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VOL. XXXIII.

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LONDON, ONT., AND WINNIPEG, MAN., SEPTEMBER 1, 1898.

EDITORIAL:

Statistics from the Department of Agriculture, Washington, D. C., show that the number of swine in the United States have declined from 52,398,019 in 1892 to 39,759,993 in 1898, or some 16 per cent. in seven years.

The prominent part played by agriculture in the export trade of Canada is shown by the fact that during the fiscal year ending June, 1898, farm produce and animals aggregating nearly \$90,000,000 were sent abroad (chiefly to Britain), of which \$46,136,000 were animals and \$43,727,000 agricultural products. Our exports to Great Britain, all told, amounted to \$104,000,000, and total exports to all countries less than \$160,000,000. So that agricultural exports greatly exceeded all others com-

Mr. J. H. MacLeod, Secretary of the Canadian House of Commons Committee on Agriculture, has sent out circulars to cheese and butter factory proprietors, dairy association officers, exporters, etc., asking their views on the Bill introduced by Mr. Parmalee, M. P., designed to stop improper speculation in dairy products,—"dealing in fu-tures" as it is called. The Bill stands in abeyance till next session of Parliament, pending these enquiries.

A farmer's resources, so far as his farm is concerned, are confined to the fertility that is in his soil, and his returns therefrom depend upon his acquisition of the same through crops. It therefore devolves upon him to first render the fertility available, and, second, to secure it in the form containing the greatest money value. This is done in large measure by preventing the growth of weeds, which are usually ravenous consumers of plant food, and give little but trouble in return. A knowledge of how best to accomplish these desirable ends is not so easily acquired, but is the result of much study and effort. In working out these problems for ourselves a few hints from successful men recognized as authorities are well worth the heeding, and in this connection we refer our readers to the timely contributions in the Farm Department of this issue by Messrs. Rennie, Fowler, and Mountain, who set forth in general principles their methods of autumn cultivation of the land for the crops of 1899.

Agricultural Schools in Scandinavia.

A considerable number of people, who have not given the subject proper consideration in the light of actual conditions, appear to entertain the notion that agricultural education is receiving an undue and unnecessary amount of attention in Canada and the United States, though they cannot but be struck with the marvellous accomplishments of such little European countries as Denmark. Prof. Woll, writing on this topic lately, stated that it was found that following the old beaten paths, regardless of modern changes and requirements, was leading to the poorhouse; hence, the Scandinavian countries founded a system of agricultural education in which theoretical knowledge with practical work in the field and stable were combined. Norway has 19 agricultural schools, Sweden 38, and Denmark 18,in all 75, and this number does not include agricultural high schools and colleges, special dairy, horticultural, forestry and farriery schools. In all, these countries have an agricultural school for every 58,000 of the rural population. In order to reach a similar ratio, the United States should have 870 agricultural schools, or the State of Pennsylvania alone, with a rural population of 59 per cent., about 54 agricultural schools; while Can-

ada should have over 40, instead of less than a

dozen, all told. It may be contended that the Scandinavian peasant farmer stands in greater need of agricultural education than the intelligent Canadian or American farmer, and the question will be asked, Has Denmark, for example, profited by the liberal policy they have pursued? While it is not so easy to get at the actual condition of the individual farmer there, we do find that their trade has been making great strides, 1897 showing an increase of exports amounting to some \$10,000,-000, compared with 1896. The total amount of trade per head amounts to nearly \$80; very little behind Great Britain, which averages about \$84, and about double that of France or Germany. Of butter exports, the increase in 1897 over 1896 was over 12,000,000 lbs., and a correspondingly great increase in eggs, but bacon shows a decrease of 17 per cent., partly owing to an enormous increase in 1896 over 1895, and partly to the increasing competition from the fancy bacon of Canada. These facts would go to show that Denmark has made remarkable progress, for which their educational system must be fairly entitled to a share of credit.

Breeding for Type.

The stock breeder and feeder is deeply interested in the requirements of the markets with reference to the quality and condition of the meat product of his herds and flocks, and his interests naturally lead him to study and consult the demands of his market and his customers. As a rule, he will conduct his breeding operations primarily with a view to meeting the requirement of his market, but in the effort to do this he will find it the part of wisdom to keep constantly in view as the first principle in successful breeding the maintenance of stamina and constitutional vigor in his stock. Without this there can be no true and lasting success. Without this he builds his house upon the sand, his castle in the air.

Uniformity of type is a desirable feature in a herd or flock of any breed and should be constantly kept in view, but it is of the first importance that he individuals the type shall be a good one and that in the herd or flock shall measure well upto the standard of the best specimens of the type. there's the rub-type is good if a good type is the standard, and uniformity of type is good if it is a uniformity of excellence; but if the type is weak and faulty, or if a large proportion of the individual members of the herd or flock are inferior or indifferent representatives of an approved type, the elements of lasting success are lacking.

Then let the standard be that of uniformity of excellence, founded on the bedrock of stamina and quality, and let us work up to that standard, keeping always in view those cardinal points which should be acknowledged and accepted by all breeders. But in order to do this successfully breeders must use their own brains and depend upon their own judgment and observation. It is all right that the butchers and the pork packers inform the farmers and breeders of the character, quality and condition of product required to meet the demands of the best markets, but when they undertake to advise how to breed and how to feed they step outside their proper sphere, and from ignorance of the science and principles of breeding and feeding are liable to prove themselves in many cases blind leaders, and in others the laughingstock of men who have studied these principles in the school of experience and practice. If farmers and breeders were to follow every advice that is given them they would very likely find themselves in the predicament of the old man in the fable, who tried to please everybody, but pleased nobody, and lost a very useful animal into the bargain.

some good qualities, and some individuals which conform more nearly to the type required by the markets than do others, and the intelligent breeder knows that by the selection and mating of the fittest the offspring may, and can, in each generation be brought nearer to the standard required, and also that this can be aided and hastened by intelligent feeding and handling of the young animals, as well as in finishing them for the market, to produce the desired result as to quality of meat.

Looking at the question from the standpoint of the breeder, then, it would be rank folly to throw up the work of a lifetime in building up a herd of a given breed simply because impractical faddists propound theories of mixing the blood of different breeds by the terms of a set formula, and by the blending of extremes propose to evolve a pattern which breeders are expected to produce to order, irrespective of the cost of production or of such trifling considerations as profit and loss to the producer.

To be more specific, we may instance the tendency of the times in the breeding of the beef breeds of cattle, which has been for some years, and is now, in the direction of producing the blocky, pony-built, early-maturing type, which the market has during most of the time called for, and to some extent paid a premium on, and which have proved of great value in beef production under the conditions which exist in many sections of this country. This applies especially in the older sections, where the calves are nursed by their dams and fed rich foods from their birth, never losing their calf flesh, and going off as "baby beef" at 18 to 24 months old. But the general farmer who prefers a general purpose cow, which will take her place in the dairy herd, her calf being raised upon her skim milk, and subjected to the roughing process which the majority of young stock have to put up with, requires a frame of greater scale in order to produce a finished export steer at two and a half to three vears of age.

While freely admitting the great usefulness of the Scotch type of Shorthorns in moulding and modifying the breed to meet the demands of the times and the conditions of many sections of the country, and while confessing our great admiration for the best specimens of the type, we are bound to say that there are too many weedy specimens claiming close relationship to reigning tribes in the aristocracy of the breed, and having little more than their pedigree to commend them to public favor. They are lacking in scale, in fleshiness, and in the indications of constitution, being small, narrow, and paunchy. To quote the opinion of these expressed by one of the best judges we have ever had in Canada, "When the guts are taken out of them there is little left." Cattle of this class, though orthodox in breeding, are a caricature on the approved "export steer," as we paint him in our mind, of which we are wont to boast, and which is all too rare in these days in the size and shape which we all admire. The lesson to be learned from this reflection is obvious. It is the possibility of running a good thing into the ground by a too slavish following of fashion. The remark is frequently and with too much truth made, we do not see the large, useful, general purpose cows, and the big, beefy grade steers that used to be found in goodly numbers in this country. While we do not want the coarse and slow-feeding sort, we do miss the thrifty, BIG cattle, showing scale and having good feeding qualities—cows that brought heifer calves fit to follow them as workers in the dairy, and produced steers fit to show or ship to any market with satisfactory results. While we do not wish to underrate the modern type, and freely concede to it many virtues, we do not hesitate to say that we apprehend a possibility of following it too far without good judgment in breed-It is certain that in nearly every breed there are ling, with the result that we may find that we have

THE FARMER'S ADVOCATE AND HOME MAGAZINE

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

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not only the "type" but also a "shadow." In breeding, as in many other things, the tendency is to run after new things and to relinquish what we have, a course which is not generally wise. As before stated, there is, as a rule, something good in all the breeds, and it is well to seek to retain what is good, and to eleminate what is not desirable, and so to work up to a higher and better ideal by a judicious use of such material as is available. No one can settle the question which is the best breed, and it probably never will be settled to the satisfaction of even a majority of the people. Our counsel, then, is "to be not carried about by every wind of doctrine," but to "hold fast that which is good," and seek to improve on it by careful selection of the best of the breed you have. There never was a time when the ts in this line w than at the present—crying lo here! and lo there!and it behooves the champions of the breed to stand to their guns with a firm determination to hold the fort and preserve a remnant of the best in each till the people return to the sober second-thought which so often saves from disaster. To our mind, it would be little short of a calamity if the work, representing in many instances the life effort of men of genius, enterprise, and good judgment, in evolving the standard breeds of stock, should be abandoned at the suggestion of impractical people who arrogate to themselves the office of an oracle and undertake to advise those who ought to know more and do know more than they in regard to the question at issue.

The Manitoba Premier and the Showring.

During the Manitoba summer fairs some of the exhibitors in the Shorthorn class, in the disappointment of the moment at being knocked out of the winnings by the exceptionally strong combination brought out by Premier Greenway, said some foolish things about the propriety of men with means like the Premier entering into showring competition with "ordinary farmer breeders." The small-bore political newspapers were quick to pick up the scent and make a first-rate grievance out of it. Such nasty things have been said that it is now announced that Mr. Greenway will not again show his cattle in competition with others. For a number of years past Mr. Greenway has been showing stock at the Industrial, but not a breath of objection was ever heard while his stock was only good enough to get beaten, but now that he possesses a herd that cannot well be beaten in America there

is some big kicking done; but we believe that all this would have been forgotten before another year rolled around had not these political newspapers

taken it up.

If there is one thing more than another that the pure-bred live-stock interests of Canada wants, it is the active interest of men of means, men who are not afraid to pay the price for the product of the skill of the breeder in order to strengthen and develop their own herds, and who, by their active participation, help to make prices and to make livestock breeding fashionable, to the direct benefit of every breeder interested. In Britain, the home of nearly all of our best breeds of live stock, many of the nobility—the Prince of Wales, and even the Queen herself—not only maintain large breeding establishments, but from year to year enter the showrings in open competition, and there can be no doubt that it is this active interest of the moneyed classes that has helped to make our mother country famous the wide world over for the superiority of her live stock.

Another point sometimes lost sight of by some breeders, in the scramble for a bit of prize money, is the fact that those classes are best advertised where competition is keenest and prize money hardest to get. Premier Greenway has done the breed good, and the impetus given by the importation of so many of Canada's best must benefit every breeder of Shorthorns, directly and indirectly. The exhibitors who had forward good animals and failed to get places in the strong classes in the Shorthorn ring are better advertised than those in other classes who got a string of red tickets but had absolutely no competition. We trust that Mr. Greenway will not be discouraged by the unpleasant things that have been said, but will continue to take an active interest in all that pertains to improve the live-stock interests of Manitoba.

Wm. Lochhead, B. A., M. Sc.



NEWLY-APPOINTED PROFESSOR OF BIOLOGY, O. A. COLLEGE, GUELPH, ONT.

Wm. Lochhead, the fourth son of Wm. Lochhead, a well-known Scotch farmer, of Elma Township, County of Perth, Ont., was born in 1864. He spent his boyhood on the farm, where he became acquainted with the details of farm work. After a course of six years at the Listowel High School, Mr. L. matriculated into McGill University, Montreal, winning a general proficiency scholarship. Throughout his college course prizes to the value of \$600 fell to his lot. While at McGill he came under the direct influence of Sir Wm. Dawson, then professor of geology and zoology, and whatever success has attended his teaching efforts since his graduation, Mr. L. attributes to the splendid example shown by that grand old man. Immediately after graduation he attended the School of Pedagogy, at Kingston, and entered the ranks of High School teachers; he taught for two years in the Perth College Institute, five years in the Galt College Institute, one year in Napanee College Institute. Since graduation he has spent nearly three years in postgraduate work at Cornell University, holding a fellowship for one year. His chief work at Cornell was along the lines of biology and geology, pursuing special studies in entomology, thus qualifying himself for his new sphere of labor at the Ontario Agricultural College.

A Commendable Revision in the O. A. C. Course.

A notable change has been effected in the length of the Ontario Agricultural College year, which is hoped to work a decided improvement in the value of that already useful institution to the agricultural class. Heretofore the regular course opened on October 1st, and embraced a fall, winter and spring term, and closed the year on June 18th; whereas, the 1898-99 circular shows the year to commence on September 26th, and end with the conclusion of the winter term on April 15th. The Christmas vacation, which formerly occupied from December 22nd till near the end of January, is now to be shortened to about two weeks, ending January 3rd. This has been made possible by the College staff no longer having to go on Farmers' Institute

delegations during January, their places being filled by prominent agriculturists who have for years kept in touch with Institute work and its

years kept in touch with Institute work and its requirements.

As heretofore, a two years' course will be required for an associate diploma, and in order to cover the work, which previously took six terms, some of the preliminary as well as some of the more technical studies will be dispensed with, which will render the training still more of a practical nature, thus fitting men more particularly for successful practical agriculture, rather than for advanced professorships. The course necessary for the B. S. A. degree has been steadily widening for a number of years, and since some of the ground covered in the first and second years is to be dropped, the graduating course will now be extended over two extra years instead of one, as heretofore. This will allow for wider reading and a more thorough grasp of the studies, which have, to a large extent, been too hastily gone over to become well established in the average student's mind. The shortening of the course, too, will allow the sons of farmers to remain and work at home during most of the busiest portion of the year. This will, it is hoped, induce many an ambitious rural youth to undertake the course who may not have been able to remain from home most of the year, and it will also make it possible for a willing student to earn a larger proportion of his expenses at the College.

Canadian Live Stock Records Uniting.

Following as good results of the visit of the deputation—consisting of Arthur Johnston, then President of the Dominion Shorthorn Association: Wm. Linton, and Henry Wade, Secretary of the Shorthorn and Ayrshire Breeders' Association—to the Maritime Provinces last fall to attend the Provincial fairs and address the breeders on the necessity of encouraging only one Herd Book for Canada, comes the handing over of the copyright, manuscript and goodwill of the Prince Edward Island Shorthorn and Ayrshire Herd Books to the Dominion Shorthorn and Canadian Ayrshire Breeders' Association, respectively, by Mr. Chas. C. Gardiner, the originator, proprietor and custodian of those books from the commencement. This gentleman deserves commendation for the pains and expense assumed in straightening out the pedigrees of cattle imported by the Government Farm at Falconbridge, in that Island, which were in a state of confusion when he was made chairman of the committee by the Government. Mr. Gardiner has parted with these interests on very reasonable terms. A great many registrations are also coming in from Nova Scotia and New Brunswick since the visit to the Maritime Provinces of the deputation. Our readers will also remember that the amalgamation of the Canadian Ayrshire Breeders' Association of Quebec with the Dominion Ayrshire Breeders' Association was satisfactorily consummated some months ago.

Advance, Canada!

THE COMING LAND FOR FOOD PRODUCTS.

The following significant utterances appear in a recent issue of the St. James Gazette, one of the very foremost journals of London, England:

"No reader of this paper needs to be told how intimately the future of the Empire is bound up with the progress and prosperity of Canada. We look to her not only to breed loyal sons and daugh. ters of the blood, but to form an ever-growing market for our manufactures, and in return to become our great source of food supply beyond the seas. It is a matter of mutual advantage. The more she can produce and the more we buy from her, the more will she be able to buy from us in return. Her capacity for production is virtually unlimited. The gold rush, which has recently turned attention to the Dominion in such a dramatic fashion, is merely an episode in its history, though one that will have an important influence in attracting the men and money that are needed to develop the real and lasting resources of the country. These are to be found in its soil, which is capable of producing all the staple foodstuffs that we need in abundance. At present a mere beginning has been made, A glance at the map will show that the settled and cultivated land is just a narrow strip running from east to west. The amount of room that still remains for expansion runs into figures which can hardly be realized by those who are accustomed to the cramped limits and little distances of the Old World. The future of Canada lies chiefly in the development of these magnificent agricultural resources, and it should be a matter of the greatest interest to us to know what is being done in this direction. By an intelligent appreciation of Canadian effort, and by spreading information with regard to its aims and results, we can all do something to assist on this side of the materials. thing to assist on this side of the water.

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STOCK.

The Royal Show of England as Seen

without the temptation to go and see some of the so-called "special attrac-tions." I am of the opinion that some of the boards of directors of our exhibi-

interesting feature of the show. All the animals, whether prize-winners or not, were compelled to be brought into the parade. I counted as many as fifty Shorthorn bulls in one section, and any one of them good enough to head a herd. All the English, Irish, and Scotch breeds of cattle were equally well represented, together with those of the Channel Islands.

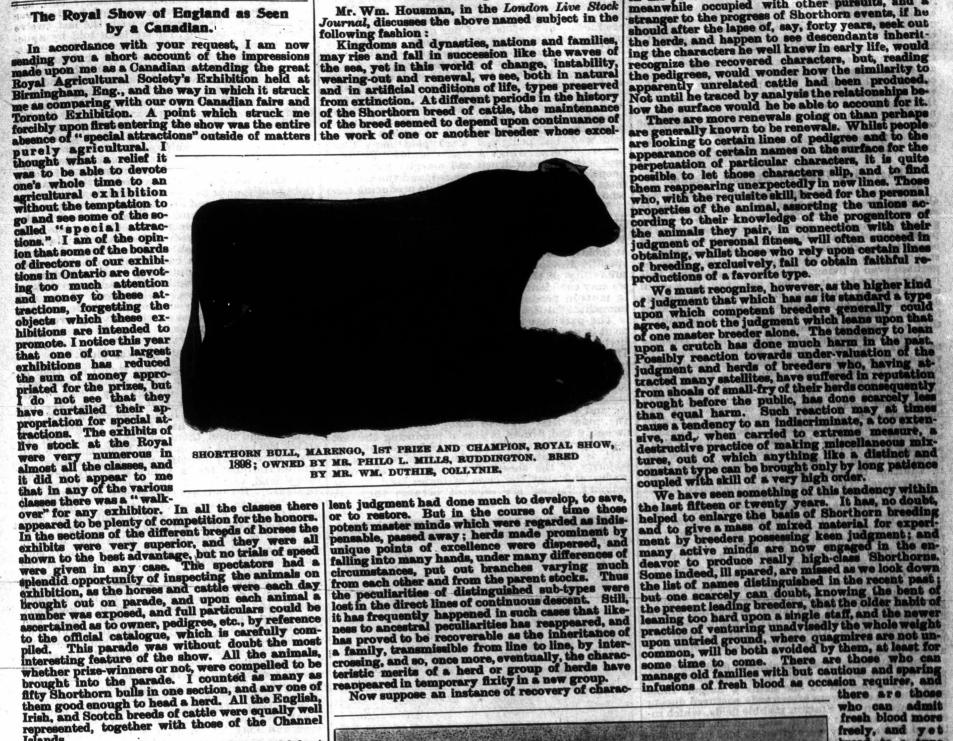
The sheep department was where the highest degree of development was achieved, the various English breeds being well represented. I was surprised to find so many different breeds, being in all sixteen varieties, and they were all brought out in a high state of perfection. The prices that were realized for the prize-winners in the different a high state of perfection. The prices that were realized for the prize-winners in the different sections would be a surprise to many of our Canadian farmers. I was informed that 80 guineas was a common price for single animals, and from 15 to 20 guineas was the common price for lambs. Several prize-winners were sold to go to Canada. The Argentine Republic was a strong competitor for high-priced sheep. Shropshires and Lincolns appeared to be selling at the highest figures.

