type of a Shorthorn, bearing the fine quality which has made her family name popular. Her heifer calf by Admiral (half-brother of the champion Nominee and Revenue), is also a sweet thing, with grand quality. The other cow, we learned, was Lystra 2nd, by Earl of Moray, and out of Lady Lovel, making her a full sister to Hon. John Dryden's stock bull. She also is a good representative of the worthy families to which she belongs; full of natural flesh, and has a splendid, level, broad back. They all are in prime form, enjoying their liberty in the luxuriant pastures of that section.

Amongst the Leicester flock we found the firm fully up-to-date, with a long string. Our first stopping place was among the shearing rams, and here we found a grand bunch, in superb form. A half dozen in all were selected from last year's crop, and we doubt if a better, even, and better covered lot could be collected in the whole Province. The firm were always extremely successful in the show-yards with their shearings, and we venture to say that if they were to be drawn out this year they would take a lot of beating. Next we looked over the lambs in another field and, barring a few late triplets, we found a bunch of 54 good, thrifty, well-covered animals, bearing out the splendid uniformity so characteristic a feature in the entire flock. We did not count them, but Mr. Gaunt informed us that about half were rams. Among the 37 breeding ewes we recognized many of the former prize-winners. The entire flock is in good form, having a decided advantage over many sections of Ontario in having occasional rains, which has been most favorable to pasture lands. It will be remembered that the firm were highly successful in the showyards, and as Mr. Gaunt, Jr., has had the misfortune, through injury, to be unable to come out this fall, parties desirous of purchasing foundation stock will have exceptional opportunity to select the best they have. See their advertisement, and note the address is now E. Gaunt & Son, Lucknow, Ont.

BORNHOLM HERD IMP. CHESTER WHITES.

Stock for sale at all times, all ages. Nothing but first-class stock shipped. Inspection invited. Correspondence answered. Daniel DeCourcoy, Bornholm P. O., Ont.

REGISTERED CHESTER WHITE PIGS.

Eight weeks old, at \$5.00 each. REGISTERED JERSEY BULL CALVES \$30.00 each. F. BIRDSALL & SON, BIRDSALL, ONT.

AVON HERD OF CHESTER WHITES

Carries the blood of the most prolific, early-maturing families. I have bred to a specific type since its foundation, and to-day have animals in my breeding pens that should have been shown this fall. Young stock always on hand. Write me to-day. HENRY HERRON, AVON, ONT.

DUROC - JERSEY SWINE

We have a fine lot First-Class Stock of all ages and either sex. Address, TAPE BROS., Ridgetown, Ont.

IF YOU WANT Chester Whites Write me for particulars.

The imported sires, Willis 1283, and Nonsuch 910, at head of herd. JOS. CAIRNS, Lambton County. CAMLACHIE P. O.



One hundred Tamworth and Improved Chester White Spring Pigs of a true bacon type, our herd having won the best prizes offered at the leading exhibitions throughout Ontario and Quebec for the past ten years. Stock for exhibition purposes a specialty. We pay express charges between stations, and guarantee safe arrival of all stock shipped. Pairs furnished not akin. Write for prices. N. GEORGE & SONS, Crampton P. O., Ont.

WE HAVE SEVERAL EXTRA CHOICE TAMWORTH BOARS

Ready for service, from the 1st prize boar at Toronto last year, under 6 months. Also several choice Yorkshires fit for service, and several sows of excellent quality and breeding. Write for prices and particulars. Prices right. COLWILL BROS., Newcastle, Ont.

Spring Brook Herd of Tamworths.

MEET me again at Toronto Industrial, and compare quality and prices. The largest and leading herd in America. All young stock, sired by imported prize-winning boars. A few Holstein bulls for sale. A. C. HALLMAN, NEW DUNDEE, ONT.

Chatham HERD OF Tamworths

2 two-year-old boars, 3 six-months-old boars, 10 six-months-old sows, 9 four-months-old boars, 11 four-months-old sows, 7 three-months-old boars, 6 three-months-old sows. Four litters fit to wean October 1. Orders booked. Write for prices. J. H. SIMONTON, Box 304, Chatham.

Are You

Going to invest some money in TAMWORTH HOGS at present. If so, kindly write at once. Also mention my new Catalogue. CHRIS. FANNER, CREDITON, ONTARIO.

CHOICE SPRING PIGS

Of choice breeding, in pairs not akin. Prices reasonable to reduce stock. JOHN FULTON, Brownsville, Ont. o

TAMWORTHS.

My herd won more 1st prizes than all others combined at the large fairs in '88. I have several splendid young boars and sows ready for shipment, and can book orders for fall stock from my show sows. See me at Toronto Fair. J. C. NICHOL, HUBREY, ONT.

OAK HILL HERD OF TAMWORTHS. We are offering the most select lot of boars and sows ever offered, got by Sandy 3rd 659, winner of 2nd prize at Toronto, 1898, and out of first-class sows. Prices reasonable. R. J. & A. LAURIE, WOLVERTON, ONT.

CANCER CURED WITHOUT KNIFE OR
PLASTER. FULL PARTICULARS
FREE. -OM-
F. STOTT & JURY, Bowmanville, Ont.

TAMWORTHS
Of the Most Approved Type.

WE have a dozen vigorous sows to farrow this spring to O. A. C. 419, and can book orders for right good stock. Our stock was not only represented at the Illinois State Fair, but won the best prizes offered in '98. We also have a choice imported Berkshire sow three years old, and a twenty-months boar for sale.

P. R. HOOVER & SONS,
GREEN RIVER, ONT.

TAMWORTHS.

Upwards of 100 head to select from, bred up from Middleton Mimulus and other noted females, to which have been mated such sires as King George, Amber Smith and other prize-winning boars. Pairs not akin.

NORMAN M. BLAIN,
St. George, Ont.

CHOICE TAMWORTH & YORKSHIRE SWINE

Of both sexes. Also five pair Toulouse geese; six pair of good Rouen and Pekin ducks; one pair Golden B. Poland (McNeil's).

John Hord & Son, Parkhill, Ont.

TAMWORTH BOARS AND SOWS

From Elliott, Bell and Nourse foundation. A choice bunch of Shropshire Ram Lambs for fall delivery; extra well covered; imported foundation.

CHAS. LAWRENCE, -o- Collingwood, Ont.

Barred Plymouth Rocks
(EXCLUSIVELY).

Young stock ready to ship by 1st October. Splendid young cockerels at 50c. and \$1 each. Choice bred. Also some good breeding hens at 40c. to \$1 each. All fine, thrifty birds. Book your orders now.

(MISS) F. J. COLDWELL,
Constance, Huron, Ont.

EGGS. It pays to get the best. We have them in L. and D. Brahmas, B. and W. Rocks, W. Wyandottes, Black Minorcas, and Indian Game, at \$1.25 per setting.

JACOB E. SNIDER, German Mills.

EGGS FOR HATCHING. Brahmas, Games, Minors, Dorkings, Hamburgs, Houdans, Polands, Leghorns, Ducks, Geese, and Turkeys. -om- For prices write

WM. STEWART & SON, MENIE, ONT.

New Seed Wheats.

We offer the following varieties of Seed Wheat, all choice re-cleaned samples, for fall sowing. Write for our price list, giving full description of the latest introductions.

	Per Bush.
New Golden Coin.....	\$2 25
New Longberry.....	1 50
New Harvest Queen.....	1 75
Early Arcadian.....	1 25
Harvest King.....	1 00
Diamond Grit.....	1 25
Early Oatka Chief.....	1 25
Bearded Winter Fyfe.....	1 00
Pride of Genesee.....	1 00
Long Amber.....	90
Pedigree Genesee Giant.....	90
Dawson's Golden Chaff.....	85
Early Red Clawson.....	85

Choice Samples of Clovers and Timothy Seeds and Fall Rye.

JOHN A. BRUCE & CO.
SEED MERCHANTS,
HAMILTON, - - ONTARIO. -o-

GET THE VERY BEST OIL—YOU KNOW HOW IT WAS LAST YEAR!

ROGERS' "PEERLESS" MACHINE

Won 12 gold medals for farmers' use on agricultural machines and general purposes. Hardware and general stores sell it to their best trade. Don't take anything else. Get "Peerless."

QUEEN CITY OIL CO., Limited, TORONTO.
-O- SAMUEL ROGERS, PRESIDENT.

THE ONTARIO VETERINARY COLLEGE
(LIMITED).

TEMPERANCE ST., TORONTO, CANADA.

Affiliated with the University of Toronto.

Patrons: Governor-General of Canada, and Lieut. Governor of Ontario. Fee, \$65.00 per session. Apply to ANDREW SMITH, F.R.C.V.S., Principal. 18-2-y-om

EDMUND WELD,
Barrister, Solicitor, Notary Public, Etc.

Moneys loaned on real estate at lowest rates. Investments procured. Collections made.

Address: 87 DUNDAS ST., LONDON, ONT

GOSSIP.

A despatch from Ottawa states that Prof. Robertson is going to the Maritime Provinces to arrange for the starting of several creameries in Nova Scotia, to be managed by the Department of Agriculture on the same plans as the factories in P. E. Island and the North-West. It was also stated that a couple of chicken-fattening stations were to be started in each of the Eastern Provinces, similar to the one at Carleton Place, Ont., last year.

Mr. Joseph Cairns, breeder of Chester White swine, Camlachie, Ont., writes:—"Having sold my imported boar, John A 751, I enclose a slight change in my ad. Mr. E. A. Dutton, of Dutton, being the purchaser of John A. 751, it would be hard to find a pair, we think, that would surpass them, having proved themselves as AI breeders. To mate with John A 751's get, I have secured a grand hog from Mr. W. Whinery, a son of Protection Chief, by Protection, and also amongst his grandfathers is Coco 2275, two of the grandest Chester White boars of the day. I have a great lot of lengthy pigs of spring and summer farrow for sale."

In his inspection of the prize sheep at Maidstone, England, recently, the Prince of Wales congratulated Mr. John Treadwell, the well-known Oxfordshire Down breeder, on his good sense in bringing sheep to the showyard in their natural condition without any painting or coloring of their fleeces, and expressed decidedly his opinion that the nuisance occasioned by the very prevalent habit of exhibitors making their sheep obnoxious to good taste and repugnant to those requiring to handle them, ought to be discontinued. "We sincerely trust," says an English contemporary, in recounting this occurrence, "that this opinion will have the wide-prevailing influence it deserves in causing all who, through inadvertence or want of thought, have been accustomed to color their sheep, to abandon the disreputable and offensive custom."

RECENT SALES OF SHORTHORNS MADE BY MR. W. D. FLATT, HAMILTON, ONT.

To William Boyce, Palgrave, Ont., Flamboro, a red yearling bull of good quality. To J. Fletcher, Gibraltar, Ont., a young bull which should prove very profitable as a sire in a dairy herd, he being well bred on milking lines. To Messrs. Geo. Harding & Son, Waukesha, Wis., three heifers and one cow. Of the former, Lantie (imp.), a two-year-old heifer, is a really good one, possessing good Shorthorn character, has well-sprung ribs, is lengthy, level, and straight in her lines; Mina Auguston 5th (imp.) is a very stylish heifer, and capably bred; Genevieve, a red two-year-old heifer, is good enough for the showing; she is of the favorite Ury family; sire Prime Minister (imp), bred by Mr. Wm. Duthie, and successfully exhibited at Toronto. Rose Nell, a five-year-old cow, is a beautiful, blocky, short-legged, heavily-fleshed one, being very deep and wide. To N. P. Clark, St. Cloud, Minn., 14 head. Daisy of Strathallan 15th, a smooth, strong heifer, of fine quality, the highest-priced cow in U. S., was of this family; this heifer also topped the sale when Mr. C. M. Simmons dispersed his herd.

Her sire, Royal Saxon, was awarded first prize at Toronto Industrial Exhibition, 1894. Crimson Jewel 2nd, a large, lengthy, smooth cow, with strong loin and fine quality, is choicely bred and a good milker. She is the dam of Crimson Knight, sold by Mr. Flatt to Premier Greenway, awarded first prize at Winnipeg Industrial Exhibition, 1898, and headed the first prize young herd at same show. Ivy Leaf, a massive cow, and very attractive, won first prize at London and second prize at Toronto; she is also proving to be an exceptionally good breeder. Dorothea, a prime young cow of excellent character, and heavily fleshed; Trout Creek Beauty, a promising heifer; Floretta 3rd (imp.), a large, low-set, deep-bodied, thick-fleshed cow, a good milker, and, if fitted, would give trouble to many in a showing; Fashion Fair, an even-fleshed, excellently-formed, and good-doing young cow—she is proving to be a profitable breeder and good milker; Mary Minto is good enough to go into the best of company—there are few, indeed, just like her in Ontario; Queen Ann is a show cow, smooth, well-proportioned, with grandly sprung ribs, strong, level back; her sire, Aberdeen (imp.), was a first prize winner at Toronto. Scotsman 2nd, an extra good bull, of fine character and good disposition, is the sire of many good things; he is by Scotsman, who was sired by the famous Bampton Hero; grand sire Methlick Hero (imp.)—2723—bred by Wm. Duthie, Collynie, Scotland; his dam, Mademoiselle, was that very fine cow imported by the Experimental Farm at a cost of \$1,000, won first at the Royal Northern and Ythanside Shows, both as a yearling and two-year-old. Blossom, a two-year-old heifer, with strong individual merit; Columbia 4th, two-year-old, a typical Shorthorn, symmetrical, straight and deep-fleshed, her breeding is superb; Vebena's Flower is a strong, well built cow, of excellent quality, and has been pronounced one of the choicest cows in the Trout Creek herd, her breeding is right; Laurier, a red bull calf—he is as good as his name, more than this cannot be said; his sire, Prime Minister (imp.), was bred by Mr. Wm. Duthie, and was successfully exhibited at Toronto Industrial Exhibition.

To C. Hintz, Fremont, Ohio, Ruby Hill 4th, a two-year-old heifer; this heifer was good enough for Toronto Industrial Exhibition; she is beautifully bred, and has descended from a host of prizewinners. Mr. Hintz intends exhibiting her at a number of the State Fairs. To Wm. Conley, purchaser for Mr. A. Chrystal, of Marshall, Mich., Lady Pride, a three-year-old imported heifer; she is richly bred, having some of the best Cruickshank blood. Trout Creek Wanderer (imp. in dam), a bull calf of good promise, sired by My Lord, a bull bred by Mr. Duthie, and out of the famous Upper Mill Missie family. Nonpareil 51st, a low-set, well-proportioned cow, of modern type, and comes of one of the best of the Cruickshank families; Stanley, her sire, was a champion winner at Toronto Exhibition, and sire of Lord Stanley, a sweepstakes winner at the World's Fair, Chicago. Empress 4th is a large cow, and an extra good milker; her sire, Nobleman, was got by the (imp.) Kinellar-bred bull, Toftills, and out of Isabella 14th, of the great Centennial Exhibition prizewinning family. Mr. Chrystal certainly cannot go astray in securing this class of Shorthorns, and these four will greatly assist in bringing his already strong herd to the front.

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Seed Wheat PEARCE'S PARAMOUNT, \$2.50
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Price: Small lots by mail, post-paid, lb. 20c., 3 lbs. 50c.; larger quantities, by freight or express at purchaser's expense, peck 80c., half bush. \$1.40, bush. \$2.50; bags, 15c.; two bush., including bag, \$5.00.

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Jones' Longberry.....	\$1 50
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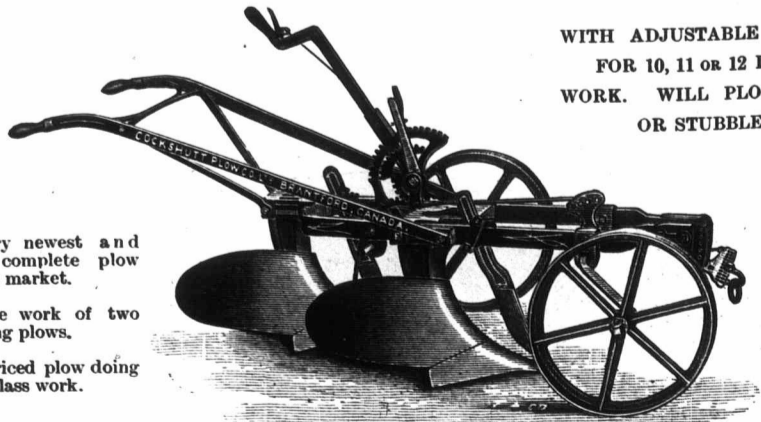


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In the year 1859 the farmers of the County of Middlesex, owing to the excessive rates charged by stock and foreign companies for their protection, decided on forming a company of their own, and by successful management reduced the rates of insurance to a minimum. Their success induced a number of new ventures to embark in the business, pirating even the forms and conditions of the London Mutual. But the success of these companies has been very precarious, and to-day the old London Mutual stands, as it always stood, ahead of all competitors, and affords insurance at the very lowest safe rates.

Nearly three and a half millions of dollars have been distributed to the farming community throughout Ontario.

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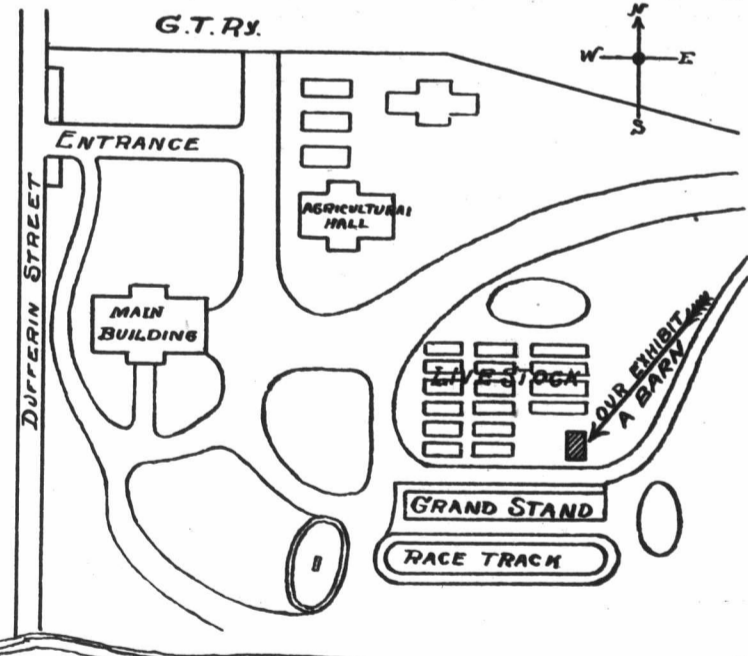
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We want you all to come and see us at the Toronto Exhibition, from August 28th to September 9th. You will find us at

OUR BARN,

The Walls and Floors of which are built with Battle's Thorold Cement. Our Mr. James Battle will be there to welcome you, and show you some work done with our famous

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GOSSIP.