But it was in the swine department, that I was

But it was in the swine department that I was mostly interested. Taking the swine exhibit as a whole, I do not think that it was equal to that of the Toronto Industrial. There was not the same variety of breeds. The American breeds, viz., Chester Whites, Duroc-Jersey or Poland-China, are not bred in England. I was very much disappointed in the exhibit of Berkshires, the number of hogs and the quality not being as good as those shown in the exhibit of Berkshires, the number of hogs and the quality not being as good as those shown in Toronto and London, the large White or Yorkshire breed being the largest exhibit and the best quality of any of the breeds exhibited. The Tamworths came next in point of numbers and quality, but in all the exhibits of the different breeds of hogs they were shown in breeding condition and not so highly fitted as is the practice at Canadian shows. One of the conditions of winning a prize in the breeding sow section was that she had to produce a litter of pigs within three months from date of exhibition; failing this, she would forfeit the prize awarded. I did not consider the classification so good as at our shows, there being only two secprize awarded. 1 did not consider the classification so good as at our shows, there being only two sections for each sex, viz., boar farrowed previous to 1898, and boar farrowed in 1898; also, sows farrowed previous to 1898, and sows farrowed in 1898. With a classification of this kind, a proper comparison of the animals cannot be made owing to the difference. the animals cannot be made owing to the difference in age of the animals shown in the same sections. Upon summing up the entire exhibits, I was impressed with the fact that Canada could hold a creditable position in comparison with the "Great Royal" in point of quality of exhibits of live stock. J. E. BRETHOUR. "Oak Lodge Farm."

The Present Tendency of Shorthorn Breeding.

Mr. Wm. Housman, in the London Live Stock fournal, discusses the above named subject in the



covers the blood-relationships concealed under new

covers the blood-relationships concealed under new names and different family lines. A breeder who in his youth was familiar with the old herd, and meanwhile occupied with other pursuits, and a stranger to the progress of Shorthorn events, if he should after the lapse of, say, forty years, seek out the herds, and happen to see descendants inheriting the characters he well knew in early life, would recognize the recovered characters, but, reading the pedigrees, would wonder how the similarity to apparently unrelated cattle had been produced. Not until he traced by analysis the relationships below the surface would he be able to account for it.

There are more renewals going on than perhaps are generally known to be renewals. Whilst people are looking to certain lines of pedigree and to the appearance of certain names on the surface for the perpetuation of particular characters, it is quite possible to let those characters slip, and to find them reappearing unexpectedly in new lines. Those who, with the requisite skill, breed for the personal properties of the animal, assorting the unions according to their knowledge of the progenitors of the animals they pair, in connection with their judgment of personal fitness, will often succeed in obtaining, whilst those who rely upon certain lines of breeding, exclusively, fail to obtain faithful reproductions of a favorite type.

We must recognize, however, as the higher kind of judgment that which has as its standard a type

necessarily fail, to whichever sys-tem they incline. em they incline. Their failure. more or less however, should not affect ou not affect our judgment of the systems in which severally they fail. The successes of those who have the skill show that a considerable space of ground between the extremes is stand upon it.



HEREFORD BULL, SPOTLESS OF INGLESIDE 68708, AT TWO YEARS AND THREE MONTHS OLD, WINNER OF 1ST IN CLASS AND CHAMPION SILVER MEDAL AGAINST ALL AGES AT THE WINNIPEG INDUSTRIAL, 1898; OWNED BY J. E. MARPLES, DELEAU, MAN.

teristics marking a type or a branch or sub-type, in the way here indicated. The pedigrees of the old dispersed herd may indeed form the foundation of pedigrees which in the later generations, and possibly in a majority of the recorded generations, are full of new names. But besides direct descendants from the old herd, there are animals of other female lines which have received the old herd's character through its males, and these, although true to the old type, have none of the well-known old names in their lineages. Analysis of their pedigrees dis-

stand upon it.

The Crow's Nest railway agreement called for certain reductions in freight rates by the C. P. R. in return for concessions granted the Company by government. One reduction which was to go into effect on September 1st next, called for a reduction of 1½c. per 100 pounds on grain, flour, etc., from Manitoba and territorial points to Fort William.

Cleanliness in Swine Raising.

"Whoever would raise hogs without disease (and this is necessary to obtain the highest profit) must get rid of the notion that the hog is naturally a filthy animal; that filth is less distasteful and unhealthful to him than to the steer or horse, and that it is impossible because of the nature of the animal to surround the hog with sanitary conditions. Filth is a prolific source of disease among all animals; and because the hog is brought into contact with the most filth, there is the most disease among swine. Filth opposes the health and thrift of swine just as it opposes the health of horses or man. The first step in growing hogs without diseases is to keep filth away from them, to give them clean food, clean drink, clean quarters, clean shelters."—U. S. Farmer's Bulletin.

Pasturing Pigs on Stubble Fields.

Pasturing Pigs on Stubble Fields.

Farmers generally appreciate the importance of allowing the growing pigs and breeding sows to run on the pea stubble for a time after harvest, to gather the gleaner's share and appropriate it to the production of meat. It does not, however, usually occur to one that there is much left in other grain stubble fields, upon which pigs can make gains, or perhaps even a living. It is not peculiar that this is the case when it is observed that little grain can be noticed lying upon the ground, and the pigs do not seem to enjoy staying in the field to hunt feed for themselves the first few days, especially if they are given daily feeds at the barn.

Some interesting experiments have recently been made at the Montana Station to learn the value of this as compared with other methods of

value of this as compared with other methods of feeding. Forty-one pigs from six to nine months old were allowed the run of barley, wheat, and peastubble fields of 18, 10.44, and 10.73 acres, respectively. For some time before the test they had been pastured on alfalfa, and fed one pound of cracked barley per head daily. For ten weeks immediately preceding the test they made a daily average gain of 0.42 pound per head. While pastured on the stubble fields they were given no grain in addition to what they could find, except on stormy days. The grain thus fed amounted to 24.1 pounds in the five weeks of the test.

During this time the pigs made a gain of 22.8 value of this as compared with other methods of

pounds in the five weeks of the test.

During this time the pigs made a gain of 22.8 pounds per head, or 17.5 pounds, deducting the amount which it was calculated they gained from the grain fed during stormy weather. On the supposition that 4.5 pounds of grain are required to produce a pound of pork, the 41 pigs gathered 3,228.75 pounds of grain, which otherwise would have been lost. The harvesting had been done in the newal manner, and in the investigator's opinion the usual manner, and in the investigator's opinion the amount of peas and grain remaining in the field did not exceed that left in the stubble fields on the average farm. The scattered grain could not have been saved in any other way, and represents

The grain saved from the stubble fields by these sigs was not all that could have been gathered if hey had remained in the fields a longer time. Seven brood sows were afterwards pastured during the winter on the Station stubble fields, which in-cluded a 24-acre oat field in addition to those mentioned above. They were given no food in addition to what they could gather, except kitchen slops and a small grain ration on stormy days.

It is stated in a recent communication from the

pastured during the past season on stubble fields without receiving any grain in addition, and that they are in fair condition. They had, in addition to the grain stubble fields, the range of clover, Montana Station that several brood s alfalfa, and timothy meadows, and the gleanings of fields where root crops had been raised. The ma-nure from grain-fed stock, which was spread upon the fields, also furnished some grain.

The Sheep Outlook. BY J. M'CAIG, PETERBORO.

The foolish man sold his sheep when they were cheap and bought them back when they were dear. The sheep industry ran down in Ontario for four or five years previous to 1897, and the number in that nve years previous to 1897, and the number in that year was very low relative to the capacities of the country to support a large sheep industry. Last year things brightened up considerably, and the present year promises to be at least as good, if not better, for the producers of both butchers' and breeders' stock. Men are looking for good types to found new flocks at good stiff prices, and the deplefound new flocks at good stiff prices, and the deple-tion of our beef stock by buyers for the ranches has made the butchers turn more towards mutton.
The large export of Canadian pork, for which the
demand has been well established, contributes to the same end. On the whole, the sheep-man has

reason to face the future with equanimity. The buying up of Canadian stockers for the West is of interest to the sheep producer for another reason besides that it removes a lot of beef from competition with mutton for home consump-There must be some compensation for the freights that the western buyer pays on his stockers as against the Ontario beef producer who breeds the stock he feeds. This is to be found in the cheapness of his feedstuffs. His land represents little or no investment of capital; it represents no labor invested to clear it and no effort to make it produce suitable food, as good grass for both summer and winter feeding is indigenous and abundant. Thus his cattle owe him in profit only a soundance. Thus his cause owe min in profit only a progress towards masculine maturity in a part of suitable return for the money invested in them.

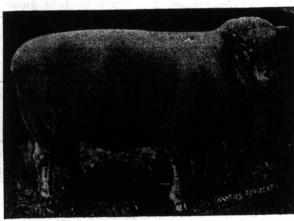
selves alone and not a return besides for the capital invested in land six or eight times the value of themselves. It is a matter of history and of sober invested in land six or eight times the value of themselves. It is a matter of history and of sober fact, and not of speculation merely, that the West has us at a disadvantage in this respect. In the production of beef as beef our day is as certainly past as it is in the growing of wheat. We certainly hold a place, however, and a high place, in the cattle industry. During last winter and spring the supply of thoroughbred beef stock, both male and female, at almost artificial prices, was certainly not equal to the demand. The economic truth, likewise, that high classes of stuff, and not staples or ordinary necessary classes, yield the highest margins of profit, was fully demonstrated. Common stockers sold well, but pedigreed stock paid many times better. We were once a beef country. Fields of production have widened and margins have consequently narrowed or disappeared, and the industry must pass to that part of the whole producing class who can produce cheapest.

With regard to sheep the same prospect is before us. The drawback of the prairie wolves, which is the most serious one to sheep grazing in the Western States and in the Canadian Northwest, is an incident to early and sparse settlement that will speedily disappear in the face of the great essential

an incident to early and sparse settlement that will speedily disappear in the face of the great essential suitability of the country for sheep grazing, and we may confidently look forward to a strong spurt in mutton production in these countries in the immediate future.

The part that the East is to play in this move-ment is perhaps already evident. We are not en-tirely out of it because grass is cheap in the West. The West has what we might call potentiality, but the East has tradition. With all its possibilities, the West is without the experience, knowledge and established standards of the mutton breeds that is the result of years of care and weeding and selection that alone can build up a flock. The place that Ontario takes, then, both from necessity and fitness, is that of producing the best type of breeding animals for western breeders. It is lamentable to reflect that the larger

majority of the sheep of the country are only grades and that the class of males used by the ordinary farmer are selected because they are



WO YEAR OLD SOUTHDOWN RAM, WINNER OF 1ST PRIZE, ROYAL SHOW, 1898; OWNED BY E. MATHEWS, POTTER'S BAR, HEREFORDSHIRE.

pedigreed stock have very little local demand for their good rams. Ten dollars is looked on as an extravagant price. The practice of English breeders is a good object lesson with regard to the selection of males. It is there fully realized that the cheapest way to get a good flock is through a good male. It would take a lot of money to get perfection in a whole flock of ewes, whereas it might be possible to get one perfect animal, and it is besides an advantage to have the perfection on the side of the male on account of his having greater influence and prepotency in determining the character of the offspring than the females have. The prices paid over the water are a revelation to the ordinary sheep breeder. A whole flock of rams of a reputable breeder sometimes average fifty to one hundred dollars each, while one thousand dollars is common for choice ones, and recently the sale of a ram has been reported there at \$5,000. There is need of improvement in the practice of breeders with regard to the kind of rams they select. There is wisdom in becoming the owner of a pure-bred flock; there is a hopeful prospect for the breeder already the owner of such

A Bull's Head.

Mr. Wm. Housman, in some notes in the London Live Stock Journal, makes the following reference to the champion Shorthorn bull at the Royal Show at Birmingham:

"Not having myself enjoyed the pleasure of seeing the show at Birmingham, I felt considerably interested in reading the report in last week's issue upon the champion bull Marengo, whose great substance, handsome shapes, and full coat of hair of rich red-roan color, relieved with a few touches of white, I have always admired. The description, read in the light of his well-remembered appearance at Manchester (the last time I saw him), com-mends itself as true. The improvement noticed in his head, I apprehend, is that of twelve months'

the animal which requires time for the full development of the secondary sexual characters. I liked Marengo, head included, as a younger bull, and quite expected the development of head power which appears to have come with the last twelve which appears to have come with the last twelve months. The bulldog, I have been told by a successfull breeder, wants three years for the perfecting of the terrors of his head, and that length of time sems little enough to allow a bull, that he may give the world assurance of his sex by the index of his head. An elephant calf or a young boar does his head. An elephant calf or a young boar does his head. not show what tusks he can grow, neither is a boy of fourteen expected to appear with a full-flowing beard, nor a six-months cockerel with spurs. Some of the most majestic of the Kirklevington sires. the noblest-looking bulls at maturity, were but lanky, lathy, oxy-horned, and weak-headed strip-lings up to the age of eighteen months or more; but what heads they put out when they reached the age of four or five years! And how those long frames deepened, and long legs became proportion-ately short, and narrow backs grew broad, as the bull-stirk grew and ripened, a male complete. By skilful rearing and feeding the frame of Marengo was furnished with an ample covering of evenly distributed flesh, the calf's flesh probably never lost, so that throughout his growth he had much the body of a mature bull. His head, nevertheless, showed his youthfulnes, until he came of age, and if it has already taken some of the grandeur of full growth, it will doubtless continue to improve for at ast a year or two more.

Blindfold the Vicious Bull.

Scarcely a month passes that we do not read of lamentable cases of men being attacked and seriously maimed or killed outright by vicious bulls. It is never really safe to trust a bull over a year old to be led without a ring in his nose and a staff. In most cases where they have become dangerous the fit has come upon them suddenly, and after an attack the remark is commonly heard that the bull never showed any disposition to be ugly before. It is often the quiet fellow which suddenly develops into a flend, so it is well never to take the risk of an attack. If a bull has once shown an inclination to be vicious in the way of attacking a man, it is not safe to lead him even with a staff, for he may quickly snap the staff with his horn or jerk it from the hand of the attendant. Dehorning, while it mitigates the danger to some extent, is not a sure cure, as many bulls are just as vicious after the wounds heal, and the operation disfigures a handsome bull. It is not necessary to put him away for this fault, however, if he is a valuable animal and a good breeder (and it is generally the lively fellows that get good stock and transmit force and energy to their progeny), as he may be easily controlled by being blindfolded by the use of a leather helmet formed to cover the forehead and eyes, secured firmly around the horns forehead and eyes, secured firmly around the horns and by a strong throat latch made to buckle under the cheeks. The eyes may be protected by conical shaped leather goggles, which are firmly fastened in the helmet. The helmet is a complete blinder, and the bull wearing it is subject to his master's hand and may be led quietly wherever desired. The same appliance may be used with complete success in the case of a cow becoming excited and success in the case of a cow becoming excited and hard to manage when being led or shipped. We have seen the worst cases made tractable by the means of blindfolding.

The Foal During Autumn.

The lesson has been pretty thoroughly learned during the last few years that only high-class horses will pay for the raising, and that strictly good, young, mature animals of any special class will meet with a ready demand at a good price. A knowledge of these facts has led wide-awake horsemen to breed only such mares and to such horses as are likely to produce high-class offspring, be it of draft or one or other of the lighter classes of horses. There are so many influencing circumstances between the mating and the appearance of a healthy foal that the breeder is always relieved when he sees the youngster scampering about on a fair way to a sound and well-formed horsehood. This, if he be wise, will induce him to provide the mare and foal such treatment as will induce healthy growth of the latter. In some cases it may be necessary to put the mare in harness, but as little as possible should be done, especially if the mare is a meager milker. Of course, considerable work can be taken out of a mare suckling a foal by a careful man, but in every case where working the dam is necessary the progress of the foal should be watched, and the care given it and its dam governed accordingly. A setback at this delicate age may seriously handicap the foal's future, and to allow that is to court defeat in accomplishing what was set out to do-raise a good horse for our own service or the market. When a mare has to be worked, pains should be taken to get the foal eating well of such foods as will be relished and are nourishing. In this way a foal can be taken from the mare at four months old and not suffer a setback, but where a mare is not needed, and has a good pasture, the foal is just as well to suck till nearly or quite five, and even six, months old. By that time its digestive apparatus will have sufficiently developed to enable it to live well without its mother's milk if proper food is provided it. No doubt many farm brood mares that foaled in April and May will have to go into work now that

autumn cultivation is in progress, and it is the foals of these that have to be weaned that special care is needed for the next few months. Foals, like care is needed for the next few months. Foals, like older horses, like companionship, and two foals together do better than one alone. If they could be given a green clover patch no doubt it would conduce to their advantage, but for a few days at least they are better confined to a roomy box or pen away from the sound of their dams. It is not much trouble to get the foals to eat, but only choice food trouble to get the foals to eat, but only choice food should be offered, as without every advantage they are liable to lose flesh and become hard-looking. Green-cut clover and a little green fodder corn are much relished and are nourishing. In some of the draft breeding stude of Scotland, the foals after weaning time get frequent gruel drinks of oatmeal, bran and treacle. In our own practice we have found boiled oats and bran good morning feed, with crushed oats and bran at noon and night, along with cut green corn, to give good results. We always try to secure a few quarts of skimmed milk twice a day, and with a stallion foal we wish to rush ahead we have found it profitable to get him rush ahead we have found it profitable to get him a quantity of new milk twice a day. One has to be cautious in rushing a colt in rapid growth to allow plenty of exercise that his legs may not go wrong. Many of the knuckled yearlings and older colts at our fairs have been put wrong by getting too great weight on the young limbs without sufficient exercise. We don't want a colt to have any of the appearance of a fed yeal. It is the strong, sound, mature horse we desire to produce, and too much appearance of a fed veal. It is the strong, sound, mature horse we desire to produce, and too much rushing in foalhood does not conduce to that end. Many foals raised in this country do not get the run of a field after weaning at this season till the following spring; but that is not the best practice, according to the Scottish breeders referred to above, who allow their foals the run of a field day and night till cold weather sets in, and daytime all through the winter season. Our climate will not admit of winter pasturing but our aftermath clover admit of winter season. Our climate will not admit of winter pasturing, but our aftermath clover fields are as good as need be for fall pasturing. Where access to such a field cannot be had, a goodsized yard should be provided to sharpen the appe-tite and keep the legs right. Later in the season, when succulent food such as clover and green corn are past, their place should be substituted with boiled roots and grain, mixed with cut hay and bran some hours before feeding. This is relished after they become accustomed to it, and keeps them after they become accustomed to it, and keeps them in a thriving, healthy state. Sometimes foals do not thrive well because of intestinal worms, which are indicated by staring hair, tight hide and general unthriftiness. The worms can often be seen in the droppings of the foal. When such are present the administration of a purgative, followed by a half-armed does of oil of turnenting mixed in a pint of ounce dose of oil of turpentine mixed in a pint of milk, followed by half a dozen half-dram doses of powdered sulphate of iron—one dose morning and evening—will usually affect a cure.