In writing to advertisers, mention the "Farmer's Advocate."

At the annual show and sale of Shorthorn bulls specially suitable for export, at Carlisle, Cumberland, July 29th, the first prize went to a roan bull, calved in April, 1898, which sold for 86 guineas; the second prize to a roan, calved May, 1897, which brought 105 guineas; third prize to a red, 2 years and 7 months old, sold for 70 guineas. Others sold at prices ranging from 30 guineas to 78 guineas.

Henry Arkell, of Arkell, Ont., has recently made some good sales of his Oxford Downs: To Geo. McKerrow, of Sussex, Wis., 54; to Grant J. Campbell, of Pittsfield, Ohio, 10. Among these lots were some finely-fitted show animals. Mr. Arkell has received 6 fine lambs from the Royal-winning pens in England. They arrived in good condition, and are a splendid lot. Messrs. Ed. Wineford, of Arosa, Iowa; Ed. V. Steele, Sandyville, Ohio; and N. D. McNeil, Grand Blanc, Mich., also visited him, the two latter gentlemen purchasing one each of the imported ram lambs. All of the five gentlemen mentioned are extensive breeders of pure-bred sheep in their own States, and the two former have come respectively for over two years in succession to purchase from Mr. Arkell.

Mr. D. McCrae, Guelph, recently shipped a nice lot of Cotswolds to a buyer in Ohio. They were from his own flock and from that of G. & R. Laird, Puslinch. He also delivered the first shipment to Mr. Frank Harding, of Waukesha, Wis. Cotswolds from Jas. Hume and Hugh McNelly, of Arkell, as well as from Mr. McCrae's flock, and a fine lot of five Hereford cattle from Walter Macdonald, representing the Stone estate. These Herefords were three young cows and two bulls, and are a trial shipment for one of Mr. Harding's customers in Oregon, U. S. From other points in Ontario Mr. Harding took a car of high-class Shorthorns. They were purchased from W. D. Flatt, of Hamilton; Capt. Robson, of London; and other breeders.

Wm. Howe, North Bruce, Ont., breeder of Improved Large White Yorkshires, in ordering a change in his advertisement, writes:—"My stock are doing well, and I have now on hand the best lot of young stock I have yet had, among them being six bears and four sows sired by Oak Lodge Royal King (imported), a first prize winner at the Royal in 1898, dam Oak Lodge Pride 6th—3693—, by Oak Lodge Emigrant 1508. I have lately shipped two sows and a boar to Saint Ste. Marie, and a sow in farrow, to Stonewall, Man., also others closer home. I expect to exhibit at the local exhibitions, including the three riding exhibitions of Bruce County. I am well pleased with the ADVOCATE, and think it the best farm paper published in Canada."

ROSSEAU PERFORMER AND OTHER HORSE STOCK AT SANDY BAY FARM.

The subject of our illustration, on page 483 of this issue, is the well-known and popular Hackney stallion, Rosseau Performer (5891) E. H. S. B., (34) C. H. S. B., (198) A. H. S. B., who has been such a prominent figure at all our leading shows during the past six years. Rosseau Performer is a strawberry roan stallion, six years old, 15.34 hands high, good conformation, and good all-round action, his knee action in particular being something phenomenal. He was imported from England, in the year 1894, by his present owner, Mr. Horace N. Crossley, of the Sandy Bay Stock Farm, Rosseau, District of Parry Sound, Ont., and has been traveling in that district, in which he is a great favorite, during the last three seasons. He has proved a sure foal-getter. As a stock-getter he has been one of the most successful Hackney sires in Canada. His got all true and true and are particularly marked for their high hook action. So far four of them have been exhibited eight times and have carried off one first, three second, and four third prizes, two of these awards being gained in classes for mares including older ones than themselves.

Performer himself has won five firsts, four seconds, two thirds, and one fourth prize, among which may be particularly mentioned 3rd at New York in 1896. The rest of his winnings, except two firsts, were all scored either at Toronto Industrial or Canadian Horse Show.

As to the pedigree of Rosseau Performer, it may be mentioned briefly that he was sired by Entorpe Performer, who was by Matchless of Londesborough, by Danegelt, by Denmark, etc. These horses were all sold for large figures, and proved themselves to be the best sires in England and the States. The two first named are now owned in the latter country, and have there carried off the championships whenever exhibited. Performer's dam was Ill. Fanny, by Phenomenon (Bromley's), and won in England twenty first and two second prizes, besides breeding over twenty foals. Mr. Crossley having now had the above horse for so long, and wishing to change the strain, is offering him for sale, at reasonable figures, in order that others may have the benefit of such an excellent sire.

Amongst the other horses at Sandy Bay Farm should be particularly noted the two-year-old Hackney stallion, Rosseau Swell, who is also being offered for sale. He should make an excellent purchase for any one wishing to travel a Hackney stallion next spring.

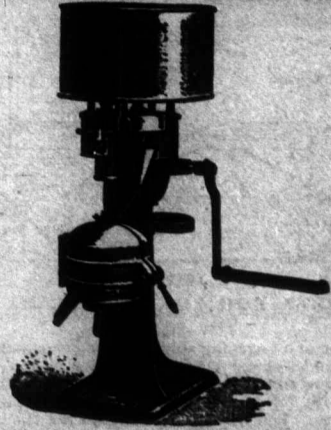
Rosseau Swell (71, C. H. S. B.) is by the well-known horse, Royal Standard (55) (3918), who during the last few years has obtained so many victories at our Canadian horse shows, and is out of (20) (6357) Althorpe Countess, a full sister to Rosseau Performer.

As to the action of this two-year-old, it is good all round, and his conformation is splendid. He has won first at Toronto Industrial as yearling stallion, 1898, and second at Canadian Horse Show, 1899, in the class for stallions three years and under. These are the only times he has been exhibited. Another good one is the yearling Hackney stallion, Rosseau Royal Oak (79) C. H. S. B., who, judging by his present action and conformation, will make an extraordinarily good horse. Royal Oak has never been shown.

Among the brood mares kept at the farm may be mentioned the old and well-known favorites (5510) Lady Bird, (47) Rosseau Birdie, (6357) Althorpe Countess, (5530) Lady Cocking, Sure-foot No. 4 F. S. But as these mares have been so frequently described in our paper, it is not necessary to go into particulars. There are also a number of fillies, geldings and foals, all by Rosseau Performer.

Alexandra Melotte

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Have beaten the Alpha Laval eight times, and all other competitors in public working trials. Sent out on free trial, and guaranteed to give perfect satisfaction. Come and see these machines working at the Toronto Exposition. For full particulars apply

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AMERICAN CREAM SEPARATOR

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Has gone to the perfecting of Spratts Patent Dog and Poultry Foods, and today their aggregate output of

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per week of manufactured foods testifies to the universal appreciation of their excellence. It is no exaggeration to say that the most successful breeders, dealers and amateurs owe something of their success to these products. Order through your dealer, and send for catalogue to

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SHEEP, CATTLE AND HOG LABELS

Also three sizes of Punches to insert them in the ear. By honest dealing and good work we hope to increase the orders, and the more orders we get the cheaper we can make them. Good reference given if required. Send for Circular and Price List.

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LIVE STOCK AUCTION SALES

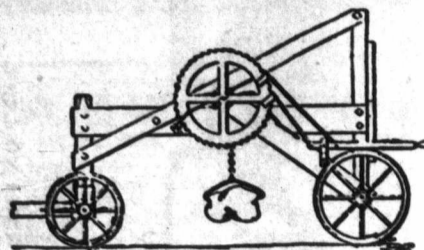
Conducted in all parts of the country. Pedigree stock a specialty. Write for terms. References: J. C. Snell, Edmonton; John I. Hobson, Guelph; Hon. M. H. Cochrane, Compton, P. Q.; or this office.

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LIVE STOCK AUCTIONEER.

The undersigned is prepared to conduct pure-bred auction sales. 20 years' experience. References: John I. Hobson and Alfred Stone, Guelph; Jas. Hunter, Alma, and Mossom Boyd, Bobcaygeon. Thos. Ingram, Care Mercury Office, Guelph, Ont. -q

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Lifting and carrying stones, so you can make with them fences from 4 to 5 feet high. When buying this strong and durable machine, you can make your fence with big stones instead of buying spike wire for fences. You will clear your land for the mowers and reapers. To lift a stone you make the lever work, and the hooks will hold it when lifting. You can lower it in the same manner or make it fall by touching a ring fixed in the wheel. You can lift, remove and put into fence a stone in ten minutes. Agricultural Societies should buy it. Farmers, if they like, may join in club to buy it. Price moderate. For all particulars address—

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PLOW.**



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How soon a farmer will use up \$20 in the old way of ditching!

How much the want of draining, and the trying to ditch by chains and old iron plows, and the compelling of boys to dig ditch by hand, has to do with making those dissatisfied with the farm who might otherwise regard farming the best and pleasantest work!!

And how many times \$20 is lost every year on a farm because the ground is not underdrained!!!

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BOYS FOR FARM HELP.

The managers of Dr. Barnardo's Homes will be glad to receive applications from farmers or others for the boys who are arriving periodically from England to be placed in this country. All the young immigrants will have passed through a period of training in English Homes, and will be carefully selected with a view to their moral and physical suitability for Canadian life. Full particulars as to the terms and conditions upon which the boys are placed may be obtained on application to Mr. ALFRED B. OWEN, Agent, Dr. Barnardo's Homes, 214 Farley Ave., Toronto.

GOSSIP.

In writing to advertisers, mention the "Farmer's Advocate."

Mr. Horace N. Crossley, of Sandy Bay Stock Farm, Lake Rosseau, District of Parry Sound, Ont., has just issued a new catalogue of his prize-winning Shire and Hackney horses, a copy of which may be had on application.

FARMERS', BREEDERS', DAIRYMEN'S, AND POULTRYMEN'S MEETINGS AT TORONTO DURING THE INDUSTRIAL EXHIBITION.

The following meetings are announced to be held in Toronto during the second week of the Industrial Exhibition: Sept. 4, American Shropshire Breeders' Association, in Shaftesbury Hall, at 11 a.m.; Sept. 5, annual meeting of the Dorset Horn Sheep Breeders' Association of America, at Queen's Hotel, at 8 p.m.; Sept. 5, Eastern Butter and Cheese Association, at Farmers' Institute tent on Fair grounds, 3 p.m.; Sept. 6, Western Butter and Cheese Association, in board room, over offices of the Association, on the grounds, at 2.30 p.m.; Sept. 7, Ontario Poultry Association.

DEATH OF GAY MONARCH.

The great Scotch Shorthorn bull, imported Gay Monarch 92411, died August 2nd, at the age of 12 years. He was bred by Mr. W. S. Marr, Upper Mill, Aberdeenshire, and was one of Luther Adams' importation of 1887, having been selected by Mr. Wm. Miller, formerly of Atha, Ont., now of Storm Lake, Iowa. Gay Monarch was sired by the Cruickshank bull, William of Orange; dam Alexandrina 17th, by Athabasca. He was a bull as devoid of faults as any we recall, and was of the most approved modern type. He won many prizes and championships at State fairs, and gained the second prize at the World's Fair at Chicago in 1893, being beaten only by Young Abbotsburn, a Canadian-bred bull; and he headed the herd of Messrs. J. G. Robbins & Sons, of Horace, Indiana, which won the grand sweepstakes prize of \$1,000, at the same exhibition, for the best herd of one bull and four females, open to all beef breeds, a prize which the present editor of the FARMER'S ADVOCATE had the honor of awarding as one of a bench of three judges. He was also a very prepotent sire, his sons and daughters having been very successful as prizewinners and breeders.

R. O. MORROW'S TAMWORTHS AND COTSWOLDS.

We found Mr. R. O. Morrow's herds and flocks, at Hilton, Ont., not only stronger in numbers than formerly, but quite equal in uniform quality. The Tamworth herd contains some half dozen choice brood sows, whose pedigrees contain the names of the most popular in the breed, and, in fact, many of the best showyard winning families are here represented. Mr. Morrow's system of management is such as will maintain constitution and growth, and his good judgment has directed him rightly in the selection of the young stock the cross seems to have been a wise one. Our attention was attracted by a bunch of four young sows and a boar of December farrowing, by Spruce Grove Model, that are exceptionally choice, and will no doubt account well for themselves this fall. Among the winnings of '98, Mr. Morrow informed us that his equal sow was recently awarded the sweepstakes over all breeds, and his sow under a year also won first wherever shown, and in many keen competitions, while on the balance of the herd the most of the premiums fell to their lot.

In Cotswold sheep, Mr. Morrow is going ahead by strides, and now has representatives from such flocks as Honey Bawlings and Garbutt. In the present crop of lambs by a Garbutt-bred sire are to be found many exceptionally strong, well-covered fellows, which are not behind those of last year, which won the good places wherever shown. The shearlings are also in good shape, and possess good size and uniform quality. A limited number of young things are held for sale for this fall, and we feel sure that whoever is fortunate enough to obtain them will have reason to feel proud of his purchase. See Mr. Morrow's advertisement.

SHIRE HORSES FOR CANADA.

Says the London Live Stock Journal:—"Shire horse breeders are glad to welcome the Canadian buyers again, and we trust that the horses sold them will be such as will encourage them to come again. Mr. E. R. Hogate, of Toronto, has just made several purchases from the Cannock stud, and these include some first-class Shires. Among these is Cannock Blymhill, by the well-known horse, Nailstone Royal Ensign (14755), that was sold by the late Mr. John Barrs to Mr. Heywood Lonsdale for £1,250. Blymhill's dam was a Hatherton mare, so he should improve the size of the Canadian horses. He is two years old, and is a typical Shire horse likely to get big dray horses. He has good feet and legs, with plenty of hair; he is stoutly and compactly built, with a short, strong back and well-sprung ribs, and is a free mover. Another purchase of Mr. E. R. Hogate's is another young stallion, Groundslow Charming, by Revival 13508. The latter was a large prizewinner and well known and liked in Staffordshire as a hard, sound dray-horse stallion. After Revival won the £50 premium at Lechlade, Mr. Hart sold him for export to Argentina two years ago at a high price. Then at the big National Show he won the champion prize as the best heavy stallion, beating Clydesdales and all comers. Groundslow Charming's dam is by that noted horse, the late King Charming 3166, and resembles very much his half-brother, Cannock Perfection 890, that was sold by Mr. Hart some years ago to Messrs. Galbraith Bros., Wisconsin, U.S.A. Cannock Perfection was champion at Chicago, Groundslow Charming has beautiful feet and legs, and hair of the Clydesdale character, but of a heavier type, and should make his mark. These two will be shipped with a consignment next month. Mr. Hogate, the Canadian buyer, has also bought from Mr. John Brandon, of Aston, Stone, the four-year-old stallion, Prince Hatherton. This young sire is 17 hands high, with grand feet and legs. He is a sure stockgetter, and is a dark bay, with very little white about him. He was shipped last week."

Your House

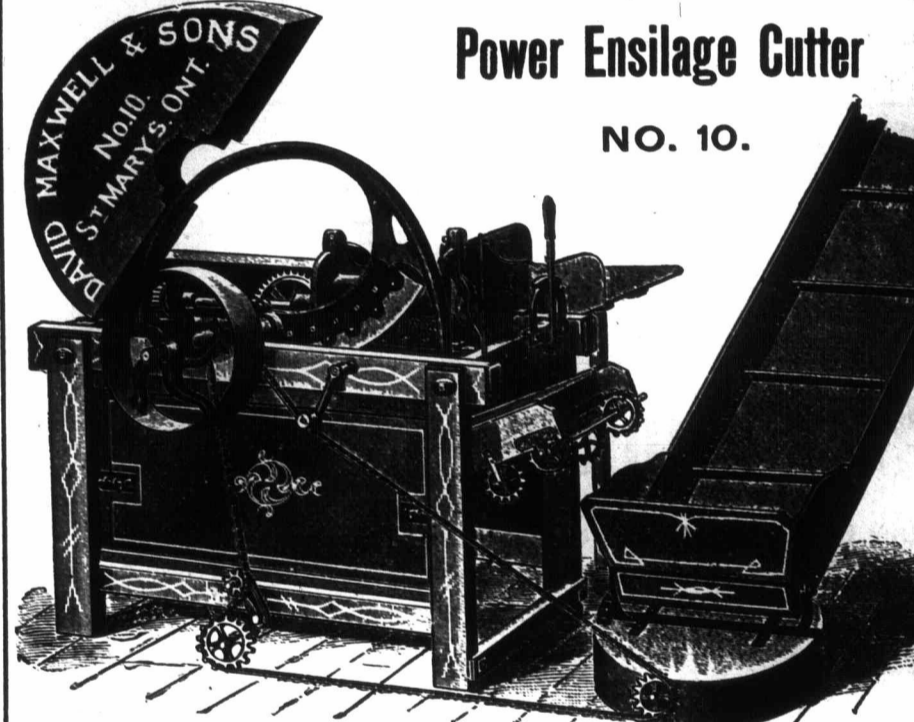
is what the paint on it makes it. Good paint makes it beautiful—keeps it so—increases its value. Poor paint will spoil its natural beauty—suffer it to decay—lower its selling price. There is money in understanding paint enough to get the right kind and thus use the best economy.

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for painting houses are made in thirty-five attractive colors. It is the most beautiful and most durable paint made. We will give you all the assistance in our power when you paint. Send us a photograph or architect's drawing of your house. Our artists will prepare color plans for you, free. We will send you pictures of houses properly colored. We will send color cards. Our book on painting we will send free. Write to us.

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The most modern—from new and improved patterns. Durable, Powerful, and Efficient. Send for Catalogue with full description.



The Favorite Churn

Made in seven different sizes, from five to fifty gallons. Steel Frame, Improved Roller Bearings, Patented Hand and Foot Drive, Best Quality Oak Barrels, Superior Finish. Sold by first-class dealers everywhere.

THE "Cock o' the North"

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ABELL'S ENGINES ARE STILL "THE BEST."

GRAIN GROWERS AND THRESHERMEN:
For complete satisfaction use the new ABELL

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THRESHERMEN: Order now for next year and avoid disappointment. The "COCK O' THE NORTH" MACHINES are selling like hot cakes. Catalogues free by mail.

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THE BANKRUPT STOCK OF THE

GRANGE WHOLESALE SUPPLY CO. At Less Than Cost Price.

We quote prices on only a few of the hundreds of articles which we have to offer at this Sacrifice Sale. If you are coming to the fair you can make your expenses to the city by buying your supplies at this sale. If you are not coming, order by mail. We will give you the same prices as though you were here, and will pack and ship your goods without charge, F. O. B.

We have a fine stock of Overcoats to offer you at from \$4.00 to \$8.00, worth from \$7.00 to \$12.00, and a big stock of Men's Heavy Underwear; the Grange price was 60c. to 75c., we will clear the lot at 40c. each.