FARM.

Fall Cultivation of the Soil.

BY SIMPSON RENNIE, YORK CO., ONT. In fall cultivation there are two very important no ran cultivation there are two very important points to keep before the mind. First, by giving such cultivation as will not only retain but increase the fertility of the soil; and 2nd, to keep in check the ravages of foul weeds. All stubble land intended for grain crops the following ween should be ed for grain crops the following year should be plowed lightly immediately after harvest. Now, this may be done with any kind of plow or even the cultivator, but the cultivator is not practicable on elevator, that is comparate weed unless first on clay land that is somewhat weedy unless first plowed. If possible plowing should be done in the month of August or as soon as the crop is taken off. By plowing early more of the foul seeds which have ripened in the crop and fallen to the ground can be encouraged to germinate if not plowed too deep, and if plowed shallow the ground will not break up so lumpy. After plowing we usually roll it down smooth and leave it until there comes a nice rain then go on with the harrows and cultinice rain, then go on with the harrows and cultivator and make it as fine as possible. By thus making the conditions favorable for germination the foul seeds will be encouraged to grow. Then later in the fall plow again rather deeper and turn down any weeds that have germinated and grown. By plowing early the first time, such as the ragweed can soon be got rid of, or any other weeds which do not mature their seed until after harvest. Couch grass also can be destroyed in a single season by this same cultivation if properly

Again, when the land is made nice and loose it holds the moisture and retains the manurial ingredients from rains which would otherwise be lost. I may say I have sometimes sown rape after harvest when I would get the land nicely plowed and worked fine, but the result is not satisfactory unless it happens to be a showery fall. In a dry fall, the moisture taken up by the grain crop usually leaves the land too dry and the rape will

make very poor headway.

In preparing land for fall wheat, say barley or pea stubble, I find it is better to plow only once and not more than four or five inches deep, then work the land fine with the harrows, cultivator and roller, and all the better if this can be done some considerable time before sowing. I also find fall wheat to do well after a clover sod, which should be plowed at least six inches deep with a jointer plow, and before sowing work the surface fine, but plow only once, I find the wheat is not apt to winter-

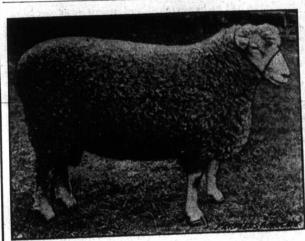
kill after clover sod if worked in this way. After harvest is a good time to draw out any manure which may have been left from the spring or made which may have been left from the spring or made during the summer. This I like to apply on the land intended for roots the following year. It is preferable to apply manure before a root or hoed crop. By so doing any weed seeds that may be in the manure would likely be destroyed by the cultivation of the roots, while if applied for a grain crop any weed seeds in the manure would likely grow up in the grain crop and not only injure that crop any weed seeds in the manure would likely grow up in the grain crop and not only injure that crop, but probably re-seed and become a nuisance for years after. In applying manure for roots do not plow it down too deep. On stiff clay land intended for carrots or mangels I find it better to plow the manured land again late in the fall if not too wat and never plow again in the spring, but too wet and never plow again in the spring, but only work the land well with cultivator and

Before closing I want to speak a word of arning. Think of the thousands of acres of land warning. Think of the thousands of acres of land in our fair Dominion which have become almost useless through the weed nuisance. I think it is high time that our system of cultivation be such as will not only keep up the fertility of the soil, but also will keep the ravages of all foul weeds in check. In my experience there is no better method than the above in which the foul weeds can be destroyed and at the same time keep up the fer-tility of the soil at so little expense.

Shallow Cultivation Soon After Harvest.

To the Editor Farmer's Advocate:

Sir,—In reference to fall cultivation of the soil for the production of spring crops, I may say that it is preferable to give the land shallow cultivation by skim plowing, gang plowing, or disk harrowing as soon after the foregoing crop is removed as it is convenient to do so. When time is available, we prefer skim plowing, harrowed down fine so that all seeds of grain or weeds may germinate, and also in a dry season, as the present, to produce moisture in the soil. We commence to ridge up about Oct. 1st, plowing narrow ridges about one rod wide, setting the furrow well up, and going to a depth of not less than six inches Our soil being heavy clay, somewhat flat and not



LINCOLN SHEARLING RAM; 1ST PRIZE AND CHAM-PION, ROYAL SHOW, 1898; BRED AND SHOWN BY HENRY DUDDING, RIBY GROVE, LINCOLNSHIRE; SOLD AT PUBLIC AUCTION FOR \$5000, TO GO TO BUENOS AYRES.

sufficiently underdrained, narrow ridges and good cross furrows are necessary to take off surface water. Shallow plowing will not do. In fact, I believe it would be of advantage to loosen the bottom of the furrow with a subsoil prong to make the land porous to a greater depth. Heavy clay requires the frost to pulverize it. Occasionally we rib a field into narrow drills late in the fall if the land has become soured by unfavorable treatment, and it has always given good results. We prefer not to plow when the land is too wet, but prefer not to plow when the land is too wet, but if it is a question between plowing wet in the fall and having to leave it to the spring, we choose the former, as spring plowing, except sod, invariably gives poor results in all crops, except, perhaps, for peas.

Perth Co., Ont.

Autumn Cultivation in Quebec Province.

To the Editor FARMER'S ADVOCATE: SIR,-In this section of the Province of Quebec Central Southern) harvesting is now at full swing, and by Sept. 1st the grain crop will be housed, except an odd piece of late sown oats, etc., and then follows the harvest of the corn and potatoes, and later on the root crop, but the fall plowing will be well started between whiles. Our mode of management is to plow all land that has grown a hoed crop (and is sufficiently manured to be seeded down to grass) as soon as the crop is off, so that the early spring may see it all sown to wheat or barley, and spring may see it all sown to wheat or parley, and seeded to clover and timothy, thereby insuring a good catch and giving an early crop of grain and a long autumn growth of aftermath. No fall feeding of either new seeding or meadows is allowed, so that winter-killing of meadows is very rare. At

meadow land intended for hoed crop is manured as far as the summer and early fall made manure will far as the summer and early fall made manure will reach, to be immediately plowed in as deep as a good breaking plow will turn, say eight inches or more for either corn or potatoes. Stubble land or greensward intended for grain we plow as early in the fall as we can, to be manured on top in spring, but some prefer leaving stubble land unplowed until spring, when the manure can be plowed under. Plowing is often delayed here on account of the land being too dry, but we usually have time after it is sufficiently moist, about the have time after it is sufficiently moist, about the latter part of October or first part of November. Our reasons for so deep plowing for heed crop is that it gives much easier work in cultivating to have the sod well under, and the manure is far anough from the author part to make it does not a m have the sod well under, and the manure is far enough from the surface not to make it dry and porous; there is no danger but that the crop will find its way down to it. These are some of the points in our mode of cultivation, which, no doubt, differs very much with other parts of our country.

Shefford Co., Que.

P. P. FOWLER.

The Silo Filled in Three or Four Days.

The Silo Filled in Three or Four Days.

To the Editor FARMER'S ADVOCATE:

SIR,—In the August 15th number of FARMER'S ADVOCATE you have a very timely and eminently practical article on silo filling. I have read and reread it, and I am sure that it will be very helpful to those who have not had much experience with silos. We think that the greatest mistake made with corn for the silo is the growing of varieties that do not mature, and you have emphasized the necessity of having the corn well matured. We have had a silo for seven or eight years, and our way of handling the crop is as follows: We sow the corn with the seed drill, very thin, using two tubes, leaving the drills good three feet apart. This season we sowed sixteen pounds per acre, and sill we find that it is too thick when well matured. "Compton's Early" is the variety that does best with us in North Grey. We are ready to secure the crop from 15th to 20th September (not later). We commence to cut in the field, and cut a day or two before filling, so as to wilt. We always get a gang of hands to keep cutting in the field and filling day by day—three or four men in the field, who cut the corn with hooks and help to load the truck, and the teamster who hauls. We use two pairs of trucks, one loading and the other unloading, which makes rapid work—20 to 25 loads a day are put in the silo. Two men at the machine, and a boy driving the horses. We use our own three horses on the power, which are quite sufficient. One man in the silo to level and tramp, and the whole business is done in three or four days. For some years we have not covered the corn with anything—just tramped it every day for a week, and sprinkled twenty or thirty pails of water over the top to form a crust of mold to exclude the air, and the result is a large quantity of succulent food for the cattle in the winter. And I may say that for the silo twice a day to our stock with good results. Grey Co., Ont.

Corn in the Clazed Stage Too Green for

Corn in the Glazed Stage Too Green for the Silo.

To the Editor FARMER'S ADVOCATE:

SIR,—Our experience of twelve years with the silo may be of some advantage to the many readers of your valuable paper. Two of our silos are of concrete construction, built outside of the barn, and will hold about twenty acres of corn each. When we start at the corn two men go to the field to cut; they use a hoe with a handle about two feet and a half long; the hoes are made out of a piece of old half long; the hoes are made out of a piece of old saw, seven inches wide and five and a half inches deep; a strong piece riveted on the back to connect with the handle; this piece is inclined a little to the right, so that when you strike the blow to cut the hill of corn your hand passes the side of the stalks, and yet the hoe is cutting the corn off level with the ground. We have found this much the best implement with which to cut corn. Some advocate using a knife, others a machine. We have vocate using a knife, others a machine. We have used both, and neither can compare with the hoe, as you can cut it right off by the ground and leave no stubs, while both knife and machine will leave stubs from three to five inches long—the very best part of the stalk. Two men can cut from four to five acres a day, and lay it in bunches to throw on the wagon. Just as soon as there is enough cut to load, the teams go to the field with truck wagons, with the sides off the hay rack and two stakes at each end. It takes three men to load; they lift it up in armfuls and throw it across the rack, beginning at each end and finishing in the center; they have to be particular in getting it put on straight, so it pulls off easily. A boy drives the teams between the barn and the field. It takes three teams to haul it in as fast as we put it through the cutting box. We use a Smalley cylinder box, with carriers to elevate it; we build a platform to the side of the cutting box about a foot or fifteen inches high, so that the men pulling the corn off on to the table do that the men pulling the corn off on to the table do not have to reach up for it. It takes two men to pull it off and one man to feed it; there is also one man in the silo spreading and tramping the outsides. The power used for the cutting box is an engine. It takes ten men and a boy to run this out-The man in the silo has to be careful and mix the light leafy stuff with the heavier. Some claim present the aftergrowth on meadows and wheat and barley stubble is unusually heavy, insuring good protection from the winter blasts. The old not, and that the corn should be ripe when you that the corn should lie and wilt before you start

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start. It is nonsense to say it is ready to cut when in its glazed state. Ripe corn is worth a third more in the silo than if you start when it is in the glazed in the silo than if you start when it is in the glazed state. We have all been making mistakes in trying to get corn that grows too much to stalk and too little cob. In the future we must grow corn that will give a fair stock and cob well, and ripen, if possible, before the fall frosts. The corn that has done the best with us this year and last is a variety called the Bailey. It was sent us from the County of Essex. The most of this variety is past use for the table now, and will be ripe in about ten days, but owing to us having some later kinds, we will

but owing to us having some later kinds, we will not be able to start before the 6th or 7th of Sept. Notwithstanding the dry season, we have a very fine crop of corn, covering forty acres of ground.

Huron Co., Ont. R. J. McMillan.

"As Others See Us."

"The appendix to the report of the Canadian Minister of Agriculture is very disconcerting reading, so disconcerting that we are much inclined to think that there has been some serious error committed in carrying out a set of wheat-manuring experiments on the Dominion Experimental Farms at Ottawa. The results obtained by our Canadian friends are not only contrary to the experience of practical farmers in this country, who lay no claim to being scientific, but also flatly claim to being scientific, but also flatly contradictory, in some instances, to the most scientifically and carefully noted experiments by the foremost scientists of the day. The results are so startling that if we were to accept them as conclusive we should be compelled to think that the atmosphere and soil constituents of Canada are different from those existing in this country. We are a little inclined to think that there is some truth in the latter assumption, from truth in the latter assumption, from the miserable yield of only twenty

bushels per acre, after an application of fifteen tons of farmyard manure. This is in strange contrast to the results obtained at Rothamsted, where, for a period of forty-two years, the average yield was thirty-four bushels per acre, and in 1894 the yield went up to forty-five and a half bushels. The rewent up to forty-five and a haif bushels. The report goes on to state that the results were practically the same where fresh dung was applied as where well-rotted dung was applied. We are not at all surprised at this, as the wheat plant occupies the soil, when autumn sown, nearly eleven months, thus giving ample time for the dung to decompose and yield up its fertilizing elements. It is in the

results they obtained after the application of various artificials that their deductions and results are utterly confusing. In the experiments carried out at Rothamsted the application of nitrate of soda and sulphate of ammonia invariably gives largely increased results, going up as high as fifty-five bushels to the acre, but the application of three hundred pounds of sulphate of ammonia in the Canadian experiment only gave the miserable yield of fifteen bushels to the acre. Another contradictory result, according to all the evidence of true scientific theory and of actual practice in this country, is that where a dressing of sixty pounds, annually, of sul-phate of iron (a substance looked upon as being actually hurtful under certain conditions) actually gave better results than sulphate of ammonia. The whole set of results is confusing, but they bear one very useful lesson to farmers, and it is that no two farms can be profitably worked and manured exactly alike, and that it is highly essential that each farmer should study the effects of the various manures for himself in the different fields on his holding, as it is quite evident that the laws governing successful manuring are yet only imperfectly understood by our most advanced thinkers. We have been observing for some time past that the more actual practical field experience some of our most advanced and reliable teachers get the more modest and guarded do they become in giving utterance to any opinion."—Scottish Farmer.

Dentonia Park Dairy Farm.

Mr. W. E. H. Massey, of the well-known Massey-Harris Manufacturing Company, has established on the outskirts of East Toronto, within ten minutes' walk of the Scarboro Electric Railway, and of York Station on the G. T. R., a 200-acre farm devoted mainly to dairying, poultry-raising, and pisciculture, each of these branches being prosecuted with the energy and efficiency characteristic of the owner in all his undertakings. When it is remem-bered that only two years ago this beautiful and wellequipped park and farm was cut up into some twenty small holdings, of various sizes and shapes, studded with unsightly

W. E. H. MASSEY'S STOCK BARN, DENTONIA PARK, EAST TORONTO.

shacks and tumble down snake fences, and that as many | and 30 feet deep, prove entirely satisfactory in preserving title deeds had to be searched and transfers of ownership made in order to securing a well-rounded, compact, and convenient property, the amount of energy displayed and of work accomplished in evolving the present prospect is truly phenomenal, and could only result from a well-considered plan and well-directed effort, backed by substantial means, a genuine love for the work, and a worthy ambition

The front of the farm is of a character peculiarly adapted to the purpose to which it is devoted, that of a park, b ing broken and irregular, embracing hill and vale, bluff and ravine, stream and pond, the hills being mainly covered with a pleasing variety of trees of native growth, including

convenient distance, stand the farm buildings, and stretching away in the distance lie the permanent pastures and fruitful fields which produce the necessary grain and fodder for the stock fed on the farm. THE FARM BUILDINGS. The main barn, which is illustrated in this issue, is a model structure in most particulars, and is well adapted to the purposes to which it is devoted, the whole plan having been studied out and the work directed by Mr. Massey with

brothers Massey, with their wide verandas and the many other provisions for home comfort which modern methods

of housebuilding secure, while in the rear of these, at a

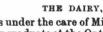
a view to economy of cost, convenience and efficiency of

service, symmetrical proportions and a pleasing effect. The main building is one hundred feet long by forty-two feet wide, and four stories high, and is built on a hillside, the ground floor being stabled for fattening cattle and young animals, the second floor being devoted to the dairy herd of Jersey cows in two long rows facing the feed alleys on either side, the working dairy being separated from the stable by the engine room, in which stands a stationary engine for generating electricity, with which all the buildings are liberally lighted, and running a 10-horse power electric motor, used for working most of the machinery in the buildings, such as threshing and grinding grain, cutting ensilage, straw and hay, pulping roots, and running the cream separator and churn.

The third story is occupied by the horses and carriages, the workshop, groom and herdsmen's rooms, etc., while the upper story is the barn proper, in which is stored the hay, grain and straw grown on the farm and used for the feeding of the stock, all the feed being passed down through chutes to the lower stories as required. A very efficient system of ventilation is in operation by means of a revolving funnel on the ridge of the roof, through which fresh air is conveyed to the stables and distributed through pipes under the mangers with openings which diffuse it in plentiful supply near the heads of the animals, the foul air passing up through tubes to the roof. Provision is made for storing a large quantity of roots convenient to the cattle; and twin circular stave silos, 12 feet in diameter

corn fodder—last year's ensilage being still in supply and having proved a valuable help in carrying the cattle through the dry season. An excellent well 20 feet deep below the basement provides a plentiful supply of pure spring water for the cattle and for the dairy, and is pumped by the steam engine or the e'ectric motor to a 5,000-gallon tank in the upper story of the barn. In addition to this, water is forced by a hydraulic ram from a spring in the ravine, a distance of 110 feet, to a tank of 6,000 gallons capacity on a tower near the buildings, at the rate of 250 to 500 gallons an hour, which provides an exce'lent fire protection; an overflow pipe connecting with a 10,000-gallon cistern under the approach to the barn floor, from which the stable floors, which are all

water-tight, being matched like the decks of a ship, are flushed, the same water being used when necessary for irrigating the vege-table garden and the pasture plots in the rear of the barns.



which is under the care of Miss Shuttleworth, an honor graduate of the Ontario Agricultural College Dairy School, who has recently received the appointment of Lady Instructor in the Western Dairy School is a model of completeness, cleanliness and efficiency, being fully equipped with all modern appliances, and from which is produced a quality of golden butter calculated to excite the envy of the gods. Everything in this department is conducted on scientific principles, with the result that a uniform quality of product of the highest standard is assured, and the "witches" in the churn never succ.ed in preventing the butter from coming, science and the sunny smile of the dairymaid proving an irresistible combination in securing a satisfactory outcome.