Men's Single and Double Breasted Coats and Tweed Suits at 25c per cent. less than cost. We have over \$4,000.00 worth of all kinds of Men's, Women's and Children's Boots and Shoes to offer you, at 25 per cent. less than it cost to make them. Don't fail to order for the whole family. A penny saved is a penny gained. Send us the size, the price, and whether heavy or light, and we will send you great value.

Clothes Wringers, Royal Canadian or Royal Dominion, 11-inch roll.....	Grange price \$3 00, sale price \$2 25
Dowse Washers.....	3 50, " 2 75
Floating Dairy Thermometers.....	" 15, " 3 for 25
Thermometers in Flanged Enamel Case.....	" 15, now 3 for 25
Disk Harrow.....	28 00, " \$15 00
Scuffer.....	10 00, " 6 00
General Purpose Plow, with Wheel and Jointer.....	14 00, " 9 00
No. 9, Gurney Cook Stove.....	25 00, " 16 00
\$15.00 Stove.....	" 11 00

Fanning Mills, the biggest value in the whole stock, the Screens alone would cost more than half the price. They are a first-class Mill in every respect, made by Gould, Shapley & Muir..... Regular price, 22 00, " 14 00
No. 1, Long Tug Team Harness..... Grange price, 25 00, " 22 00

Single Harness, Double and Stitched Traces and Collar, padded back band, Grange price \$9.00, sale price \$7.50; their \$10.00 sets for \$8.50; their \$12.00 sets for \$10.00; and their \$14.50 sets for \$12.00; their \$26.00 set of Light Driving Harness we offer you for \$22.00.

We will allow you 25 per cent. off their Whips, a big stock to choose from. We have a very heavy stock of new Granite and Tinware, every piece guaranteed perfect. When sending your order deduct 25 per cent. off Grange advertised catalogue price. Send for catalogue.

Empress Sewing Machines, complete..... Grange price \$15 00, now \$10 00
Empress Sewing Machine Heads, ready to put on any old Sewing Machine Stand..... " 7 00, " 4 00

We guarantee these Heads and Machines to be in perfect running order, and if not satisfactory to you after two weeks' trial, deliver them back to us and we will refund you your money. This is a chance of a lifetime to get a first-class Sewing Machine for almost nothing.

TEAS.

5 lbs. Grange 25c. Japan Tea.....	\$1 00
6 lbs. " 20c. ".....	1 00
5 lbs. " 25c. Ceylon Tea.....	1 00
6 lbs. " 20c. ".....	1 00
5 lbs. " 25c. Hyson Tea.....	1 00
6 lbs. " 20c. ".....	1 00
5 lbs. " 40c. Black Tea.....	1 50
5 lbs. " 30c. Blend Tea.....	1 25
1 lb. tin English Breakfast Coffee, Grange price 20c., now.....	15

Send for our Catalogue and co-operate with us. We pay the highest market price in cash or goods for all consignments of Butter, Eggs, or Poultry.

THE ONLY FARMERS' CO-OPERATIVE STORE IN CANADA.

The People's Wholesale Supply Co.,

144-146 KING ST., EAST, TORONTO.

R. Y. MANNING. Reference: Bank of Commerce, Cor. King and Jarvis Sts.

GRANGE BANKRUPT STOCK, 126 KING STREET, EAST.

The Jones Umbrella "Roof"



COVER YOUR OWN UMBRELLA
Don't throw away your old one—make it new for \$1.00. Re-covering only takes one minute. No sewing. A clumsy man can do it as well as a clever woman.

TEN DAYS' FREE TRIAL. Send us \$1 and we will mail you, prepaid, a Union Twilled Silk, 26-inch "Adjustable Roof" (\$2.25; 30-inch, \$1.50). If the "Roof" is not all you expected or hoped for, return AT OUR EXPENSE and get your money back by return mail—no questions asked.

WHAT TO DO.—Take the measure (in inches) of your old umbrella; count the number of outside ribs; state if the center rod is of steel or wood. Full instructions for putting on the cover will be sent with all orders. Our special price list of different sizes and qualities mailed on request. Send for our FREE book, "Umbrella Economy," anyway. Your umbrella will wear out some day, and you will be glad that you know about it.

THE JONES-MULLEN CO., 396-398 BROADWAY, NEW YORK.

PLEASE MENTION FARMER'S ADVOCATE.

GOSSIP.

W. A. Reburn & Co.'s sale of Jerseys, at Mississippi, Quebec, August 2nd, was fairly successful. Five of the females sold at prices ranging from \$100 to \$135 and \$175, which was the highest price of the day, for Jolie Fawn of St. Ann's, bought by J. J. Riker, New York City. Mr. Geo. W. Sisson, jr., Potsdam, N. Y., purchased four head.

Mrs. E. M. Jones, Brockville, writes: "I am pleased, but not at all surprised, to see in your report of the Winnipeg Exhibition that Mr. Walsham again comes to the front with the fine Jersey bull, Belvidere Signal, that he purchased from me. To win 'easily' in his class and then win as 'best of any age,' is a distinction indeed, and I am proud to say that this is no unusual record with animals of my breeding, as I will keep none but the best, if I know it, and the very best are not too good for my customers. You mention the beautiful bull calf, King of Portage, shown by John Webster, of Portage la Prairie, but you omit to mention that this calf was also bred by me, Mr. Webster having purchased from me, before calf was born, his dam, Pansy of Belvidere, 2nd prize at Winnipeg (and many thought she should have been 1st). I have just shipped to the West today a 34-months-old bull calf that should be a prizewinner every time shown, and so he will if combined beauty and breeding count. His dam is, like Mr. Webster's Pansy of Belvidere, a granddaughter of my magnificent Canada's Sir George, that so often swept the showings in Canada, and whose dam, Allie of St. Lambert, milked 57 lbs. a day, and made 263 lbs. butter a week. On sire's side this bull calf is close to my phenomenal bull, Lillium's Rieter, who won 1st prize and sweepstakes as best of any age at Toronto, Montreal, Ottawa, and the Provincial Dairy Show at Gananoque, in 1895, and headed my 1st prize herd at each of those important shows. I am proud of that record in 1895. I only showed at the four great fairs named, and for Lillium's Rieter to win at all four places, 1st in his class, sweepstakes, and also to head my 1st prize herd *everywhere*, was not a walkover by any means, as he met all the best Jerseys in Canada. Nor is it surprising that I then sold him for \$500 cash in my own yard. Last winter I sold to Mr. Heath, of Spokane, Washington Territory, a heifer in calf, over which he is enthusiastic. He has just written me: 'Lily May of Belvidere will calve in about 15 days. She has developed greatly since I got her, and will be quite a large cow. Her udder is all that could be desired for one of her age (2 years). She is very kind and affectionate, and I am greatly pleased with her constitution and perfect health.' This is a sister to Lily May of Brockville, of which a cut appeared in a recent issue of the FARMER'S ADVOCATE, and that made for me (at 23 months old) 12 lbs. butter in one week on ordinary feed. The young bull now in use in my herd is a son of this last named heifer, and goes on sire's side to blood of Lillium's Rieter, with his wonderful record. I have also the old cow herself, Lily May 2nd, giving 45 lbs. milk a day, and two of her daughters (a yearling and a calf), but these are not for sale at present. I cannot afford to keep a poor cow, and that so many good sales are made from my herd (good for the purchaser as well as for me) is due largely to advertising in your far-reaching and splendid paper."

PINE RIDGE JERSEYS AND COTSWOLDS.

While in the vicinity of Newmarket, Ont., our representative called upon the firm of Messrs. Wm. Willis & Son at their Pine Ridge stock farms of some 200 or more fertile acres, in one of the choicest sections of the country, where Jersey cattle and Cotswold sheep are not only kept, but are given very special attention. As Messrs. Willis make dairying one of the special features of the farm, the heavy producing cow only is considered profitable to them. All modern conveniences being at hand, a capacious silo being adjacent to their commodious and substantial 60x60-ft. stables, we consider them well equipped in dairying facilities, especially when it became known that they had a few excellent Jersey cows doing daily service. Among the ten matured cows (all of which were choice) we were especially attracted by the solid colored 5-year-old cow, St. Lambert's Florence, a show cow in the full sense of the word and a grand producer. At the time of our visit we were informed that her record showed 8,000 lbs. milk in 8 months. Mr. Willis informed us that he had been compelled to refuse some tempting offers for her, but considered her too valuable in his herd to let go. Two of her daughters are also coming forward with all promise. The squirrel gray aged cow, Millie McLennan, has been the pride of her owners for some time, holding an official record of 15 lbs. butter in 7 days, and giving promising stock, being a good feeder and very rugged. Lena of Glen Rouge, the light fawn 6-year-old cow, is a very persistent milker and an all-round good cow. Lively of St. Lambert, by One Hundred Per Cent, carries a splendidly well balanced udder of great capacity, and traces back to families of note. The younger stock, of which there are a choice bunch of heifers about due to calve, are chiefly by the handsome 3-year-old stock bull, Caesar of Pine Ridge, by King of Glen Duart, and out of Millie McLennan; a bull true in dairy form and covered by a rich silky skin. A very wise selection was made in the purchase of the young bull, Count of Pine Ridge, by Queenie's Count, and out of that worthy dam, Judith Brocq, now a year old, and to which the young Caesar females are being bred. At the time of our visit the firm had two promising young buds for sale, out of Millie McLennan and Pretty of Pine Ridge; good straight young things, whose dams' udders alone would be sufficient to recommend them as dairy sires, and possessing rugged constitutions and good feeding qualities. The Cotswolds, though not numerous, are a choice bunch, founded upon Garbutt and Linton females, upon which has been employed the ram, Mugsom 1100, out of a ram of Snell's importation. Size, quality and covering are among Mr. Willis' chief considerations. A few well-advanced and good ram lambs will be held for sale this fall. See Mr. Willis' advertisement.