An annex, running out from the ground floor of the main building, is devoted to the accommodation of the sheep and swine, of which small but select herds are kept, the former being Shropshires and the latter Berkshires and Yorkshires.

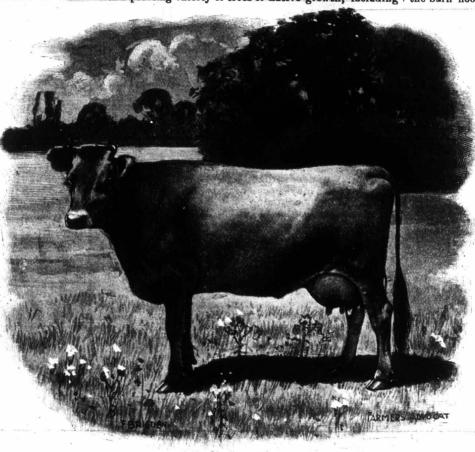
THE POULTRY DEPARTMENT

is receiving special attention, and provision is being made for prosecuting this feature of the business on an extensive scale, two large buildings being already occupied, one for hatching by means of incubators, and the other for feeding and raising broilers and breeding stock. An extensive addition to this branch is contemplated, and a wellplanned building 150 feet in length and 3 stories high is now in course of erection, to be devoted to practical work in poultry

The fish ponds are well stocked with trout of production. different ages, properly graded, and are proving a satisfac-

tory source of revenue on the Toronto market.

The magnificent herd of high class registered Jersey cattle maintained on the farm, a review of which is given in the Gossip columns in this issue, is, however, the main feature of this interesting establishment; and from their superior quality, rich breeding, and splendid record as butter producers and prize-winners on the Island of Jersey and elsewhere, should attract the attention of all who are to the spacious and attractive summer residences of the interested in dairy stock. (See page 415 for herd review.)



IMPORTED THREE-YEAR-OLD JERSEY COW, ISLAND LADY OF DENTONIA; OWNED BY W. E. H. MASSEY, EAST TORONTO, ONT.

In our article in Aug. 15th issue, under the heading "Picking, Packing and Shipping Fruit," we credited Mr. A. H. Pettit with having been Canada's Fruit Commissioner (or Supt.) at the World's Fair. This office was held by Mr. L. Woolverton, Secretary of the Ontario Fruit Growers' Association; while Mr. Pettit was Superintendent of the Ontario fruit exhibit on that occasion. The Secretary of the Niagara District Fruit Growers' Stock Co. is Mr. J. W. S. Nellis, of Grimsby.

oak and elm, maple, beech and linden, with a preponderance of evergreens, such as pine, spruce and hemlock, supplemented by plantations of the cultivated varieties on the deforested parts, which in a few years will add greatly to the beauty, variety and interest of the landscape. All the features of an ideal park-including shady walks and driveways, rustic bridges, silver streams lined with water cress and connecting numerous trout ponds in which grow water lillies galore and speckled beauties of the finny tribe in myriad millions-are found here, while further on one comes

DAIRY.

Operations of a First-rate Canadian Cheese Factory.

Cheesemaking, as conducted at first-class Canadian factories, is no longer a haphazard operation, but is conducted along scientific lines, which give the intelligent and experienced maker power to control his work in every stage. To do this only sweet, good-flavored milk must be used, and a good species will not accept that which is otherwise if he maker will not accept that which is otherwise, if he can detect a faulty condition. Sometimes, however, milk a little off will slip in, especially if well cooled down, and will not develop the bad flavor cooled down, and will not develop the bad flavor till heat is applied. The Tavistock (Oxford Co., Ont.) factory, owned by Ballantyne & Bell, and operated under the supervision of Mr. A. T. Bell, has a reputation to be envied for the excellence of the product turned out. The cheesemaker for this and last season is Mr. Moses Knechtel, who appears thoroughly versed in every detail of the work entrusted to him and his three careful helpers. The factory has 140 patrons (many of whom send small quantities), who together sent on August 19th, the day of our visit, 17,900 pounds of milk. This is an day of our visit, 17,500 pounds of milk. This is an average day's weight, and is generally received in good condition. The troubles that have been most general this season, and for which milk has had to be returned, have been the presence of the "cowy" odor. This is only found in milk from careless patrons, and generally at such times as harvesting or other pressing work causes the proper care of the milk to be neglected. The best class of patrons never allow anything to prevent giving the milk the proper attention, which is to

aerate it by dipping or pouring in a sweet atmosphere before it is cooled, directly after milking. Cooling without airing is bad practice, and serves to incorporate flavors that give trouble in the curds, and are indeed difficult to eradicate even by very careful special handling. Whenever tainted milk is returned a printed circular is sent along with it, pointing out the importance of having the milk in good condition in order to make good cheese, and also telling how to accomplish that end. The main points are: 1st, the proper washing and scalding the pails, disher, cans, strainers, etc., scouring them once a week with salt, and not wiping them after scalding; 2nd, cleanliness in milking; and 3rd, aeration and cooling of the milk, and the importance of keeping it out of cellars and other places where taints may exist. The great trouble with patrons who have their milk returned is not a lack of knowledge in caring for it, but usually they possess liberal views as to what is termed cleanliness, or are indifferent to the welfare of the factory and its patrons, and the only way to deal with some of them is to reject their milk.

HEATING AND SETTING THE MILK AND CUTTING THE CURD, ETC.

The milk is usually all in the vats by 9 o'clock in the morning. At this season four vats are used;

At this season four vats are used; these are each 15 feet long and 44 inches wide. They are each surrounded by a jacket for the reception of water, into which steam is turned. The milk is first slowly heated up to 86° F., two pairs of agitating paddles running during the heating. The milk is tested for ripeness by the rennet test, and it is repully pagessary to add a starter in order The milk is tested for ripeness by the rennet test, and it is usually necessary to add a starter in order to have the vats ripen uniformly. When the rennet test shows coagulation in 17½ seconds the vats are set. The starter is made by placing four pails of milk from the best flavored vat, if there is any difference, in a milk can. To this is added two pails of water and one and a half quarts of ripe or sour starter from the previous day's preparation. The quantity added to each vat is usually about one and a half pails, but this is guided by the rennet test.

off when it shows from one-eighth to one-quarter off when it shows from one-eighth to one-quarter inch. This is usually three hours after setting. In case of fast-working curds from overripe milk the curd is cut finer. The whey is mostly run off very soon after cutting and the curd is kept moving with the rake. In cases of bad flavors at this stage Mr. Knechtel has found advantage from washing the curd in the vat, being careful in either case not to have too much moisture in the sink. After the whey is run off, the curds are placed in After the whey is run off, the curds are placed in the sink till they mat, then cut into blocks and frequently turned till ready to mill, in from one and a half to two hours.

MILLING, SALTING AND PRESSING.

The Barnard curd mill is used, which is run with the engine power. After milling the curds are frequently stirred from 40 to 60 minutes, when they are piled up and closely covered for 45 minutes to mellow down. This tends to help the texture and smoothness of the cheese. They are now broken up and given plenty of fresh air by frequent stirrings until the curd shows butter-fat and the temperature is down to about 82 degrees, when it is salted at the rate of two and three-quarters to three pounds of salt per 1,000 pounds of milk. three pounds of salt per 1,000 pounds of milk. Gassy or off-flavored curds get more stirring and more time in the open air. A moist curd is salted three pounds per 1,000 pounds of milk to allow for the extra salt that runs away in the dripping. Mr. Knichtel considers piling the curd, followed by plenty of stirring in the fresh air, very important, as to neglect these a soft cheese with rag holes is liable to result. It is also well to have the particles of curd well separated before adding the salt, that the salting may be uniform. The curd is stirred

IMPORTED TWO YEAR-OLD JERSEY BULL, LORD OF DENTONIA 50166, A. J. C. C.; OWNED BY W. E. H. MASSEY, EAST TORONTO, ONTARIO.

over twice during the salting and two or three times more in the 15 or 20 minutes afterwards. It is then weighed and put into the hoops, 112 pounds in each, which makes a finished cheese of about 82 pounds. They are then pressed in the gang press for 45 minutes and then bandaged carefully. The seamless cheese-cloth bandage is used, which is neatly drawn up to prevent wrinkles. Double top and bottom clothes are put on, the outer ones being neatly drawn up to prevent wrinkles. Double top and bottom clothes are put on, the outer ones being removed before the cheese goes into the curing room. The cheese are then returned to the press and turned at 6 a. m. the next day. At 11 o'clock they are taken out of the press and stamped with the number of the vat in which they were made, the date of making, and "Canada," and placed on the shelves of the curing home.

test.

The milk is set by adding four ounces of rennet, diluted to a good volume with water per 1,000 pounds of milk, and the agitators are allowed to pounds of milk, and the agitators are allowed to milk it is set at lower temperature, and as high as milk it is set at lower temperature, and as high as two ounces more rennet per 1,000 pounds of milk is two ounces for the terming to the factory is kept. The curing room is kept at a temperature of from 60 to 70 degrees and gently lifted. This is about thirty minutes face and gently lifted. This is about thirty minutes face and gently lifted. This is about thirty minutes face and gently lifted. This is about thirty minutes face and gently lifted. The curing room is kept at temperature of from 60 to 70 degrees at temperature of from 60 to 70 degrees that the fact o

The cheese are weighed as taken from the shelves and placed in strong boxes made to fit the cheese snugly. Double scale-boards are put on top and bottom; the lids fit well and are put on without nailing; the weight of cheese is stamped on the outside of box, as well as the factory brand used by Masses. Ballantone & Ball Messrs. Ballantyne & Bell.

PER CENT. OF FAT, PLUS 2%, THE BASIS OF VALUE.

The patrons are paid by the quality of the milk as indicated by the Babcock test, to which is added two per cent., this being considered to indicate its cheese-producing value. The test is made once a month. An ounce sample of each patron's milk is taken each morning as received and placed in a jar containing a little more bichromate of potash and corrosive sublimate than will lie on a ten-cent piece. This keeps it in liquid form until the end of the month, when the test is made. The patrons receive monthly statements showing the pounds of milk, per cent. of fat with 2% added, pounds of fat with 2% added, average lbs. of milk to lbs. of cheese, average price of cheese, rate to patrons per lb. fat, patrons' total proportion, cheese to patrons, cash to patrons, and balance due patrons, which is paid by cheque. Mr. Bell receives \$1.35 per 100 lbs. of cheese made, and the whey, which latter is fed at the factory. For this the milk is drawn, the cheese is made, insured and sold. Last year 140 tons of cheese was made at this factory, but it is not expected much over 120 tons will be reached this season. Last fall a butter plant was put in and butter made from Nov. lat to May 1st. The butter was made for \$\frac{3}{2}\$ cents per pound. This was eminently satisfactory and many patrons regretted the commencement of cheesemaking, as they prized the skimmed milk which was returned to them.

THE HOGS THAT GET THE WHEY.

was returned to them.

THE HOGS THAT GET THE WHEY.

As stated above, all the whey is fed at the factory, so that the cause of so much trouble in many factories — sending home sour whey in the cans, thus tainting the next day's milk—is totally avoided. At the time of our visit about 400 hogs were being fed, most of which were of the bacon type, and about a double-deck carload were ready to ship. They are of all colors in which pigs grow, and showed Berkshire, Tamworth, Yorkshire, Poland-China, and Chester White breed type. They are a thrifty lot and were being economically fed. They receive three drinks daily of sweet whey and two feeds of pea chop and bran, from ½ to ½ of a pound to each pig at each feed, mixed in the proportion of a ton of pea chop to ½ of a ton of bran. This is soaked in whey three hours before feeding and is found to be the most satisfactory grain food obtainable. They are kept in airy pens about 10 x 10 feet, and obtainable. They are kept in airy pens about 10 x 10 feet, and eight or nine pigs in a pen. The piggery, which is situated some 600 or 700 feet north-east of the factory, is kept clean and comfortable. Whenever a pig goes off his appetite or shows any in-

fortable. Whenever a pig goes off his appetite or shows any indisposition he is turned outdoors for a day or two, which usually puts him right. They are grouptever a lot tends to get too thick and fat they are turned out into the yard and their grain ration reduced. In this way the bacon form is adhered to and the proverbial "strip of lean" secured, the pigs going off when about 8 months old at about 200 pounds each.

THE INSTITUTION AS A WHOLE

is exceedingly well equipped, and conducted in a manner worthy of emulation. There is little, if anything, unnecessary in any department, but what is needed is present and in good form. We were informed that the price received for the output of this factory is usually from one-eighth to a quarter of a cent above the market price, and that because of the uniformly high quality of the cheese. We saw bored a number of cheese of the same dates, and of different dates, and the uniformity of those of the same age was remarkably pronounced. those of the same age was remarkably pronounced. The ripe cheese possessed a mellowness or silkiness and sweetness of flavor that one seldom gets even on the best Canadian or U. S. hotel tables. It is a fact to be lamented, that what is true of this factory does not share a true all our shares factories. fact to be lamented, that what is true of this factory does not characterize all our cheese factories, when it could be done if patrons and makers would together strive after this high ideal. There is always an open and lively market, especially for food products of the highest quality, but the lower grades are seriously handicapped by the enormity of competition with which they meet. No doubt the character of every factory is largely governed by its sort of management, which gives the Tavistock factory a lead over most others, as Mr. A. T. Bell is recognized as being one of the foremost in the cheesemaking industry. For several years he served as cheesemaking instructor in the Guelph Dairy School, where he made a host of warm friends among the students at that institution.

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, 1898

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Practical Notes from the O. A. C. Dairy Department.

SIR,—I was pleased to notice in your number for August 15th that the veteran dairyman, Mr. J. A. Iames, Nilestown, Ont., has recommended corn silage for summer feeding. We have given it a thorough test during this past season and find that our cows never milked so well during the summer as when getting 20 to 30 lbs. of corn silage which was made in 1897. This milk has been used for both butter and cheese making, and so far we have not noticed any objectionable flavor on the milk. Our men prefer taking corn from the silo for feeding rather than hauling green corn from the field, and the cows eat the silage as well as the green corn. We also feed two to four pounds of meal per cow per day, as there has been little pasture for a month until recently when we turned into a clover field. The clover for the first few days gave a decided taint to the milk.

FLY MIXTURES FOR COWS. ILAGE FOR SUMMER FEEDING OF DAIRY COWS

The horn fly was due to leave us this year according to the prognostications of entomologists, but he is still with us; in fact, the flies are more numerous than ever. We have been experimenting with several mixtures during the past season, and find that a mixture of lard, tar, crude carbolic acid and coal oil is about the most satisfactory. For 25 cows melt 10 to 12 pounds of lard or any other grease, and into this pour one pint of pine tar, three tablespoonfuls of crude carbolic acid and a pint of coal oil. Mix the whole and apply in an oily condition with rag or sponge. It will take two men about one to one and a half hours to go over 25 cows. This mixture will keep the files off for about a week. Lard at five cents per pound is cheaper than fish oil at 80 cents per gallon. Ten pounds of lard is about equal to one gallon of the oil. It will pay to relieve the cows from the torrent of files. FLY MIXTURES FOR COWS.

DIFFICULTY IN MILK COAGULATION.

We have received letters telling of difficulty in getting the milk to coagulate properly when the rennet is added. This trouble is likely caused by an alkaline condition of the milk, due to patrons adding soda or some similar substance to milk to keep it sweet, or it may be a natural alkaline condition of the milk. Any cheesemaker can see the effect of alkali on milk coagulation by adding half a teaspoonful of baking soda to eight ounces of milk before making a rennet test. Milk that will coagulate in twenty seconds from the vat will require one minute or longer to coagulate if soda be added. Patrons should be warned not to use soda or any preservative whatever in milk sent to a cheese factory, as it will cause the maker trouble. Where this difficulty is experienced the milk should be ripened more before adding the rennet, while the use of a good sharp, clean-flavored starter will neutralize the alkali in the milk. This must be done before adding the rennet.

SUB EARTH DUCT FOR CHEESE CURING ROOM.

During the past season we have had an opportunity to test the value of a sub-earth duct in our curing-room. With a properly constructed duct there is no need for a properly built curing-room getting above 70 degrees in the hottest weather. At the present time (Aug. 23) our room remains at about 66 degrees. One difficulty we have experienced from the duct is that the room has almost constantly 90 to 95 per cent. of moisture perienced from the duct is that the room has almost constantly 90 to 95 per cent. of moisture, which causes the growth of a great deal of mould. We have been experimenting with formalin solutions sprayed on cheese to prevent mould. Early in the season we commenced spraying one cheese with a two per cent. solution of formalin and leaving another of the same day's make unsprayed. We found that a two per cent. solution was useless to prevent mould. We then tried a three per cent. and then a four per cent., and we are now working with a ten per cent. solution, which so far has prevented mould growing on the cheese. The weaker solutions were valueless.

MOTTLED CHEESE. Our experiments on this question lead us to con-clude that the trouble known as mottled cheese is caused by a something which attacks the coloring matter which is added to milk, as we have not been matter which is added to milk, as we have not been able to get any white cheese which showed signs of the trouble. If makers are troubled with mottled cheese, make white or uncolored cheese. (This is another argument in favor of discontinuing the practice of coloring milk for cheesemaking.) There practice of coloring milk for cheesemaking.) There also appears to be some connection between the whey tank and mottled cheese, but so far we have not been able to secure the missing link. Starters made from the whey tank almost invariably produce mottled cheese. Cultures made in the bacteriological laboratory have not produced the mottling to any extent. Many cases of slight mottling disappear after a time.

PASTEURIZATION OF MILK OR CREAM, We are being asked very often nowadays, Would you recommend pasteurizing milk or cream for the winter creamery? To this we answer yes, if there is likelihood of bad flavors in the milk, and these are almost certain in the average milk sent to a winter creamery. With a proper milk pasteurizer, proper methods of cooling the cream, and a maker who understands his business, and especially the making and use of starters or cultures, we

and the quality of the butter will be very much better by adopting this system. It is useless with a careless maker.

The export demand is for a mild-flavored, light-colored, light-salted butter. Pasteurized milk or cream is an important aid in securing the first two. EXHIBIT BY DAIRY SCHOOL AND EXPERIMENTAL

Many of the points brought out by our experimental work during the past season will be illustrated in the dairy exhibit at the Industrial Fair, Toronto.

Production and Care of Milk on the Farm for Creamery Buttermaking.

BY F. J. SLEIGHTHOLM, SUPT. WESTERN DAIRY SCHOOL.

The creamery industry in Canada is experiencing a very considerable development. Its expansive possibilities are great. Many are taking up this work. Supply houses are doing a very largely increased business in creamery apparatus. Exporters and local dealers are alive to the possibilities and actualities of creamery work in this progressive country. In short, the iron is hot and we strike. The farmer's side comes first, as the man who supplies the original product.