DEATH OF MACGREGOR (187).

The *Scottish Farmer* announces the death of the great Clydesdale stallion, Macgregor, in the 22nd year of his age. He was foaled in May, 1878; bred by Robert Craig, then of Dalry, Ayrshire, sired by Barnley (222), and out of Flashwood Sally (60).

Work for a Farmer's Boy

Thousands of the most noted men began life on the farm. There is no reason why any farmer's boy cannot be successful. We guarantee to teach him by mail Surveying (Levelling, Electrical or Marine), and qualify him for a responsible position. Courses in Farm Machinery and all technical branches.

BY MAIL
Write for pamphlets. The International Correspondence Schools, Box 600 Scranton, Pa.

The Proof is In the Cures

THERE is but one proof of the value of a Lump Jaw remedy, and that is the cures it has made.

Mitchell's Anti-Lump Jaw

stands unrivalled in its field. No other remedy has the record it has. No other remedy dare offer "your money back if it fails to cure," as we do.

Our Little Book about Lump Jaw FREE.

1 Bottle, - - \$2 00
3 Bottles, - - 5 00

ALL DEALERS OR
W. J. MITCHELL & CO.,
CHEMISTS, - - WINNIPEG, MAN.

CANADIAN PACIFIC RY.

Harvest Excursions

WILL BE RUN ON
AUGUST 29th, returning until
OCTOBER 28th,

AND
SEPTEMBER 12th, returning
until NOVEMBER 11th, 1890.

RETURN FARES TO

WINNIPEG	\$28	REGINA	\$30
DELORAIN		MOOSEJAW	
RESTON	\$35	YORKTON	\$40
ESTEVAN		PRINCE ALBERT	
BINSARTH	\$40	CALGARY	\$40
MOOSOMIN		RED DEER	
COWAN		EDMONTON	

From all points in Ontario, Windsor and East. For further particulars, apply to the nearest Canadian Pacific Agent, or to

FAMILY KNITTER!

Will do all knitting required in a family, homespun or factory yarn. SIMPLEST KNITTER ON THE MARKET.

We guarantee every machine to do good work. Agents wanted. Write for particulars.

PRICE, \$3.00.

DUNDAS KNITTING MACHINE CO.,
DUNDAS, ONTARIO.

METAL EAR LABELS

Used by all Live Stock Record Associations.

Sheep size, per 100..... \$1.50
Hog size, per 100..... 1.50
Cattle size, per 100..... 2.00

Punch and Pliers for attaching labels to ear, each \$1.00. Name on one side and any numbers wanted on reverse side. F. S. BURCH & CO.

BURCH

120

178 Michigan St., CHICAGO, ILL.

ESTABLISHED 1889
BELLEVILLE
BOGLE & JEFFERS,
BUSINESS COLLEGE
PROPRIETORS.

Students have a **LARGER EARNING POWER** who acquire the following lines of preparation under our efficient system of training. IT HAS NO SUPERIOR.

1. Bookkeeping.
2. Shorthand.
3. Typewriting.
4. Telegraphing
(Commercial and Railway Work).
5. Civil Service Options.

Students may commence telegraphing on the first of each month, and the other departments at any time.

J. FRITH JEFFERS, M. A., Principal.

Address: **BELLEVILLE, ONT.** -om

WOODSTOCK



AND SHORTHAND SCHOOL.

A business education will help you. Students assisted to situations. None but specialist teachers employed. Write for particulars.

M. M. KENNEY, PRINCIPAL, WOODSTOCK.



Catalogue free. o J. W. Westervelt, Principal.

FALL TERM OPENS SEPT. 5TH.



Write to-day for our new catalogue. It's the finest business college catalogue in Canada, and represents the most progressive and best school.

on **W. J. ELLIOTT, Principal.**

CHAMPION FRUIT EVAPORATOR



Dries all kinds of Fruits and Vegetables, producing a superior quality of clean white fruit. It is made of Galvanized Iron, is fireproof and portable.

Also a Perfect Evaporator for use on the Kitchen Stove.

CATALOGUE FREE

THE G. H. GRIMM MFG CO
84 Wellington Street, MONTREAL, Que.

CONTAGIOUS ABORTION
AND HOG CHOLERA

can positively be cured or prevented by the use of

WEST'S FLUID,
DISINFECTANT.

which is a tar product, is also a cheap and effective

Circulars (specially prepared by a veterinary surgeon) on these diseases, on application.

THE WEST CHEMICAL CO.,

"Dept. F.," TORONTO, ONTARIO.

Agents wanted in all counties. -om



TORONTO ENGRAVING CO.
92 BAY ST
CUTS BY ALL PROCESSES
LIVE STOCK A SPECIALTY.

STAY AT
HOTEL LELAND

The Leading Hotel of the West.

ALL MODERN CONVENIENCES. RATES, \$2 TO \$4 PER DAY.

in **BUS MERITS ALL TRAINS.**

W. D. DOUGLAS, Prop., Winnipeg, Man.

GOSSIP.

At Mr. J. E. Casswell's annual sale of Lincoln rams, at Loughton, Lincolnshire, July 28th, 74 rams sold for an average of £14 16s. The highest price, 90 guineas, was paid by Mr. Dudding. Messrs. Dean paid 70 guineas for one, and a third brought 55 guineas. The lowest price was 10 guineas.

Mr. F. S. Peer, Mt. Morris, N.Y., announces in our advertising columns that he will sail for England, Scotland, Jersey, and Guernsey, October 14th, and will accept commissions to import stock. Mr. Peer is an excellent judge and an honorable man, and has imported many high-class animals for Canadian breeders. He will judge the Ayrshire cattle at Toronto, Sept. 1st.

The annual letting of Messrs. T. Brown & Son's Cotswold rams and ram lambs took place at Marham Hall, Downham, Norfolk, July 28th. The catalogue contained 100 lambs and 80 shearlings. The shearlings averaged £9 7s. 6d., and the lambs £8 10s. The highest price for shearlings was 22 guineas, and for lambs 22 guineas.

SALE OF THE LATE MR. J. J. COLMAN'S SOUTH-DOWNS.

On August 2nd the dispersion sale of the flock of Southdowns belonging to the estate of the late Mr. J. J. Colman was held, and the feature of the sale was the general high average prices for so large a number of sheep—999 making an average of £5 7s. The highest price for a shearing ram was 110 guineas (\$575), paid by the Prince of Wales; 81 guineas was the next highest price, for a two-year-old ram; 33 shearing rams averaged £26 7s. 3d.; 16 aged rams, £25 6s. 4d.; 56 ram lambs, £9; 247 shearing ewes, £5 16s. 1d.; and 107 two-cheat ewes, £5 3s. The highest price for a pen of 5 shearing ewes was \$50.50 each. Much praise was bestowed upon Mr. Garrett Taylor, the Superintendent of the flock, for the skill shown in the breeding and care of the flock, which was noted for uniformity of excellence.

LEICESTERS AT KESLO.

Leicester sheep are always an important section at this show. The entry this year was not quite so numerous as usual, but several very good animals were shown. Mr. Thos. Clark, Oldhamstocks, headed a good class of Leicester shearing rams, also getting the special for the best ram, not with the one placed 4th at Edinburgh, but with a flock companion. It was only after a tie with a new sheep from Mr. Wm. Hume's flock, of Wormerlaw, that he was first, the latter, placed second ultimately, having a better skin. Mr. McIntosh's shearing, which stood second at the Highland Show, was here placed fourth, Mr. Clark having first and third. Baillie Taylor's three-year-old Auchinbrein ram, that stood first at Edinburgh, again took first, Mr. McIntosh coming second with £150 Polwarth ram, now five years old. For shearing ewes Mr. Clark had first, third and fourth, the second falling to Mr. Jas. Nesbitt. Mr. Robt. Taylor, as at Edinburgh, was first for aged sheep, with his Auchinbrein ram. The Duke of Buccleuch was first for ewes. Mr. Clark headed the class for shearing ewes.

MR. F. MARTINDALE'S SHORTHORNS, LEICESTERS, AND BERKSHIRES.

The extensive farming and breeding establishment carried on by Mr. Martindale, at York, Haldimand County, was again made the object of our visit to that section, and, as formerly, we found the genial proprietor busily engaged in his home and stock's interests. Upon going among the Shorthorns we saw the unmistakable evidence of high dairying qualities among his long string of splendid big cows, and though this has been made a very special feature with Mr. Martindale, yet he has made selections from very particular family lines, and given the matter of judicious mating his most earnest consideration. The particular families in the herd (as their pedigrees show) are representatives of the Waterloo Daisies, Beauty (imp.), Fair Queens, Necklace, Isabella, and Nonpareil strains, upon which he has employed bulls from such worthy families as the Missie, Mina and Kinellar Sorts. The Waterloo Daisy and Beauty females largely predominate in numbers, and are in the main a strong, well-formed, and uniform lot, the former winning laurels in various dairy test competitions. It was from this strain that selections were made to go to Chicago to compete at the World's Fair test, where one of his cows gave an average of 54 lbs. milk a day, and made 18 lbs. butter in 7 days. At the Provincial test, at Brantford, in '97, again this family sent a winning representative, and their strong dairying qualities are well marked throughout the entire bunch of females, tracing to Waterloo Daisy. Half a dozen fine Beauty females of different ages were looked over, and are also highly prized by the owner. All told, we were shown two dozen females of various ages, half being matured cows. The one and two year old heifers we saw were in the pink of condition, as were also the ewes. In young bulls, Mr. Martindale showed us some splendid young things, five of which are under a year and four over that age. Our attention was particularly attracted by Lord Minto, the November son of Grisilda (a Necklace), and by Lord Kilport, by Golden Crown, a big, growthy, sappy, red fellow, which tipped the scales at 861 lbs. at his 8th month, and was then putting on 31 lbs. per day, and distributing it all over alike, which, if he continues to do, will give him a high place among the good ones when a three-year-old. Among the sires most recently employed was a member of the Missie family, and which did splendid service. The present stock bull is the red three-year-old, Kinellar of York 24504, by Kinellar Sort (imp.) 18457, and out of Rose of Monrath 3rd 16346, by Vice Consul (imp.), who is doing his 3rd year's service in the herd; and from the uniformity and early-maturing qualities of his progeny, Mr. Martindale esteems him highly.

In the Leicester flock are some thirty odd representatives, and as much care has also been exercised here in the selection of sires; the standard is in keeping with the times. Of late, rams have been employed from such flock-masters as Smith, Graham, and Douglas. This season's offerings will comprise some seven or eight ram lambs.

The Berkshires on hand are descendants of direct importations purchased from Mr. John Isaac, Markham, and the Ontario Agricultural College breeding, with an Isaac-bred boar on English-bred foundation at the head. Watch Mr. Martindale's offerings in his advertisement.

Among other things on the Toronto Fair Grounds, visitors can see 55 buildings covered with our

EASTLAKE
GALVANIZED
SHINGLES

Our EASTLAKES, galvanized or painted, are the popular roof covering in Canada, because they have stood the test and are always reliable.

The five new buildings erected this year on the Fair Grounds are covered with them.

If you're visiting the Fair, why not call at our Showrooms and inspect the many lines of fireproof building materials we make? Perhaps our experience in building matters can help you. It is freely at your service. All exhibition cars pass our doors.

THE METALLIC ROOFING COMPANY, LIMITED
-om **Cor. King and Dufferin Sts., TORONTO.**



You intend to buy a **Grinder?**

- You want the **BEST?**
- The **EASIEST RUNNING?**
- The one with the greatest number of good points?
- The **BEST GRINDING and LONGEST-WEARING PLATES.**

80 lbs. of steam on "Rapid-Easy" Grinders will do more work than 100 lbs. on any other. Four horses will do as much work as six horses on other Grinders. Gives GREAT SATISFACTION with two or three horse Tread Power or with Windmill.

Mr. George Carr, Miller, White Rose, Aug. 4th, '98: "I bought one of your No. 2 R.-E. Grinders last spring from your agent, Mr. Eade, on condition that it would do the work as represented by him. I am pleased to state that I have tested the machine in all kinds of grain, find the work up-to-date, and I may say I think the No. 2 R.-E. Grinder is the very best machine of its kind on the market. It runs easy, makes very little noise, and grinds very fast."

Mr. J. L. Schneider, Moorefield, Ont.:

"It gives me great pleasure to tell you that the two R.-E. Grinders I bought from your Mr. McKay has given me entire satisfaction in every way. I bought one of them a year ago, intending to run it and the stones, but I soon found that they were not necessary, and I laid the stones aside and bought a second R.-E. Grinder. I can run the two with less power than the stones took, and I give better satisfaction to the farmers with their chop. Your plates are the best I ever used. I can recommend your machine to any one who wants an A1 machine in every way."

Mr. Angus McEachern, The Grange, Ont.:

"Your Grinder is the best on the road. We can chop 80 bushels per hour quite handy."

SLOW-SPEED PNEUMATIC ELEVATOR (or BLOWER) ENSILAGE-CUTTER B.G.

THE only successful Slow-Speed Cutter and Blower. Will cut and elevate up to ten tons corn per hour, running at only 500 revolutions. Catalogue and Circular now in printer's hands; sent to any address on request.

Mr. Matthew Stacey, of Warburton, Ont.:

"Belt received with thanks. The threshing engine came here Monday to thresh, and we put the belt on the blower to put up the remainder of our corn (about eight or nine loads), which was left when our horse-power broke down, and say, the way that machine did work was marvelous! The neighbors who were present were simply astonished and were loud with praise. We are greatly pleased with it. It is a COMPLETE SUCCESS in every respect. We feel confident your machines will have a brilliant future."

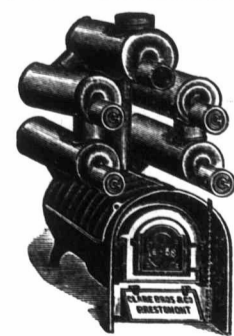
Mr. William Reid, Keswick, Ont.:

"I was engaged with my engine to drive one of your Ensilage Blowers for Mr. O. B. Sheppard (Alderman Sheppard, Toronto). Eight-horse power will give all the power required, and your machine is a complete success, lifting the corn 26 ft. high, giving satisfaction to all who saw it."

OUR "Rapid-Easy" Grinder No. 2 can be seen in operation, running by steam or electric power, and also by tread power, at the Toronto, Ottawa, and London Fairs; and the only thoroughly successful Corn Cutter and Blower will also be shown at these fairs.

Make a note of this, and see these machines.

Medal and Diploma for plows **J. FLEURY'S SONS, AURORA, Ontario.**
at WORLD'S FAIR, Chicago.



"Money Saved is Money Earned."

WHY NOT SAVE THE PRICE OF HEATING YOUR HOUSE
BY USING UP YOUR ROUGH WOOD IN ONE OF OUR

Hilborn Wood Furnaces

This Furnace has been on the market for the past fifteen years, and has given the very best results. DURABILITY is attained by a proportionate arrangement of weights; EFFICIENCY by means of the immense radiating surface, and EASE OF MANAGEMENT by provision for easy cleaning. Send us a rough sketch of your house, and we will send you estimates and advice.

Winnipeg, Man. **CLARE BROS. & CO.,** Preston, Ont.

PLEASE MENTION FARMER'S ADVOCATE.

**SAFE
FOR
ANYONE
TO
USE**

**SURE
IN
RESULTS**

GOMBAULT'S CAUSTIC BALSAM

A BOON TO HORSE OWNERS

Supersedes all Cautery or Firing, and Cures

**Founder
Wind Puffs
Thrush
Diphtheria
Skin Diseases
Removes Bunches
OR
Blemishes**

**SplintS
Capped Hock
StrainEd Tendons
Ring Bone
Pink Eye
Sweeny
Bony Tumors**

**All Lameness
from Spavin.
Quarter Cracks
Scratches
Poll Evil
Spavin
Parasites**

Send for Testimonials and see what others say of it.

THE LAWRENCE-WILLIAMS CO., Cleveland, Ohio,

SOLE AGENTS FOR THE UNITED STATES AND CANADA.

RHEUMATISM AND HORSES.

CORNHILL, TEX.
Please send me six bottles Gombault's Caustic Balsam by express. Your Balsam is the best liniment I have ever used, both for horses and myself. I have used it on myself for rheumatism with good success. I doctored 4 months and spent \$120 for doctor and medicine, with no results, but since using your Balsam I can work around on the farm. Would like the agency for this country.
OTTO BEYER.

SATISFACTORY RESULTS.

WIEN, GA.
I have used Gombault's Caustic Balsam for spavin, bone and blood, and windgalls, and laminitis, with entire satisfaction as to results; have not failed to make a perfect cure. I have recommended it to all my neighbors. I have taken some warts off my neighbor's horses. It is all you recommended it, and more.
W. F. SUMNERDOR.

"IT NEVER FAILED TO CURE."

WALCOTT, IND.
I see you are still handling the Gombault Caustic Balsam. I wish to say right now and here, that it is far the best liniment I ever used, and I have in years past used a good deal. I would rather have one bottle of it than one barrel of any other kind I ever used. It never failed to cure for me.
CHAS. E. ROSS.

CURES IF PROPERLY USED.

HOUSEVILLE, N. Y.
Enclosed please find \$1.50 for a bottle of Gombault's Caustic Balsam. Send by express to Glendale, N. Y. It is an exceedingly good medicine. I cured a very bad spavin with it. If it doesn't take off any bunch from a horse it is because it is not used properly.
GEO. GRAINGER.

"IT WILL DO WHAT YOU CLAIM."

BELLEVILLE, ILL.
The Lawrence-Williams Co., Cleveland, O.: I have used your "Gombault's Caustic Balsam" with very satisfactory results on different occasions and for different causes, and find that it will do what you claim for it.
CHAS. HRYTEL,
Proprietor Woodville Stock Farm.

DOES MORE THAN CLAIMED.

WALCOTT, IND.
The bottle of Gombault's Caustic Balsam just received, for which accept thanks. Yes, you have my consent to publish my letter to you in regard to the merits of the Balsam. It is all and more than you claim for it. I have no ax to grind in speaking so highly of it. I have used it many times and know whereof I speak. It is a grand medicine.
CHAS. E. ROSS.

BEATS ALL LINIMENT.

ALBERT, PA.
Please send me six bottles Gombault's Caustic Balsam. Ship to Fairview, Pa. Will send money on receipt of same. Parties whom I have sold Caustic Balsam to say that it beats all liniments they ever used.
GEO. SMITH.