The Food Supply.—The milk supplied to the creamery department of the Western Dairy School dropped 4,000 lbs. daily in less than twenty days this past summer (July). Our experience in this respect is one with probably all other creameries in Canada. This great obstacle to success is the result chiefly of three combined forces—insufficient food and water supply, heat, and flies. The first can be remedied in one of two ways. Either green fodder or silage can be fed, and one or the other, or both, wrust be fed if full profit is desired. The green fodder will be such as suits the land of the farmer, and does not injure the product. Green peas and oats (always use combinations); tares and oats; peas, tares and oats; peas, oats and barley;—all make excellent combinations and excellent milk. The writer has used every one of these combinations

HOLSTEIN COW, DAISY TEAK'S QUEEN 2ND, WINNER OF 1ST PRIZE AND SWEEPSTAKES FEMALE OF THE BREED, ALSO SPECIAL 1ST PRIZE AS BEST DAIRY URE BREED, WINNIPEG INDUSTRIAL EXHIBITION, 1898. RECORD: 72.25 LBS. MILK IN ONE DAY ON FAIR GROUND, AND 2.62 LBS. BUTTER, 80% BUTTER-FAT. PROPERTY OF JAMES GLENNIK, LONGBURN, MANITOBA.

with good results. Generally speaking, we prefer them to silage, but silage is good. So much for quantity; next, the quality. Avoid swamp pastures, turnips, rape, green rye, decayed roots or vegetables of any kind, mouldy fodders, etc. Feed the choicest fodder grown to the milch cows.

Just a further word on this part of our subject.

We are all well aware of the effect of the qual-

We are all well aware of the effect of the qual-We are all well aware of the effect of the quality and quantity of the food upon the quantity of the milk product; but what of its effect upon the quality of it—i. e., its per cent. of fat. We tread here upon disputed ground, but we believe in untrammelled discussion and plain statement. We firmly believe that food does affect the per cent. of fat in milk. We believe that the better a row is fed the richer in fat will that the better a cow is fed, the richer in fat will that milk become. Two of the foremost experimental stations in England and at least one in the United States uphold this view. We quote as follows from Stewart's "Feeding Animals," a book of much merit: "An animal that under normal feeding made one round of butter from thist feeding made one pound of butter from thirty pounds of milk, gave in the same season, under pounds of milk, gave in the same season, under increased feed (in quality and quantity) one pound of butter from twenty-eight pounds of milk, and in the following season, having been well fed while dry, gave, soon after coming in, one pound of butter from twenty-three pounds of milk." He also cites other instances equally strong. Again, it is noted that heifers do not give as rich milk during first season as afterwards. This looks as if the feed when not needed for frame-building had effect upon the milk. Again, observers have noted that cows that pasture upon our finest grass lands usually give a milk quite high in per cent. of fat. The writer noted when testing milk from cows feeding on the fine grass pastures of our Laurentian the making and declared the satisfied with the soils, that the tests were usually higher than on skim milk. The separator will do closer skimming some other soils at the same season, and cattle of

similar breeding. Again, nine out of ten farmers and dairymen believe that feed affects per cent. of fat in milk, and while these men may not consider all the data concerning the matter, there is such a striking unanimity of opinion based upon actual experience, that it is at least worthy of consideration. Therefore, dairymen should feed the best foods obtainable, cost considered, at all seasons of the year, whether the cow be milking or be dry: pasture grass, red clover, white clover, green oats, peas and tares, and green corn in summer time; ground oats, peas, wheat, barley, corn, red clover hay, well saved oat or barley straw, cornstalks, and ensilage, with mangels and carrots for the winter time. Any cow that does not give two hundred pounds of butter-fat on such fodders ought not to be kept in the herd.

The Water Supply.—It must be plentiful, pure,

pounds of butter-fat on such fodders ought not to be kept in the herd.

The Water Supply.—It must be plentiful, pure, and easily accessible—that is all. There is usually plenty, but not always purity. Pond water is an abomination on a farm, and a positive danger to the health of the community. The cows stand in them to keep off flies and heat; they befoul the water and then drink the flithy stuff, even though better water be accessible. Their udders become fouled, and the milk gets the benefit (?) at milking time. Swamp water is another form of the same thing, and has caused much trouble at the creamery, as the writer well knows.

Salt.—As much as the cows care to eat, whenever they care to eat it, is a safe and necessary rule. We do not think rock salt is as good as loose salt.

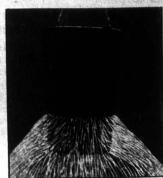
Management.—Kindness always; quietness too. No dog should ever come in contact with the dairy herd. In a late number of an American journal is an article showing where a little yelling and barking, etc., just before milking, caused a falling off of forty per cent. of butter-fat, a direct loss of \$1.26 at a single milking. Cows should be milked in the stall, not in the yard. But what of the heat and flies mentioned earlier in this article? The writer is a firm believer (and his belief is born of actual experience) in the stabling of cows during the summer months, in all the older settled sections of this country at least, excepting where effective shade is at hand. Space will not permit

summer months, in all the older settled sections of this country at least, excepting where effective shade is at hand. Space will not permit giving detailed proof of the soundness of the position taken, but whenever tried it is approved. A liberal use of whitewash in the stable, say twice a year at least, assists much in the production of finely-flavored milk. Keep the floors and gutters scrupulously clean. lously clean.

The Care of Milk.—Milk rapidly, quietly and cleanly. The whole udder and side of cow next the milker should either be brushed or wiped next the milker should either be brushed or wiped with a damp clotb. Milking on the hands is a most reprehensible and wholly unnecessary practice. Immediately after milk is drawn it should be removed from the stable, strained, aired and set to cool. (Strain through canton fiannel or three or four thicknesses of cotton. Wire strainers are not satisfactory. After being cleaned, cloth strainers should be wrung out in boiling water.) After the milking is done, the airing, or aerating, should be continued at intervals until cooled. Always air milk while it is warm, and remember that it is just as important to air milk well as it is to cool it. as important to air milk well as it is to cool it.

This point needs special emphasis. A long-handled dipper, an inverted milk pan with a handle long enough to reach the bottom of the milk can, the bottom punctured with a number of

small holes, or a pail about 12 in. or 14 in. deep, 7 in. wide at top, and 5 in. at the bottom, with ordinary handle, punctured with small holes up the sides about 3 in. and a few in the bottom, are as suitable aerators as any, are cheap and effective. The last mentioned aerator—the pail— (herewith illustrated) is a most excellent ar ticle for airing milk. The pail is pressed down into the milk in



ARRATING PAIL

the can and lifted up, about 300 fine streams shooting from sides and bottom, the milk receiving a much more perfect airing than by either of the other modes. We first saw this aerator in use on the farm of Mr. Alex. Rankin, of Oxford County, and immediately introduced them among our patrons here. It is very necessary that milk be aired where the air is pure. The worst milk in point of odor that we were avery offered at a point of odor that we were ever offered at a creamery door was from a farm where the milk was aired just across the lane from a filthy hogpen The farmyard, stagnant ponds, etc., are fruitful sources of trouble in this connection. Morning's milk should be kept separate from night's milk until the drawer comes around, unless cooled to the same temperature previously.

When the can arrives home with its contents of hot (pasteurized) skim milk, empty it at once, rinse out with cold or tepid water, scrub with brush (costing about 15c.) and hot water until perfectly clean inside and out, scald with boiling water and set to air, turned upside down or on the side so that the sun can shine into them. This is the proper method of cleaning all tinware, and is the method followed in all first class area morion. Cleans about followed in all first-class creameries. Cloths should not be used for this purpose; they are not efficient and are difficult to keep clean. A little salt or

ashes or Sapolio soap should be used occasionally to help keep the cans, pails, etc., clean and sweet. The airing of tinware is an important matter. The oxygen or ozone of the atmosphere assists materially in the sweetening or purifying process. Our next article will deal with the creamery and

[Note.—When we consider the fact that in 100 lbs. of milk there are about 87 lbs. of water, Mr. Sleightholm evidently did not urge the point re abundance of pure water too strongly. We know of one case this season where a farmer's milk supply fell off from 600 to 300 lbs. per day, and on enquiry found that the cows (about 25 of them) were being driven some distance and watered by pails from well once a day. If a dairy farm has not a stream or pond of pure water, a convenient, never-failing well is indispensable. Where the herd is large many dairymen find that it pays to erect a small windmill.—EDITOR.]

The Production of Milk for the Manufacture of Cheese.

The Influence of Food.—There are various ways in which food may have an effect on the character of milk from a cheesemaking standpoint. Some foods, such as turnips, rape, etc., impart their peculiar odors direct to the milk through the essential oils which they contain. The cause of the odor really becomes a part of the milk and is not easily remeved. All such foods should be prohibited, and the feeding of turnips to milch cows, attended as it is with such evil results, must eventually be entirely stopped. I have known cheesemakers to claim that they could remove the flavor of turnips during the process of cheesemaking, but the thing is absurd, and sooner or later the man who depends on his skill (?) to remove the taint of turnips will himself be "removed."

on his skill (?) to remove the taint of himself be "removed."

There are foods which may, if fed injudiciously, cause indigestion in the cow, with the result that the milk will be "off" flavor. This explains, I think, why trouble has been experienced where cows have been allowed the run of an orchard to gorge themselves on the surplus fruit, although it is a fact that apples may be fed, beginning with a few quarts per day, increasing gradually to not more than half a bushel, without any bad effect. The same is true of clover to some extent, for observant cheeseeffect. The same is true of clover to some extent, for observant cheesemakers very often find the flavor of milk wrong when the herd has been first turned into a fresh field of clover aftermath. Left to satisfy themselves, they probably eat too much, but, at anyrate, we know that indigestion often occurs under such circumstances, and yet no one will deny that clover is one of our most valuable foods.

Musty fodder may indirectly be the cause of tainted milk, by the spores of the moulds which cause the mustiness finding access to the milk at the

of the moulds which cause the mustable ness finding access to the milk at the time of milking, and, developing there, give rise to various objectionable flavors. Indeed, the greatest care should always be exercised to avoid having

always be exercised to avoid having the milk exposed to the dust which will fill the air of a stable for some time after feeding any dry food. Some claim that the feeding of ensilage has affected the flavor of milk. All I can say on this point is that some of the best milk which we have handled of late years has come from cows that have had ensilage as a part of their daily ration. It is quite possible, indeed very probable, that if cows are fed too much ensilage, or ensilage which is mouldy or very sour, the flavor of the milk will be injured, but I do not believe that good ensilage, properly fed, is in any way objectionable.

The Absorption of Odors.—Milk has the prop-

fed, is in any way objectionable.

The Absorption of Odors.—Milk has the property, in common with most liquids, of absorbing gases or odors, as we call them in this connection. Dr. Russell, of Wisconsin, has shown that warm milk will, in some cases, absorb odors more readily than cold milk. This is sufficient to explain why than cold milk. This is sufficient to explain why milk will frequently carry the odor of the surroundings at the time of milking. Among the most common taints of milk contracted by direct absorption are the odors of manure heaps, hog pens, coal oil, rank smelling weeds, and very frequently the characteristic smell which comes from the sile even with the best of ensilage. The remedy is plain. The milk must be protected from anything of the kind.

[Note.—It is also a fact, according to our own

[Note.—It is also a fact, according to our own experience, that cold milk will readily absorb odors. It is therefore important that milk be removed to clean, sweet quarters as soon after being milked as

possible.—Editor F. A.]

Influence of Bacteria.—While the above causes operate to the detriment of cheesemaking to a conoperate to the detriment of cheesemaking to a considerable extent, they are, perhaps, most applicable in the winter time. Experience is proving every day that the great majority of the difficulties which cheesemakers have to deal with originate with the undericable form of bacteria. which the undesirable form of bacteria which get into the milk. Bacteria are small plants. They are so very small that they cannot be

seen with the naked eye, except when they grow together in immense numbers to form what are called colonies. From the cheesemaker's standpoint, they may be divided into two kinds, viz., the necessary or desirable kind, and the bad or injurious kind, just as there are two kinds of plants in the fields giving us the crops on the one hand and the weeds on the other. The useful bacteria bring about the necessary changes in cheesemaking, and are, therefore, indispensable; while the others produce "tainted" milk, "gassy" or "pinhole" curds and "off" flavored cheese, etc. The investigations of Prof. Lloyd, in England, and Dr. Connell, at the Kingston Dairy School, show conclusively that one certain kind of germ, known technically as the Bacillus Coli Communis, which comes from the droppings of all animals, including fowls, is the one great cause of these faults in milk or cheese. To prevent the entrance of this class of germs into the milk will, I believe, do more to improve the quality of our cheese than anything else within the power of the farmers or cheesemakers. It is along this line that we have the greatest need for improvement. So much has been written and said about the necessity for cleanliness in handling milk, with apparently little effect, that it would seem almost useless to go over the ground again; but I think the trouble is that the word cleanliness in its ordinary meaning does not cover the point. It refers to the visible dirt, while in reality the danger lies in the invisible germs which are associated with the dirt. Straining the milk to remove filth is a very necessary and desirable operation, but, after all, milk which is once contaminated in this way will continue to show the effects of it afterwards, no matter how thoroughly the straining has been done.

In conclusion, let me appeal to the patrons of factories to see to it that their milk is protected in

days in milk; 44 pounds 4 ounces milk; of butter, 2 pounds 8\(\frac{3}{2} \) ounces; butter ratio, 17.37. In the tenants' competition the Shorthorn cow, Athelina. owned by T. Birdsey's executors—weighing 1,319 pounds; 10 days in milk—gave 53 pounds 4 ounces milk; 2 pounds 11\(\frac{1}{2} \) butter; ratio, 19.58 The Guernsey cow, Bon Espoir V.—weighing 1,109 pounds; 50 days in milk—gave 60 pounds 6 ounces milk, the highest in the test, yielding 1 pound 13\(\frac{1}{2} \) ounces butter; butter ratio, 33.02. A cross-bred cow, 26 days in milk, gave 57 pounds 12 ounces milk, and 2 pounds \(\frac{3}{2} \) ounces butter; ratio, 32.75. GARDEN AND ORCHARD

Eat More Fruit.

In Farm Gossip, in this issue, our Kent Occontributor calls attention to the increase of ning factories in the Western section of Ontoby means of which the increasing surplus of there will be profitably utilized. Every comity should be equipped with facilities for using fruit when markets become overstocked. On its and evaporators will save losses and envider distribution of fruit in home and fruit markets. In Great Britain, the manufact jam is also a remunerative industry of large portions, and is likely yet to develop on the of the Atlantic. Meanwhile we are glad the increasing consumption of Canadian fruit in town and country homes, so that with velopment of our export trade the demand keep pace with the growing supply. In every comit the following in the Rural Californian conly quite recently that fresh fruit has be as part of our daily diet, although even to mainly used as more or less of a luxury, pensed with as soon as the pocketbook funds beyond those needed for the need life. The time is coming soon, however fruit will be the main to pensable food for those vito promote health, happy

Methods of Keeping and Storing App

Well matured and nicely d fruits are worthy of s

are not injured by hard freezing, if the allowed to remain frozen until wanted, and then thawed out very gradually, but we direcommend this plan. Many sorts, partice Russets and other firm varieties, keep well pitted like potatoes. Sometimes, however, take up a taste of the earth, but this may be vented by setting a ridge-pole over the papples in forked sticks, and making a report of the papples in forked sticks, and making a report of the papples in forked sticks, and making a report of the papples in forked sticks, and making a report of the papples in forked sticks, and making a report of the papples, however, seldom keep well opening out in spring, and should, therefore be opened till they are needed for use.

Another method of storing apples approved that the chaff and apples are mixed the care that the chaff and apples are mixed the stices and cover up frostproof in a dry locatio. It is not usually good practice to pile up bins of apples on the cellar floor. Smaller, side bins, not disturbed till their turn comes to be are much better, except they are commence rot, when the bad ones should be removed. Should seldom occur if care has been taken apput in bruised or fruit of early ripening var and the temperature is kept down below 45 possible, at 33° Fahr. We have had best satisf by packing such as Spies, Russets. Greening Baldwins in barrels late in October, and I them in an open shed as late as possible befor signing them to the cellar. The barrels are in up, and not opened till needed in March or later. Greening them to the cellar. The barrels are in up, and not opened till needed in March or later.

Mr. G. H. Shuttleworth, of the apple commission firm of Simons, Shuttleworth & Co Liverpool, who recently completed a tour amon the apple-growing sections of the U. S. and Car ada, reports a fair general crop throughout. The will probably be exported from Canada this yes some 200,000 barrels.



TWO-YEAR-OLD JERSEY HEIFER, DULCE, 1ST PRIZE, ROYAL SHOW, 1818; OWNED BY MR. JOSEPH BRUTTON, YEOVIL; SIRE GOLDEN LAD.

for milking, the milk stand should be at some distance from it, and not in the direction of the prevailing wind, which will carry the dust from the dried-up manure covering the ground of the yard. See that the cows are not compelled to wade through deep mud to reach the water supply, as is often the case. Such places become filled with often the case. Such places become filled with these dangerous germs, and the mud sticking to the legs and udders of the cows carries them along to find entrance to the milk pail. Do not feed hogs near the milk stand. It is positively criminal to near the milk stand. It is positively criminal to hoiling water if these germs are to be destroyed. No amount of scrubbing and cleaning with warm water will do it. Cans which are kept at some distance from the house cannot be properly cleaned, because the water will lose too much heat in being carried so far. carried so far.

An English Dairy Test.

At the annual show of the Tring Agricultural Society, August 1st, a milking test was conducted, in which were two classes—one for cows, any breed, not exceeding 900 pounds live weight, and one for cows exceeding 900 pounds; judged by scale of points in each class. In the former the first prize was won by Lord Braybrooke's Jersey cow, Vervaine III.; weight, 854 pounds; 104 days in milk; yield of milk in one day, 43 pounds 10 ounces; of butter, 2 pounds 15% ounces; butter ratio, 14.61. The second prize went to the same owner, for Silver Cloud 3rd, a Jersey weighing 80% pounds; 73 days in milk; yield of milk, 51 pounds 2 ounces; of butter, 2 pounds 10% ounces; butter ratio, 19.24. In the class for cows any breed, over 900 pounds weight, the first prize went to Dr. Watney's Jersey cow, Lady of the Sunny Isles; 989 pounds weight; 114 days in milk; yield of milk, 100 pounds weight; 114 days in milk; yield of milk, 115 pounds; of butter, 2 pounds 9% ounces; butter ratio, 18.39. The second prize to the same exhibitor's Sheila of Ruthven; 1,037 pounds weight; 115

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Marketing Fruits.

Mr. T. C. Johnson, a Californian, makes the following seasonable suggestions to fruit-growers:

"Ship to a well-established firm, and not to
every man who sends out letters soliciting trade
and promising prices considerably above the regular market, for many such are only sidewalk salesmen with no established place of business; they will return one or two good sales, get a run of trade, and then move to another street, failing to make further returns for fruit received. It is better to send to only one firm in a place, for if the fruit is uniformly fine, a trade will be established upon the trade-mark, and where two or more firms are handling the same mark, different prices are some-

handling the same mark, different prices are sometimes asked, according to supply and demand, and sometimes lower prices are taken than where one firm has the entire handling of a mark.

"Inferior fruit should not be shipped—in fact, should not be grown. It is not wanted, is in the way, has to be marked 'off,' and is an injury, to a certain extent, to good fruit. Uniformity in package and in packing is required. Undersized boxes should not be used. Fruit should be assorted in two grades, fine and good. The grower's name should be placed on all good fruit, but not on that which is below good. A good class of men only should be employed in the packing and handling of fruit, for the work is of a different character from that of handling potatoes. Women are good in assorting and packing fruit, for they handle not only quickly, but as a rule more carefully than only quickly, but as a rule more carefully than men. Ship in carload lots as far as possible, as better rates of transportation can be had, and better sales realized than for small lots.

"Our fruit business needs to be more thoroughly organized and placed on a better business basis. There should be in every town where orcharding is attempted, a fruit-growers' association, to which every grower should belong. All fruit should be properly graded, inspected and placed in the market in the best possible condition. Upon such basis the income to the grower and handler would be materially and permanently increased."

POULTRY.

The Food Value of Eggs.

About one-third of an egg is solid nutriment. A good egg is made up of ten parts shell, sixty parts white, and thirty yolk. The white of an egg contains 66 per cent. water, and the yolk 52 per cent. An egg, if cooked very hard, is difficult of digestion, except by those persons possessed of stout stomachs; such eggs should be eaten with bread and masticated very finely. Fried eggs are much less wholesome than boiled ones. An egg dropped into hot water is not only a clean and handsome but a delicious married. but a delicious morsel. Most people spoil the taste of their eggs by adding pepper and salt. A little sweet butter is the best dressing. Eggs contain much phosphorus, which is supposed to be bene-ficial to those who use their brains much.

Some of the Standard Breeds.

DIFFERENT VARIETIES AND THEIR CHARACTERIS TICS — FLESH AND EGG PRODUCERS — FOWLS FOR THE FARMER - HOW TO IMPROVE THE FLOCK.

BY A. G. GILBERT, POULTRY MANAGER, CENTRAL EXPERI-

Some breeds of cows are good for milk. Others are better for beef. Again, some strains of cows are better milk yielders than others. In poultry we have some breeds that are better flesh makers than they are egg layers, while there are others that are prolific egg layers and little good for anything else. The points of difference in his cattle are, as a rule, better understood by the farmer than in his poultry. If it were not so we would not find so many nondescript fowls in the great majority of the barnyards of the country. The farmer should aim to have fowls that are good layers and rapid flesh makers. "Hard to get," you say. Not so difficult as may be thought, for we have both good qualities in Plymouth Rocks and Wyandottes. And it will be our effort to point out the characteristics of certain of the standard breeds, so that the farmers of the country will have no difficulty in making a choice.

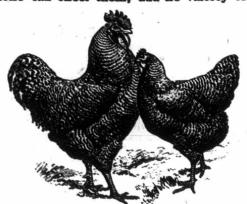
SOME OF THE BEST KNOWN BREEDS.

The following compose some of the best known standard breeds, viz.: Plymouth Rocks, Wyandottes, Brahmas, Langshans, Leghorns, and Mindottes, Brahmas, Langshans, Leghorns, and Minorcas. They are again divided into the following varieties: Plymouth Rocks—Barred, White, and Buff. Wyandottes—Silver, White, Golden, Black, and Buff. Brahmas—Light and Dark. Langshans—Black and White. Leghorns—White, Brown, Black, Buff, Dominique, Silver Duckwing. Minorcas—Black and White. Indian Game—Brown and White.

BREEDS GOOD FOR EGGS AND FLESH.

The above is a varied list to choose from, and to the uninitiated it may be puzzling on that account. But the farmer who wants eggs in winter, and chickens which will make rapid flesh development, can make no mistake in deciding upon Plymouth Rocks or Wyandottes. We are sometimes met with the objection that Plymouth Rocks and Wyandottes are inveterate sitters; no doubt owing to

not be kept over two years of age. Our experience of fifteen years with all the standard breeds goes to prove that while some few breeds may come very near to the Plymouth Rocks as a fowl for the farmer, none can excel them, and no variety of that



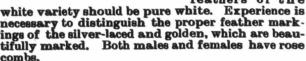
PLYMOUTH ROCKS.

breed is better than the barred. Of Wyandottes the white and silver-laced varieties are to be recommended; not because the other varieties are not of equal merit, but for the reason that the farmers can obtain the varieties named with less difficulty and cost. Langshans and Light Brahmas are also favorites with some as egg layers and flesh producers. The Barred and White Plymouth Rock cockerels for many years have shown (in mostly all cases), at the Experimental Farm, a flesh development of fourteen to sixteen ounces per month. I do not say this was attained in the first month, but at the end of four months the birds weighed seven pounds to eight pounds per pair. And there was no forcing, but the chicks were carefully attended and regularly fed. In several instances Brahma and Langshan chickens did as well.

DISTINGUISHING FRATURES, Plymouth Rocks have large, compact bodies, with full, round breast. Yellow legs. Red wattles and earlobes. The feathers should be distinctly barred. The color of feather may be darker in

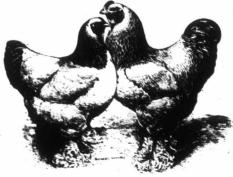
some birds than others, but the barring should be distinct. In the male the comb should be of medium size and stand erect. The Wyandottes

are full and compact in body, with broad, plum p breast. Yellow legs. Red wattles and earlobes. The plumage of the bird differs with the variety, but the feathers of the



Brahmas and Langshans have large bodies, deep and well rounded. Wattles and earlobes bright red. The legs of the Light Brahma are yellow, while the plumage is white, with a well-marked hackle. The legs of the Dark Brahma are gray, and so is the color of the plumage. The plumage of the Black Langshan is metallic black, and the legs bluish-black. The color of the White Langshan feathers is pure white. Color of legs slaty-blue.

The above-named fowls are sitters, and will hatch out their young. All make good mothers. Brahmas are sometimes clumsy and heavy, and



should not be given early eggs, when shells are apt to be thin. No better mothers or sitters can be found than Wyandottes and Plymouth Rocks.

BREEDS FOR EGG PRODUCTION. The Leghorns and Minorcas belong to the great Spanish family, and are noted as prolific egg layers. Indeed, they have been not inaptly styled "egg machines." Equally good layers are the Black Spanish and the Andalusians, which have not been mentioned because scarcely necessary when the other breeds are noted. The

Black Minorcas to a great extent have taken the the fact that the fowls in such cases have been too old. It must be remembered that a fowl should are said to be hardier in the rigorous winter of with a White Leghorn or Minorca male. Use,

certain parts of the country, and they are certainly as good layers of as large eggs.

White Leghorns are as household words—they

are known to everyone. They are prolific layer of large or small eggs, according to strain. Care should be taken to purchase or procure eggs from a large egg laying strain. The brown Leghorns are also great favorites with many, and are equally pro-lific layers of perhaps a slightly



smaller egg. The
other varieties
are not so well
known. These are rose-combed varieties of white and brown breeds.

DISTINGUISHING FEATURES.

White and Brown Leghorns have bodies of medium size, deep and plump. Wattles red. Ear-lobes white. Legs and beaks yellow. The plumage of the white variety should be pure white. The brown variety is beautifully marked, and some experience is required, as in Silver and Golden Wyandottes, to distinguish pure specimens. The combs of the males of both varieties should stand erect and not fall over.

Indian Games.—Indian Games make good market birds, but indifferent layers. They are valuable to cross with the larger breeds, and make large, heavy offspring. There are two varieties, viz., the brown and white. Their weights are given elsewhere.

STANDARD WEIGHTS.

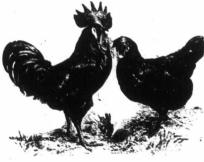
The following are the standard weights of the different breeds enumerated and varieties of the

Cock, Cockerel. Hen. Pullet. Barred, White and Buff P. Rocks.
Silver, Golden, White and Buff
Wyandottes......
Light Brahmas.
Dark Brahmas.
Black and White Langshans...
Black and White Minorcas.....
Indian Games...

The standard requires no weights for the Leghorn fam-Weights of Buff, White and Partridge Corhins same as Dark Brahmas.

SOME CROSSES.

Crosses of the Plymouth Rocks, barred and white, with White Leg-



BLACK MINORCAS.

horns have made good layers of fairly large eggs. The females were larger than the Leghorns, but slightly smaller than the Rocks. The Leghorn male was crossed with Plymouth Rock hens. The most satisfactory results were obtained from a Barred male crossed with White Leghorn females. The male birds were not as large as the Plymouth Rocks, and for that reason did not make as good a market bird.

A Barred Plymouth male with colored Dorking hens made large cockerels, one making weight of six pounds in four months and twenty-nine days. The females made average layers of eggs of medium size. An Indian Game male crossed with Light Brahma females made large hens, but not such satisfactory cockerels. The hens were fairly

A Black Minorca cockerel crossed with Langshan hens made large black hens, which were excellent layers

ored eggs over medium size. The cockerels did not make satisf actory market fowls. In our experience no cross yet made has been an

of brown-col-



that reason it would not pay farmers to experiment with crosses.

HOW FARMERS MAY IMPROVE THEIR FOWLS. A farmer may improve his fowls, if of the ordinary barnyard sorts, in two ways:

First.—By picking out the largest, best-shaped and most prolific layers, and mating them with a thoroughbred male. If his hens are on the small size, mate with a thoroughbred Plymouth Rock or

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when possible, a vigorous yearling male with two-year-old hens. The latter mating will make better layers than it will market fowls. The first will make layers and fowls for market.

Second.—By purchasing a thoroughbred Plymouth Rock or Wyandotte male and two females mouth Rock of State of either sort. Buy in the fall, when they may be had at a rea-



sonable price Inspring breed all the chicks you can, and the earlier the better. Kill off your scrubs, and in the fall you will have nice lot of thoroughbr ed chickens, and the old stock besides. The cockerels may be sold on the market, and

the pullets INDIAN GAME. kept for winter layers. The latter plan will be found more profitable in the long run. Many start by getting settings of eggs of pure breeds of their choice from reliable breeders.

RECAPITULATION. The following summary of foregoing remarks

may be useful:

Fowls for eggs and flesh, good winter layers, good sitters and mothers. chickens hardy and mature rapidly—Plymouth Rocks and Wyandottes. may be useful:

raputy—Flymouth Rocks and Wyandottes.

Fowls for eggs, good winter layers, non-sitters, chickens hardy and grow quickly—White and Brown Leghorns, Black Minorcas.

As before stated, in mentioning the abovenamed breeds or varieties it is not intended to detect from the merits of others. tract from the merits of others. And, again, they are within easy reach of the farmer at reasonable cost, while newer varieties are more difficult to obtain, are much higher in price, and not any more meritorious.

APIARY.

Handling Bees.

After procuring a stock of bees, it is essential to know how to handle them. To the practical hand it is no task to open a hive and go through it, but to the novice it looks like a great undertaking to open a hive with its many stingers. The secret, however, is this: Bees, when filled with honey, are not inclined to sting unless they are squeezed. To cause them to fill themselves with honey, it is only necessary to frighten them, and they will make a rush to save their most valuable property. Closing the entrance and rapping upon the side of the hive a few times, or blowing smoke into the entrance or down among them from the top, will make them fill themselves with honey and be docile. But the actions of the persons have much to do with it also, as it almost seems as if bees know anyone who is afraid of them. In going to a hive and opening it, make slow, deliberate mo-tions, and keep the hands from the face, unless put there slowly. Get a good bellows smoker to begin with, and fill it up with dry, rotten wood, approach the hive from the side, to be out of the way of the flying bees, and give one or two strong puffs at the entrance. Wait a minute or two for this to have effect, then move the cap, with as little jar as possible, take off the quilt or honey-board as carefully, blowing a little smoke as you do so, and give the bees a little time to fill themselves with honey. The bees will be seen with their heads stuck in the cells, lapping away for dear life. Then make slow motions, turn the frames over with as little jar as can be, and while looking at the combs. keep the breath from strikway of the flying bees, and give one or two strong looking at the combs, keep the breath from strik-ing the bees too much. Patience and practice will soon give the beginner confidence, but. above all, do not have too much smoke.—W. N. B in Farmer and Stockbreeder.

QUESTIONS AND ANSWERS.

[In order to make this department as useful as possible, parties enclosing stamped envelopes will receive answers by mall, 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.]

Legal.

Removal of Cornstalks from Rented Farm. O. W. G., Middlesex Co., Ont .: "Has a tenant a right to take away cornstalks from the farm he rents when the landlord objects, nothing being provided about it in the lease?" Yes.

Miscellaneous.

Solution for Spraying Potatoes. J. K. McI., Middlesex Co., Ont :- "Kindly let me know in your next issue the best solution for spraying potatoes to prevent blight and rot, and also when to apply it. Will it hurt potatoes to spray while in blossom?"

Potato blight or rot has long been known as one of the most serious and destructive potato

troubles. When the weather is warm and moist the disease spreads with great rapidity, so that an entire field may soon suffer from an attack. The first symptom of the malady is the browning of distinct areas upon the potato leaves. These may be small or extended over the entire leaflet. There is also soon formed on the under side of the disis also soon formed on the under side of the discolored parts a frostlike coating, which is composed of the summer spores and of the threads bearing them. The tubers of the plants thus attacked almost invariably rot. This disease, Phytophthora infestans, rarely attacks plants before the middle of July and sometimes not until late in August. The proper treatment is Bordeaux mixture, sprayed on at the first appearance of the blight, and two or three times later at intervals of one to three weeks, depending on the weather. one to three weeks, depending on the weather. The correct strength is 4 lbs. copper sulphate, 4 lbs. quicklime, and 50 gallons of water. To this may be added one-quarter pound of Paris green, if a treatment for bugs is needed. The crop being in blossom will not affect the usefulness of the spraying.]

Feeding Young Pigs. J. A. M., Prince Edward Island:-"Kindly give the best method of feeding thoroughbred pigs up the best method of reeding thoroughbred pigs up to 6 or 7 weeks old; wishing to feed them to great growth and heavy weights, consistent with good results as breeders. (a) The kind of feed, first to sow, how often? (b) The feed to litter, how often par day? Wearing pigs at 6 weeks would it at per day? Weaning pigs at 6 weeks, would it not be just as well to ship them as to keep a week or too longer after weaning at this period? My practice is to wear at 6 weeks, and keep the couple of illtice is to weak at 6 weeks, and keep the couple of in-doers a week or so longer on the sow. An answer to the feeding and care of high-priced pure-breds to many will be considered from so high an au-thority a great favor. What should such pigs thority a great favor. weigh at 6 weeks?"

The sow for the first three days after farrow ing should have only thin, warm drinks, such as kitchen swill with a little bran in it, after which her feed may be gradually increased in quantity and strength—shorts and ground oats or barley being given in milk and swill—till at two weeks she may have all she will eat up clean three times a day, and sow and pigs should be allowed to run out each day for exercise, and to eat grass or grit at pleasure.

The pigs at three weeks old may learn to drink
warm milk from a low, flat trough, placed in an warm milk from a low, hat trough, placed in an enclosure in the pen where they can go under the partition and help themselves. At four weeks they will take considerable milk in this way, and should will take considerable milk in this way, and should have it renewed at least three times a day. If weaned at six weeks, they should have warm milk five times a day for the first week, in small quantity, just what they will clean up each time. In a few days a little shorts and ground oats may be added to the milk, and increased in quantity gradually as they grow older, adding barley meal to the mixture, and they should not be closely confined, but have the run of a yard, or better, of a grass plot. In preparing for exhibition it is not unusual to give new milk, which, of course, is fatten ing; but pigs can be made to forge along rapidly on skim milk fed at blood heat, which need not require heating on a stove, but may be heated by adding hot water as a matter of convenience. If the pigs have learned to eat before weaning at six weeks old, and the distance is not more than a hundred miles or a day's run by express, it is as well to ship at that age as to keep them a week or two longer after weaning; but if the distance is such as to require a two or three days' journey, they will stand it better at eight to ten weeks of Our practice has been to wean the whole age. Our practice has been to wean the whole litter at once, but to let the sow with her litter once a day for two or three days, and we think there is less danger of injury to the sow's udder by this method, as each pig has its teat, and if one or this method, as each pig has its teat, and if one or two are left with the sow, they will probably only suck the teat they have been used to, while all will he secreting milk and some are liable to go wrong. Pigs that have been well nourished should weigh from 40 to 50 pounds at six weeks old.]

Creamery Problems.

A. NEILSON, York Co., Ont.:—"1. How many pounds of butter can be made from a gallon of cream containing 40% fat? 2. Give method of computing amount of butter that can be made from cream or milk when percentage of butter-fat is known.

[Cream containing 40% fat will weigh about 935] lbs. per gallon, and will therefore contain 3.84 lbs. butter-fat (93.5×40) . Allowing for slight loss of fat in the buttermilk, and for additions to the fat of water, salt, etc., when manufactured into butter, this 3.84 lbs. fat should make about 4.4 lbs. of butter (3.84"+15%) of 3.84=4.4). This 15% is usually known as the over-run or the amount of butter over and as the over-run or the amount of butter over and above the amount of fat. I have allowed the same per cent. of over-run for cream as I usually allow for milk. This is not absolutely accurate, as there is loss of fat in skim milk in the latter case (the milk), and not in the former (the cream), to be considered. It is, however, near enough for the purposes of this question.

2. An illustration will best do this: Pounds milk. Per Cent. of Fat. Pounds Fat. $8.75 (250 \times 3.5)$ 35 250

Pounds Fat. Pounds Butter. (8.75" + 15% of 8.75) 10.06 *Many do not know that 3.5 and 3.50 mean

exactly the same, and I have met men who were in great perplexity over this very matter.

I would say that while I have been able to make regularly 15% of over-run during winter months, in actual creamery work, I have never been able to actual creamery work, I have never been able to make as much of an over-run in summer months.

F. J. SLEIGHTHOLM.

Western Dairy School: Note.—We trust Mr. Sleightholm will, in a future issue, discuss and shed some light on this particular point, which is important to dairymen.— EDITOR.

Books on Dairy Cattle and Poultry. Z., York Co., Ont.:—"1. Can you tell me the publisher, date of publication and price of Dr. Linsley's "Jersey Cattle in America"? Any information as to the scope and character of the book would also be welcome. 2. Can you tell me anything of the scope character and practical value of would also be welcome. 2. Can you tell me anything of the scope, character and practical value of "The Jersey, Aiderney, and Guernsey Cow; Their History, Nature and Management," by Willis P. Hazard; Orange, Judd Co., \$1.50? 3. What is the best and most practical book on books swited to hazard; Orange, Judd Co., \$1.50? 3. What is the best and most practical book or books, suited to Ontario, on poultry keeping: (a) For a guide to raising pure-breds for sale as breeding and exhibition birds; (b) For producing poultry and (especially) eggs for maket on a fairly large scale? 4 Can valuable poultry be sent to distant shows without an attendant without undue risk?"

an attendant without undue risk?