DOES ITS WORK EVERY TIME.

WILMINGTON, DEL.
I found out the virtue of the Balsam and have used two bottles. I think it one of the finest remedies one can keep around a stable. It is always ready for use, and I believe if properly applied and rubbed in, will do its work every time. I have used different kinds of liniments, but this does its work quicker than anything I have ever used, and after all leaves no scar, and the hair grows in same as ever. You can use my name whenever you see fit.
H. C. PARRISH.

HANDLED 15 YEARS WITH SATISFACTION.

CLARINGTON, OHIO.
I have handled Gombault's Caustic Balsam for about 15 years, and, of course, in that time have sold hundreds of dollars' worth, with pleasant satisfaction to myself and great pleasure to my patrons. It is a delight quite seldom experienced by present-time druggists to have a remedy that can be honestly recommended with no fear of having more in future sales than is gained by the profit in push sale talk. With little or no advertising, Gombault's Balsam has had an ever-increasing sale because of neighborhood introduction and my present effort of pushing a good thing along.
WILL. S. RICHARDSON.

GOOD FOR ENLARGED TENDONS.

ST. JOHN, N. B.
The bottle of Gombault's Caustic Balsam you so kindly sent me in November, 1896, I have used on my horse for enlarged tendon, and found it to work to my entire satisfaction, and would recommend it to all horsemen instead of using the firing irons, as it has even a better result.
R. O'SHAUGHNESSY.

PROVED TO BE A SUCCESS.

GREENVILLE, O.
I have used a great deal of your Balsam this summer - 11 bottles - and it has proved to be a success in everything I have tried to cure. I cured one horse of fistula and poll-evil. The horse was a solid scab all over, and I cured him sound and well. He is four years old and is handsome now; did not leave a scar.
C. A. WILLIAMS.

REMARKABLE RESULTS FROM ONE APPLICATION.

GERMANTOWN, PA.
The Lawrence-Williams Co., Cleveland, O.: Replying to your favor of March 29, after awaiting results of the application of "Gombault's Caustic Balsam" to a bad strain on my trotting horse, Samuel T. (back tendons on hind leg), I am pleased to report the lameness entirely gone and the limb as good as before. I am well repaid for my patience and trouble in securing such remarkable results from one application of your Caustic Balsam. This horse trotted on a half-mile track on Friday of last week in 2:20. Thanks for your interest in this case.
CHAS. CHIPMAN.

"THAT STUFF IS ALL RIGHT."

MISSA, COLO.
The Lawrence-Williams Co., Cleveland, O.: Enclosed find money order for \$1.50, for which send me one more bottle of "Gombault's Caustic Balsam."
JOS. BOGUE.

NEVER BE WITHOUT IT.

WEST END, VA.
I am very much pleased with Gombault's Caustic Balsam, and never expect to be without it again. It is all you claim for it.
ROBERT NOURSK.

"IT HAS NEVER FAILED YET."

WHITWATER, WIL.
The Lawrence-Williams Co., Cleveland, O.: I have been using your Gombault's Caustic Balsam for ten years, for different ailments. It has never failed for me yet; also used it for human ailments. Can you furnish me with Caustic Balsam direct from you? If so, please write me prices and terms.
DR. HIGLEY, V. S. D.

ALWAYS USED WITH SUCCESS.

ALTOONA, IA.
We have used Gombault's Caustic Balsam for years and in all cases where severe blister was necessary, with success. We have removed curbs, bunches caused by kicks, and strained tendons by repeated applications of your remedy, and have never had a failure, when used according to directions.
COMBS & CRAWFORD.

THE BEST REMEDY WE EVER USED.

WESTOVER, MD.
The Lawrence-Williams Co., Cleveland, O.: I have recently bought a bottle of "Gombault's Caustic Balsam" and have misplaced the directions for its use. Will you kindly send me directions. I consider it one of the best remedies we have ever used on our horse.
ALBERT SUDLER.

THE BEST I EVER USED.

SPARTA, GA.
The Lawrence-Williams Co., Cleveland, O.: "Gombault's Caustic Balsam" is the best thing of the kind I ever used. I cured a bad case of bone spavin with it. For blistering, it has no equal.
W. L. HARLEY.



Impossible to Produce any Scar or Blemish. It is the Safest and Best Blister. It Removes all Bunches and Blemishes from Horses and Cattle.

Gombault's CAUSTIC BALSAM is the only genuine

No INSTRUMENT IS MORE POPULAR IN CANADA TO-DAY THAN THE



Bell Piano

AND THERE IS NO BETTER TO BE HAD.

BUILT TO LAST A LIFETIME.

THE ORCHESTRAL ATTACHMENT RENDERS POSSIBLE THE EFFECT OF SIXTEEN DIFFERENT STRINGED INSTRUMENTS. IT IS USED ONLY IN THE "BELL" SEND FOR FREE BOOK-LET, NO. 49, IT TELLS ALL ABOUT IT. -om

The BELL ORGAN & PIANO CO., Limited, GUELPH, ONTARIO.

GOVERNMENT ANALYSIS

LABORATORY OF INLAND REVENUE,
OFFICE OF OFFICIAL ANALYST,
Montreal, April 8, 1895.

"I hereby certify that I have drawn, by my own hand, ten samples of the **ST. LAWRENCE SUGAR REFINING CO.'S** EXTRA STANDARD GRANULATED SUGAR, indiscriminately taken from ten lots of about 150 barrels each. I have analyzed same and find them uniformly to contain:

99.99 TO **100** per cent. of pure Cane Sugar, with no impurities whatever."
(Signed) **JOHN BAKER EDWARDS, Ph. D., D.O.L.,**
Prof. of Chemistry and Public Analyst, Montreal.

THOM'S PNEUMATIC AND PROPELLER Elevator Feed Cutter



Patented in Canada and the United States.

OUR machines have filled more silos, twice over, than have been filled by all the other combined families of imitation machines. It's foolish boasting for any firm to say that their machines are the only practical pneumatic cutters on the market. We are the originators and the patentees, and the only safeguard against being humbugged is to see that the machine you purchase is marked "Thom's Patent." Every honest manufacturer in Canada knows that we are the leaders, and that our machines represent all that is latest and best. We guarantee to fill any silo in Canada, we care not what the height may be, at the rate of 8 to 12 tons per hour. And we remind the farmers we make high-grade plows, Riding and Walking. Our latest is the "Ideal" two-furrow gang, for two or three horses, intended to do the work of two ordinary walking plows. Wherever our plows are not already known, special prices to introduce them. Once on the farm they prove a comfort.

THOM'S IMPLEMENT WORKS,
WATFORD, - ONTARIO.
Established 1875.

Threshermen and Farmers

- 3 THINGS FOR YOU TO DO:**
1. Visit the great Toronto Exhibition, open from August 28th to September 9th, 1899.
 2. See the ABELL Company's exhibit there in Agricultural Implement Hall, south aisle.
 3. Brand this in your brain: "If it comes from ABELL'S it's good."

Engines, Threshers, Clover Hullers, Sawmills, Roller Mills, Tread Powers, Hay Presses, Feed Mills, Davis Cream Separators, Rock Crushers, Ore Reducers, etc.

THE JOHN ABELL ENGINE AND MACHINE WORKS CO., Limited,
TORONTO, CANADA.

Thousands are drinking Blue Ribbon Ceylon Tea now everyone will drink it after a while.

TEST OF *run* Alpha De Laval and Reid's Improved Danish Cream Separators

Made at Nilestown Factory of Thames Dairy Co.

Date, 1899.	Machine	Amount skimmed per hour	Speed revolutions per minute.	Butter-fat left in skim milk at following temperatures.	Lbs. Milk per Lb. Butter.
				80 85 90 95	
January 25	Alpha	2800	6000	.05 .02 .01 .01	21.10
January 27	Reid's	2800	6200	.15 .14 .12 .10	22.45
January 30	Alpha	2800	6000	.05 .03 .02	
January 30	Reid's	2800	6200	.15 .10 .08	

On January 25 Buttermilk from Cream of Alpha churned at 50 tested .05 (no water added).

January 26th Buttermilk from Cream of Reid's Improved Danish churned at 48 tested .10 (no water added).

Mr. Richardson, St. Mary's, and Mr. John Brodie, Mapleton, were present when testing Reid's Improved Danish, January 27th.

On January 30th both Separators were running at the same time, and the skim milk from the Reid's was put through the Alpha. There were 3,700 lbs. of milk received, and after it had been skimmed by Reid's Improved at a temperature of 90 degrees the Alpha skimmed 303 lbs. of Cream from the skim milk which tested 8/10 of 1 per cent.

The Cream from each Separator was ripened by the use of a pasteurized starter, and contained .65% of acid at the time of churning when tested by Farrington's Alkaline Tablets.

(Signed) **T. B. MILLAR,**
Manager Thames Dairy Co.

BLOOD RELATIONSHIP

PROMPTS YOU TO BUY FROM A MEMBER OF YOUR OWN FAMILY — IF HE SELLS GOODS THAT YOU DESIRE TO PURCHASE — IN PREFERENCE TO HIS COMPETITORS WITH WHOM YOU ARE NOT CONNECTED.

Massey-Harris Farm Implements

ARE MADE AND SOLD BY YOUR OWN COUNTRYMEN, AND THE MONEY YOU PAY FOR SAME BENEFITS YOU AND YOUR COUNTRY. THEREFORE, WHY BUY FOREIGN-MADE MACHINES.