[1. The date of Dr. Linsley's "Jersey Cattle in America" is 1885, and the publishers Burr Printing House, 18 Jacob St., New York. The price is not stated in the copy before us. It is a large volume of 702 pages, 8 x 11 inches, besides a general index of 40 pages, is profusely illustrated, containing no fewer than 70 well-executed portraits of famous animals of the breed, representing the different of 40 pages, is profusely illustrated, containing no fewer than 70 well-executed portraits of famous animals of the breed, representing the different types of the leading families as they are known in America. There are also about 60 other illustrations, including charts, drawings, diagrams, plans, and implements. It treats upon the history of Jersey cattle; the principles of breeding; dary farming and management of stock; the dairy; the Jersey in America, with butter records of cows up to date of publication, in divisions of one year, 30 days, and 7 days, respectively, the latter in groups, showing from 14 lbs. up to 46 lbs. 12; ozs. in a week. The scale of points for Jerseys, and the Guenon rescutcheon theory and other indications of superior milk production, together with treatises on feeds and feeding, manuring, draining, irrigation, barn building, etc., are also included. 2. This book is not in our library and we cannot give the information desired. 3. The Poultry Manual, by F. L. Sewell ton desired. 3. The Poultry Manual, by F. L. Sewell ton desired. 3. The Poultry Manual, by F. L. Sewell to Canadian conditions. Price 50 cents work suited to Canadian conditions. Price 50 cents at this office. There are other small booklets on the proper management of poultry, food, etc., but they apply more to southern and warmer latitudes. at this office. There are other small booklets on the proper management of poultry, food, etc., but they apply more to southern and warmer latitudes. The reports of the Ottawa and Guelph Experimental Stations give considerable information, although experimental and subject to modification from year to year. A regular series of articles, by a competent authority, is commenced in the Poultry Department of this issue of the FARMER'S ADVOCATE, and will authority, is commenced in the Poultry Department of this issue of the FARMER'S ADVOCATE, and will be continued till the whole ground of the subject is covered. 4. If the intending exhibitor is acquainted with the superintendent of the poultry department it is generally considered safe to consign birds to him with a request to have them properly cared for. It is customary for a number of exhibitors to send their birds in care of one attendant and divide the expense pro rata. As a rule exhibitors prefer to see their own birds placed and shown to heat see their own birds placed and shown to best advantage.

The Storing of Ice. H. J. D., Peterboro Co., Ont.:—"My ice house is built with double walls. The inside one is made of 2x4 inch scantling and sheeted. The space beof 2x4 inch scantling and sneeted. The space between is filled with sawdust. There is a space of two feet between the ceiling and the roof. I left a space of four inches between the ice and walls, which was filled with sawdust. There was also about a foot of sawdust beneath the ice and seven likely a character of the sawdust of the sa about a foot of sawdust beneath the ice and seven inches above it. There is a hole in either end of the building above the ice for ventilation. I put in sixty blocks of ice, and it was all gone by Aug. 4th. What is wrong with the ice house? What is best to pack between the blocks of ice (I used snow its watch) and is freely sawdust for neck. mixed with water), and is fresh sawdust for pack-ing necessary each year?"

[There are a few important points to remember in storing ice. The first one is to protect the ice from any currents of air touching its sides or bottom; another is to have perfect drainage, and a third is free circulation of air above. It is also imthird is free circulation of air above. It is also important that the ice be packed with the least possible space between the blocks. The spaces should be filled with smashed ice. It is well to put in the ice on a freezing day, so that the whole mass will be frozen together, and the space between the ice and walls should not be less than eight inches when sawdust is used. Fresh sawdust is not necessary so long as it is dry and not commencing to decay. It should be well packed down. The best covering to use is long straw, two feet deep, because when sawuse is long straw, two reet deep, because when saw-dust is removed to take out ice, warm portions from the top may be turned back on the ice, whereas straw is rolled back and replaced as before. Again, a deep covering of sawdust is apt to heat and thus melt the ice, and also when it becomes damp its insulating properties are in a measure destroyed. It sulating properties are in a measure destroyed. It would appear that the trouble has been lack of drainage, too little space between the ice and walls, the blocks not closely packed, too little covering above, and too little ventilation. It is highly important that the walls be perfectly insulated. A good floor is made by using twelve inches of cobble stones, covered with coarse gravel or sand. The top of that should be covered with not less than six inches of dry sawdust, which becomes a fairly good insulating layer.

Can a Breeder Do a Successful Business Without Exhibiting.

W. S., York Co., Ont:—"Is it possible to carry on a thoroughly successful business in the raising of choice dairy cattle, sheep, swine and poultry without exhibiting?"

[Yes, by keeping strictly first-class, up-to-date stock and advertising liberally in such a journal as the FARMER'S ADVOCATE, which circulates largely among the class of people who need such stock in all the Provinces of the Dominion and most of the all the Provinces of the Dominion and most of the States. Many of the most successful breeders in all these lines do not exhibit and yet find ready sale for all they have to dispose of at the best prices. Exhibiting is a good aid in advertising if you are among the largest winners, but it is expensive even if you win and more so if you don't, while to exhibit and not win is not a good advertisement, rather the reverse. Success in exhibiting depends largely on skill in preparing the animals for show. The best do not always win, owing, it may be, to lack of skill in preparation, but that fact need not and does not impair their usefulness for breeding purposes. We would not discourage exhibiting. We would gladly see many more in the field even if they showed only one or two "toppers," but if all the breeders of pure-bred stock brought out an average of five animals each no show ground in the Dominion could contain them.]

Saving Corn Fodder - Wheat for Light Soil, WM. WATSON, Nipissing District, Ont.:—"1. Will you please inform me through your valuable paper the best way to save corn for fodder without a silo? I was thinking of cutting it up with straw, but am doubtful of it keeping. 2. What is the best variety of fall wheat for light sandy loam?"

[1. A number of successful men who grow considerable areas of corn for fodder, and have not yet built a silo, succeed well in saving the fodder in good condition by allowing it to dry well in shocks in the field, and then storing it in small round stacks or standing it upright on a mow or scaffold. Another method is to mow it uncut with alternate layers of dry straw. Stacking, however, is our preference, and is done by planting a 15-foot pole in the ground, and building the sheaves round and round, butts out, and allowing the tops to extend past the pole 18 inches or more, according to the length of the corn. This is continued, going round and round, until the stack is 10, 12 or more feet high, when the last four or five bunches are placed with their tops up the pole and firmly tied, when the stack is finished. Care should be taken to fit in the bundles snugly when building, and if well finished the stack will keep the corn moist without mold, and with little waste from mice. It is well to start the stack on a foundation of old rails. 2. See C. A. Zavitz's article on winter wheat growing, [1. A number of successful men who grow conto start the stack on a foundation of old rails. 2. See C. A. Zavitz's article on winter wheat growing, page 378, August 15th, 1898, issue. Pride of Genesee and Imperial Amber are claimed by Mr. Zavitz to produce the longest straw of the best producing varieties of fall wheat grown over Ontario by members of the Agricultural and Experimental Union. Dawson's Golden Chaff stands ahead in point of yield in all soils, and is quite suitable for yield in all soils, and is quite suitable for either heavy or light soils.]

Winter Feed for Sheep.

SUSCRIBER, Montreal, Que.—"Would you kindly let me know the best winter food for ewes, and in what quantities? Would good Alsike clover be sufficient in itself, and what quantity will each ewe eat in six months?"

eat in six months?"

[Well saved, early cut red clover hay is considered the best single fodder for wintering sheep, and they will do well on it if given access to pure water and salt at will. In the case of breeding ewes that are to produce lambs early in the spring, a light feed of oats, say one pint each per day, will be useful in preparing the milk supply, but is not really necessary. Pea straw, if well saved and flail-threshed, makes very good sheep feed for one or two of the three meals in the day, or for one of the two meals. Many flocks of ewes are wintered entirely on pea straw, but a little grain should be added towards spring. A light feed of roots, turnips or mangels once a day helps to keep the sheep in good health and condition. First crop Alsike clover, early cut and well saved, will be sufficient if no early cut and well saved, will be sufficient if no other fodder is convenient, but a little variety is better, and if you have pea straw it makes an agreeable change. Six pounds of clover hay per day for each sheep is considered liberal feeding, and if confined to that fodder alone would probably be eaten without waste.]

Veterinary.

Epizootic Catarrh.

WATERSTON & McEachern, Wetaskiwin, Alta. "1. Last spring most of the horses in this part were troubled with a disease resembling distemper, but in very few cases was there any swelling at the throat, but in all cases there was severe coughing and a yellowish discharge from the nose. Frequently when coughing wind was discharged from quently when coughing with was discussed the bowels. In some cases the cough still clings to the bowels. In some cases and the remedy? 2. them. What is the disease, and the remedy? Our young pigs when about a month old swelled at

point of sheath about as large as a hen's egg, and are still in the same condition at four months. What is the trouble, preventive, and cure?"

What is the trouble, preventive, and cure?"

[1. Treatment in the acute stage: Place the animal or animals in a clean, comfortable and well-ventilated stable. If the weather is cold or chilly, cover the body with a blanket, and, in some cases, much benefit may be derived from bandaging the legs. Give morning and night until the symptoms disappear: nitrate of potassium, two drams; chlorate of potassium, one dram; powdered liquorice, four drams; digitalis, ten grains. The above may be given in a small warm bran mash, or, if refused in that way, place far back on the tongue with a tablespoon. If there are signs of sore throat, apply mustard externally. If cough remains after acute mustard externally. If cough remains after acute symptoms have disappeared, give the following: Barbadoes aloes, two drams; camphor, one dram; powdered opium and digitalis, of each fifteen grains; powdered liquorice and treacle, sufficient to form a ball. Give one every day for three or four days. ball. Give one every day for three or four days and then one every alternate day for two weeks. 2. If your pigs are otherwise in good health, I would advise you to inject the sheath once daily with sulphate of zinc, two drams; fluid extract of belladonna, six drams; water, one quart. the swelling externally twice a week with tincture of iodine. Keep pen clean.

W. A. DUNBAR, V. S.]

SHOWS AND SHOWING.

Exhibitions for 1808.

	yo.
Trans-Mississippi, Omaha	. June 1 to Nov. 1.
Toronto Industrial	ug. 29 to Sept. 10.
Minnesota, Hamline	Sept. 5 to 10.
Eastern, Sherbrooke	Sept. 5 to 10.
Metcalfe	Sent 6 and 7
Metcalle	Comt 6 to 9
Morrisburg	sept. 0 to 5.
London Western	Sept. 8 to 17.
Indiana, Indianapolis	Sept. 12 to 17.
Onebec	Sept. 12 to 21.
QuebecPrescott, Vankleek Hill	Sept. 13 to 15.
Richmond	Sept. 13 to 15.
New Brunswick, St. John	Sept 13 to 93
New Drunswick, St. John	Cant 14 and 15
Bay of Quinte. Belleville	Sept. 14 and 15
Northern, Walkerton	Sept. 14 and 15.
Renfrew	Sept. 15 and 16.
Bowmanville	Sept. 15 and 16.
Woodville	Sept. 15 and 16.
Ottawa Central	Sept. 16 to 24.
Brantford	Sept. 17 to 22
Wisconsin, Milwaukee	Sept 10 to 99
vv isconsin, Miliwaukee	Cont 00 to 01
Napanee	Sept. 20 to 21.
Northern, Collingwood	Sept 20 to 23.
Peninsular, Chatham	Sept. 20 to 22.
Prescott, Prescott	Sept. 20 to 22.
St. Thomas	Sept 20 to 22.
Straffordville	Sept. 21
North Bay, Ont	Sent 91 and 99
North Day, Ont	Comt Ol to 09
Lanark, South Perth	Sept. 21 to 23.
Stratford	Sept. 22 and 23.
Lindsay	Sept. 22 to 24.
Halifax. West Williams and Parkhill, Parkhill.	Sept. 22 to 29.
Wast Williams and Donkhill Donkhill	/ i oo 1 om
West Williams and farkilli, farkilli.	Sept. 26 and 27.
I Illinois Springfield	Sept. 26 to Oct. 1.
I Illinois Springfield	Sept. 26 to Oct. 1.
Illinois, Springfield	Sept. 26 to Oct. 1.
Illinois, Springfield Shedden Cavuga	Sept. 26 to Oct. 1. Sept. 27. Sept. 27 and 28.
Illinois, Springfield Shedden Cayuga. Beaverton	Sept. 26 to Oct. 1. Sept. 27. Sept. 27 and 28. Sept. 27 and 28.
Illinois, Springfield Shedden Cayuga. Beaverton Lanark. Almonte	Sept. 26 to Oct. 1. Sept. 27. Sept. 27 and 28. Sept. 27 and 28. Sept. 27 to 29.
Illinois, Springfield Shedden Cayuga. Beaverten Lanark, Almonte Centre Bruce, Paisley	Sept. 26 to Oct. 1. Sept. 27. Sept. 27 and 28. Sept. 27 and 28. Sept. 27 to 29. Sept. 27 and 28.
Illinois, Springfield Shedden Cayuga. Beaverton Lanark, Almonte Centre Bruce, Paisley Northwestern, Goderich.	Sept. 26 to Oct. 1Sept. 27Sept. 27 and 28Sept. 27 to 29Sept. 27 and 28Sept. 27 to 29Sept. 27 to 29.
Illinois, Springfield Shedden Cayuga. Beaverton Lanark, Almonte Centre Bruce, Paisley Northwestern, Goderich.	Sept. 26 to Oct. 1Sept. 27Sept. 27 and 28Sept. 27 to 29Sept. 27 and 28Sept. 27 to 29Sept. 27 to 29.
Illinois, Springfield Shedden Cayuga. Beaverton Lanark, Almonte Centre Bruce, Paisley Northwestern, Goderich.	Sept. 26 to Oct. 1Sept. 27Sept. 27 and 28Sept. 27 to 29Sept. 27 and 28Sept. 27 to 29Sept. 27 to 29.
Illinois, Springfield Shedden Cayuga. Beaverton Lanark, Almonte Centre Bruce, Paisley Northwestern, Goderich. Peel, Brampton Prince Edward, Picton	Sept. 26 to Oct. 1. Sept. 27. Sept. 27 and 28. Sept. 27 and 28. Sept. 27 to 29. Sept. 27 to 29. Sept. 27 to 29. Sept. 28 and 29. Sept. 28 and 29.
Illinois, Springfield Shedden Cayuga. Beaverton Lanark, Almonte Centre Bruce, Paisley Northwestern, Goderich. Peel, Brampton Prince Edward, Picton Barrie	Sept. 26 to Oct. 1. Sept. 27 and 28. Sept. 27 and 28. Sept. 27 and 28. Sept. 27 to 29. Sept. 27 and 28. Sept. 27 and 28. Sept. 27 and 29. Sept. 28 and 29. Sept. 28 to 30.
Illinois, Springfield Shedden Cayuga. Beaverton Lanark, Almonte Centre Bruce, Paisley Northwestern, Goderich. Peel, Brampton Prince Edward, Picton Barrie. Dalheusie. Ontario.	Sept. 26 to Oct. 1. Sept. 27. Sept. 27 and 28. Sept. 27 and 28. Sept. 27 to 29. Sept. 27 to 29. Sept. 27 to 29. Sept. 28 and 29. Sept. 28 and 29. Sept. 28 to 30. Sept. 29 and 30.
Illinois, Springfield Shedden Cayuga. Beaverton Lanark, Almonte Centre Bruce, Paisley Northwestern, Goderich. Peel, Brampton Prince Edward, Picton Barrie. Dalheusie. Ontario.	Sept. 26 to Oct. 1. Sept. 27. Sept. 27 and 28. Sept. 27 and 28. Sept. 27 to 29. Sept. 27 to 29. Sept. 27 to 29. Sept. 28 and 29. Sept. 28 and 29. Sept. 28 to 30. Sept. 29 and 30.
Illinois, Springfield Shedden Cayuga. Beaverten Lanark, Almonte Centre Bruce, Paisley Northwestern, Goderich. Peel, Brampton Prince Edward, Picton Barrie Dalheusie, Ontario Oxford, Kempville Elgin West, Wallacetown	Sept. 26 to Oct. 1. Sept. 27. Sept. 27 and 28. Sept. 27 and 28. Sept. 27 to 29. Sept. 27 to 29. Sept. 27 to 29. Sept. 28 and 29. Sept. 28 and 29. Sept. 28 and 30. Sept. 29 and 30. Sept. 29 and 30. Sept. 29 and 30.
Illinois, Springfield Shedden Cayuga. Beaverten Lanark, Almonte Centre Bruce, Paisley Northwestern, Goderich. Peel, Brampton Prince Edward, Picton Barrie Dalheusie, Ontario Oxford, Kempville Elgin West, Wallacetown	Sept. 26 to Oct. 1. Sept. 27. Sept. 27 and 28. Sept. 27 and 28. Sept. 27 to 29. Sept. 27 to 29. Sept. 27 to 29. Sept. 28 and 29. Sept. 28 and 29. Sept. 28 and 30. Sept. 29 and 30. Sept. 29 and 30. Sept. 29 and 30.
Illinois, Springfield Shedden Cayuga. Beaverton Lanark, Almonte Centre Bruce, Paisley Northwestern, Goderich. Peel, Brampton Prince Edward, Picton Barrie. Dalheusie, Ontario Oxford, Kempville Elgin West, Wallacetown Galt. Ontario and Durham. Whitby	Sept. 26 to Oct. 1. Sept. 27 and 28. Sept. 27 and 28. Sept. 27 and 28. Sept. 27 to 29. Sept. 27 to 29. Sept. 27 and 28. Sept. 27 to 29. Sept. 28 and 29. Sept. 28 and 29. Sept. 28 and 30. Sept. 29 and 30.
Illinois, Springfield Shedden Cayuga. Beaverton Lanark, Almonte Centre Bruce, Paisley Northwestern, Goderich. Peel, Brampton Prince Edward, Picton Barrie. Dalheusie, Ontario Oxford, Kempville. Elgin West, Wallacetown Galt Ontario and Durham, Whitby Paterboro, West Peterboro.	Sept. 26 to Oct. 1. Sept. 27 and 28. Sept. 27 and 28. Sept. 27 and 28. Sept. 27 to 29. Sept. 27 to 29. Sept. 27 to 29. Sept. 28 and 29. Sept. 28 and 29. Sept. 28 and 30. Sept. 29 and 30.
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Toronto's Great Exhibition.

ADMITTEDLY THE MOST VARIED, ATTRACTIVE AND COMPRE-HENSIVE ANNUAL FAIR IN THE WORLD.

ing issues of the FARMER'S ADVOCATE. - EDITOR.]

HENSIVE ANNUAL FAIR IN THE WORLD.

On Monday, the 29th ult., Canada's Great Exposition and Industrial Fair opened at Toronto. It is no idle boast to say that the arrangements made for this year guaranteed before that the Exhibition would be easily the best ever held. Owing to the war, amusement matters have been very quiet in the United States. As a consequence the management have been able to secure special features that otherwise could not have been obtained. The exhibits are of a great deal better quality and more varied than usual. For the first time manufacturing establishments of both France and Great Britain have sent over collections of goods especially made for this purpose, included in them being several recent scientific inventions of a revolutionary nature. In addition to the varied attractions, an exhibit of horseless carriages is a feature of interest while the bands of music number a score, including three or four from the United States. The usual dog show will be held next week, the entries for which are well up to the average.

The Ottawa Exposition.

The Ottawa Exposition.

The Capital City is always an interesting place to visit, but at no time can a trip there be more profitable and interesting than during the Exhibition, which is always conducted with the one object of giving the greatest possible satisfaction to its patrons. The management are aware that the highest sort of success does not end with securing the greatest financial gains, but in making every branch of the Exhibition as complete as possible. Another study of the Secretary and Board of Directors is to accommodate every exhibitor in such a way as to call forth the highest commendation and goodwill, which not only militates in favor of the present show by reason of their hearty co-operation, but it also insures a liberal future patronage. The show coming as it it does after Toronto and London will have a large proportion of the best animals exhibited at those two events as well as a grand show of eastern stock, so that no one need fear disappointment in the character of either horses, cattle, sheep or swine, that will exhibit there from Sept. 19th to 24th. The industrial departments promise to be full in every line and strictly modern, as do also the agricultural, horticultural, dairy, apiary, and numerous other lines. The exhibit of economic minerals will be especially representative and interesting. These alone are worthy of several days' perusal, but as heretofore pointed out in these columns, the entertainment side of the exhibition will be well supported, and carried out during the afternoons and evenings when judging of exhibits is not in progress.

Among the many special attractions, none will be more

the exhibiton will be well supported the afternoons and evenings when judging of exhibits is not in progress.

Among the many special attractions, none will be more interesting than the exhibit of Irish cattle to be made by Hon. Senator G. A. Drummond. The cattle are in a class never exhibited before in Canada. The bull, "Bantam," was bred by his Royal Highness the Prince of Wales. The herd will be given a special building, which will be placarded in such a sway as to attract attention. Senator Drummond will also show a number of imported Southdown sheep. The celebrated "Sherman's Band," of Burlington, Vt., is expected along with a big crowd of excursionists. The band had a tempting offer to accompany an Oddfellows' excursion to Boston for four days, but preferred Ottawa. The R. H. Buchanan Co., of Montreal, are going to exhibit hot air pumping engines this year. A special position will be assigned the firm to give every advantage for showing the capacity of the pumps. Work on the new building is being pushed rapidly and it will be completed in ample time for the exhibition. The number of entries to date far exceeds that of any previous year.

The Success of the Winnipeg Industrial.

From the manager's statement of the finances of the Exhibition Association, as reported to a recent board meeting, 18,000 people visited Winnipeg during exhibition week, against 10,000 in 97, about 7,000 having come in on the excursions from Minnesota and Dakota, against 4,000 a year ago. The total receipts from all sources was about \$46,000. After all estimated disbursements up to Ootober 31st have been met there will be a surplus of over \$1.500 to the good. The increase in receipts has been 300 per cent. in three years, 100 per cent. per annum.

MARKETS.

FARM GOSSIP.

Growth of Canadian Dairying. Returns prepared by Mr. Geo. Johnston, Dominion Statistician, Ottawa, show that there are in Canada 559 creameries, 2,556 cheese factories, and 203 factories producing both butter and cheese. The census of 1871 showed that there were in the Dominion then 353 cheese factories. The census of 1881 gave 709 cheese factories, that of 1891 gave 1.565, and the returns of 1897-98 show that, including the 203, there are 2,759 factories producing cheese. Comparing 1897 with 1871, the return of the number of factories does not show all the development there has been. The average output of 1891 was valued at \$6.250 per factory, and in 1871 it was \$4,570. The average value per factory for 1897-98 Mr Johnston estimates at \$5,570, or about \$1,000 more than in 1871, but \$680 less than in 1891, giving an output in 1897 of about \$15,800,000, against an output in 1891 of \$9,780,000; in 1881, of \$5,460,000, and in 1871, of \$1,602,000. In 1871 the Dominion had no creameries for the manufacture of butter It was all homemade. By 1881 there were 46 creameries in the Dominion, all but one in Ontario and Quebec By 1891 these had increased to 170, and by 1898 59 creameries. In 1891 the output per factory At the same rate the output in 1897-98 would was \$5,400 be about \$3,018,600, an increase of over \$2,000,000. Since 1891 Nova Scotia has increased the number of its creameries and cheese factories from 10 to 56; Ontario, from 638 to 1,317; Prince Edward Island, from 4 to 35; Manitoba, from 31 to 66; the Northwest Territories, from 7 to 32, and British Columbia, from 1 to 4.

Oxford County, Ont.

We had a very remarkable oat and pea harvest; so much rain some of the oats in our neighborhood were two weeks in the stook, and much of them were taken in in very poor condition. The straw is not very heavy, but is remarkably well loaded with grain. Where the sheaves were made small and slackly tied they seemed to dry out in about half the time that larger, tight-tied sheaves took to dry. So we made a resolve that if spared to another harvest we would make smaller oat sheaves to provide for the contingency of wet weather. Peas are apparently a very variable crop; the straw was short, just about 1½ loads per acre, but beautifully loaded and a fine sample of grain. Threshing is going on apace, but much of the grain is damp and some wet; most of it is turning out well. Barley, in many instances, is said to be a splendid crop and fine sample. Wheat in-many to be a splendid crop and fine sample. Wheat, in-many cases, is a little shrunken, but grain generally will be considerably above the average. Corn is doing remarkably well and is at least two weeks earlier than usual and will be far above the average. Potatoes are also doing well, and in most instances are still quite green. Roots are looking firstclass; by loooking at a field of turnips it is often not easy to say which way the drills 1un. Pastures, on account of the frequent rains, are keeping green and fresh, and the milk is not falling off as much as usual at this season of the year, although very few farmers have yet commenced to feed their cows. Some pieces of rape sowed after fall wheat are doing very well and will in due course be a nice bite for lambs, pigs and young cattle; but you know it is strictly forbidden to factory cows. The flax has proved a very good crop, although the acreage has not been as large as usual. Already considerable quantities have been threshed and spread out in the fields and "retted" and hauled into the barn; this has been made possible thus early by the very frequent rains and warm weather. The warm weather has

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been very hard on the cheese, as very much fat has run out been very naru on the cheese, as very much lat has run out both in the press and in the curing room, where the latter could not be kept cool enough. We are now mostly busy getting ready for fall wheat. It is now generally allowed that in order to make this crop a success it should get a little manure, or, failing that, a little taste of fertilizer. Apples are not going to be a heavy crop. The price of porkers has commenced to decline; and the cheese keeps low, and wheat is also down.

Kent County, Ont.

The cool, damp weather which we have experienced for the last week has given the pastures a good start. But this week has opened dry and hot; splendid weather for bean harvesting, which is just commencing. This crop will be away below the average, and in many places is badly affected with the rust. Corn is very heavy and there is a large acreage. Very few are saving the second crop of clover for seed; it is being plowed under for wheat; quite a different programme from last year. Scores of apple buyers are programme from last year. Scores of apple buyers are scouring the country in every direction after the heavy crop which fortune has favored us with. They are making all sorts of offers; the latest is \$1.25 per bbl, they to furnish and draw the barrels, and board and pack the apples themselves. Evaporating factories are springing up all over; two new ones are starting in Chatham, which makes three operating there. Berry season is over, and a heavy, early crop of clingstone peaches is being marketed, selling at from 15c. to 25c. per peck basket. The Early Rivers seems the best sallar. The fracestone reaches will be a seem to be the sallar of the fracestone reaches will be a seem to be the sallar. The freestone peaches will be a lighter crop than expected As a rule, farm work in this section is well advanced, and should the favorable weather continue wheat seeding will be finished much earlier than usual.

Manitoba Crops.

The last Manitoba Government crop report, just issued puts the total wheat yield at 25,913,155 bushels, average puts the total wheat yield at 25,315,195 bushels, average 17.41 bushels per acre; oats, 18,029,944 bushels, average 35.02; barley, 4,611,314 bushels, average 29 17; flax, 350,000 bushels, average 14; rye, 79,950, average 25; peas, 33,474 bushels, average 21, or a grand total of about 50,000,000 bushels.

Northwestern Manitoba.

Owing to the backward weather of the past three weeks the grain is coming in slowly, but the crops are first-class. We are positive that we have fields that will reach the 50 bushels to the acre mark in this district. Oats are an excellent crop. All kinds of root crops promise well. The season continues fine for stock, pasture being first-class. season continues the for stock, party, 17c. per lb. A good Butter—dairy, 12½c. per lb.; creamery, 17c. per lb. H. J. demand for farm lands. Neepawa.

Nova Scotia.

We are having the worst having season on record for years. This week we have just had two afternoons with any sun at all. Haying is just about half through. Crops above the average.

Truro, N. S., Aug. 13th.

Mr. John Gregory, Antigonishe Co., N. S., writes on Aug. 27th: "We are having terrible weather, nothing but rain. Much hay damaged. Rust hurting wheat."

Toronto Markets.

The Export Cattle trade is not in very good shape. The space on board steamships is much reduced in price. The class of cattle coming forward is better in quality, and quite equal to the demand. The better class sold early at \$4.60, equal to the demand. The better class sold early at \$4.60, equal to the demand on well-finished stock. Those that have been stall-fed during the winter and finished on pasture in demand. Joseph Gould bought two carloads at \$4.25 to \$4.40 per cent.

owt. Butchers' Cattle.—The poorer quality of cattle were much Butchers' Cattle.—The poorer quality of cattle were much easier in price, owing to scarcity of pasture. Choice picked lots sold at \$1.15 per cwt. Loads of good cattle at \$3.80 to \$4 per cwt. Mr. Wm. Levack bought five loads mixed exporters and butchers' at prices ranging from \$3.30 to \$4.15 per cwt. Mr. A. W. Maybee bought for the Abattoir four loads of Mr. A. W. Maybee bought for the Abattoir four loads of best class, 1,350 lbs. average, at from \$4 to \$4.10 per cwt. Mr. T. offer, at prices ranging from \$3.60 to \$4.12 per cwt. Mr. T. H. Reynold brought on the market one of the finest Shorthorns we have seen lately, weighing 2,270 lbs., sold for \$102, at the rate of \$4.50 per cwt.

horns we have seen lately, weighing 2,270 lbs., sold for \$102, at the rate of \$4.50 per cwt.

Stockers.—Trade in Buffalo stockers was inclined to be slow, and prices ranged from \$3.25 to \$3.50 per cwt.; about slow, and prices ranged from \$3.25 to \$3.50 per cwt.; about four loads taken. A. M. Buck purchased the pick of the

four loads taken. A. M. Buck purchased the pick of the market at \$3.50 per cwt.

Feeders.—Few choice feederson offer; sold at \$3.75 per cwt.

Feeders.—Few choice feederson offer. J. W. Dunn bought Sheep.—About 1,200 sheep on offer. J. W. Dunn bought 200 at \$3.25 to \$3 45 per cwt. for ewes and wethers, and \$2.75 for bucks. Good shipping sheep wanted.

Lambs.—Spring lambe in fair demand; extra good quality brought \$4 per head, or at \$4.25 to \$1.75 per cwt.

Calves in better sunply; average quality sold at from \$3 Calves in better sunply; average quality sold at from \$3 to \$6 per head; \$1.50 to \$1.75 per cwt.. live weight.

Milk Cows.—Only a very few good milkers on sale. Prices weaker, at from \$25 to \$40 per head; about one dozen head on sale.

weaker, at from \$25 to \$40 per head; about one dozen head on sale.

Hogs.—Messrs. Davies rejected two loads of corn-fed hogs Hogs.—Messrs. Davies rejected two loads of corn-fed hogs hogs, 40 were marked as "looking" to be corn-fed and over 30 hogs, 40 were marked as "looking" to be corn-fed and over 30 proved to be soft and unsuitable for bacon purposes. We are proved to be soft and unsuitable for bacon purposes. We are proved to be soft and unsuitable for bacon purposes. We are proved to be soft and unsuitable for bacon purposes. We are proved to be soft and unsuitable for bacon purposes. We are proved to be soft and unsuitable for bacon purposes. We are called the soft and the proved the soft and the soft and

tiful than usual.

Hides.—No. 1 green hides are in request at 9c. per lb., and cured at 9kc. per lb.

cured at 94c. per lb.

Sheepskins are quoted at \$1 to \$1.25. Lamb skins at 50c.
each. Calf skins at 10c. per lb.

Eggs.—The receipts are not large; there is a good demand
for fresh gathered, and firm at 12c. to 12½c. per dozen.

Toronto. August 26th. 1898.

Hogs Decline.—On August 28th hog prices fell off to the

following: For best, \$4.75; thick fat, \$4.50; stores, \$4; sows, \$3; and stags, \$2. The reason assigned is that certain packing houses are closed down for improvement and enlargement of Toronto, August 28th, 1898.

Montreal Markets.

Cattle.—There is very little of note in the local market, receipts being sufficiently light to permit of all offerings being absorbed. The quantity of good cattle suitable for export has been on the light side, but all that are of any use are taken for that purpose. The price is hardly firm enough to give as a quotation, running from itc., and sometimes even a shade lower, up to itc. the last being paid for a few head of very nice stock on Monday last. Yesterday's market was rather nice stock on Monday last. Yesterday's market was rather the exception to the above order of things, as the run of cattle was very heavy, the receipts being close to 900—from 300 to 400 more than has lately been on the market on any one day. Good beeves, however, held their own, a number of the best making itc. per lb. They, of course, were not equal in quality to those quoted above at itc. Yesterday's heavy receipts caused a heavy sag in butchers' cattle, and all drovers who had many of that class on hand found it difficult to work them off without quite a loss. On this market common stock sold as low as 2c.; ordinary to fair, 2jc. to 3jc.; medium to good. 3jc. to ic. per lb.

Sheep.—Good large sheep for export are in fair demand, and quite a number more than are offering would find a ready market. Sales range from 3jc. to 3jc. per lb., according to quality and number of bucks in the bunch.

Good Lambs are still scarce, and are stiffly held, choice selling up to 3i each, and down, according to grade, to \$2.50 selling up to 3i each, and down, according to grade, to \$2.50 selling up to 3i each, and down, according to grade, to \$2.50 selling up to 3i each, and down, according to grade, to \$2.50 selling up to 3i each, and down, according to grade, to \$2.50 selling up to 3i each, and down, according to grade, to \$2.50 selling up to 3i each.

Stock Shipments.

From a variety of causes, shipments of cattle for Montreal continue light, low markets in Britain and higher prices here than the state of the market will allow being the chief factors in keeping exports below a normal level. Were it not that freights are low and feed much lower than it has been for a number of years, exporters would be compelled to cease shipping. The following table of shipments, with comparative figures, will give some idea of the standing of this season's shipments:

London Liverpool Bristol. Glasgow.	380	152 1,180	46 37 47 71
Total for week "	3,616	1,332 1,658 1,390 11,073 25,142	201 109 373 4,099 5,631

The Montreal Horse Market.

Owing to the great difficulty buyers have in getting horses in the country there is very little doing in this market, most of the shipments going forward being from Chicago, one-third, if not a few more, of last week's 200 being States horses. It would be practically useless to furnish quotations of the standing of the market just at present, as the range is so wide on the few horses that are sold in this market. Indications point to a revival within the next couple of weeks, and we look for a fair fall trade.

British Markets.

Cables gave the market as unchanged from last week, but sales of a few lots showed a slight gain on the previous week's sales, which were doubtless due to the better class of stock sold. Sinking the offal, States steers made 10\(\frac{1}{2}\)o.; Canadians, 10c.; Argentine

Live Stock Exports.

Live stock exports for the two weeks ending Wednesday, August 24th, as reported by R. Bickerdike, of the Live Stock Exchange, Montreal, to London, Liverpool, Bristol, Glasgow, Manchester, and Newcastle, were 8,079 cattle and 4,279 sheep.

Buffalo Markets.

Sheep and Lambs.—Offerings are being marketed more freely, and trade has ruled about steady on the basis of \$5.65 for good fat, rather bucky grades, with choice ewe and weather lambs salable at \$6. We do not look for any higher prices—in fact, think prices will gradually drift lower higher prices—although we may occasionally have a as season advances, although we may occasionally have a spring in prices due to light receipts. From all appearances farmers are neglecting the lambs, and there are more bucks coming than usual. When receipts are liberal and market is overstocked they are badly discriminated against. There is a good demand for good ewes at \$4.25. Veal calves in good request at 650 to 70.

East Buffalo, Aug. 25th, 1898.

Chatty Stock Letter from Chicago. Following are the current and comparative prices for the various grades of live stock:—

1		_	-		_ "			10	97.	18	m	
CATTLE.	Extreme	P	rio	8	h-	84	ro.			24		
CATTLE	24	80	to	5	60	85	50	\$ 5				
1500 lbs. up		an	01	Ä	75	5	65	5	50		8	
1500 lbs. up		90		ž	70		50	- 5	30	4	6	5 I
1350 @ 1500 1200 @ 1350	4	30	to	ō	10		35		15		5	
											5	
1090 @ 1300.	3	85	to	5	30		20		00			
1050 @ 1300 900 @ 1050	4	10	to	5	50	5	40		10		6	
						4	70	4	75 '		8	
						5	00	4	50	- 4	-2	0
Fat cows and heifers	3	90	w	Э	10		00	-	-			-
The state of the s												
Hogs.		60	+-	A	05	4	05	4	05			
Hogs.		00	w	*	071		10		05	3	1	35
									15			35
Heavy	3	55	to	4	024	. 4	$02\frac{1}{2}$					80
Pigs		2 75	i to	3	95	3	90	9	121	- 0	, ,	,,,
Pigs												
						4	75	4	25	3	4 5	50
		3 00	to	4	10				00			35
Western		3 2	to	4	50		50			_		
Texas		3 80) to	4	30		12		25			• • • 1
Texas		9 54) to		30	6	65		50	- 5	,	75

is a great cash demand for hog products, and also that yellow fever rather increases than lessens the demand for hog products. Your Uncle Phil's talks to the public through the newspaper men and his actions through his hog buyers don't newspaper men and his actions through his hog buyers don't newspaper men and his actions through his hog buyers don't newspaper men and sometimes the smart ones say, always seem to agree, and sometimes the smart ones say, "He's fooling thee." That's so, but they can't seem to tell when he's fooling and when he's giving it to 'em straight. It is part of the business of a great trader to keep the public guessing.

when he's fooling and when he's giving it to 'em straight. It is part of the business of a great trader to keep the public guessing.

Here is an interesting story of the ups and downs of a natural-born board of trade speculator. The last of the Cudahy notes given in 1893 as the result of the panic of that year overtaking the Fairbank-Cudahy lard deal were paid at year overtaking the Fairbank-Cudahy lard deal were paid at year overtaking the Fairbank-Cudahy lard deal were paid at the Corn Exchange National Bank. The amount was \$386,000. When John Cudahy failed he owed \$1,550,000, and arranged with his creditors to pay 25 per cent. in one year, 25 per cent. in three years, and 50 per cent. in five years. A half dozen in three years, and 50 per cent. in five years. A half dozen Board of Trade failures were caused by the Cudahy-Fairbank collapse. The creditors of all these will beceft, for these firms, dragged down at that time, made prompt settlements with their creditors, and also turned over their Cudahy claims to be liquidated as the notes were paid. John Cudahy, besides to be liquidated as the notes were paid. John Cudahy, besides liquidating this indebtodness of \$1,500,000 in the past five years, is supposed to have added \$500,000 to the estate he had at the time of his failure, so that he has resumed his rank as a millionaire. Where there is one man who can abcomplish such phenomenal results there are ten thousand who would smake utter and hopeless failures out of their attempts to rise from such a collapse. On the memorable day when that failure occurred the price of live hogs at Chicago dropped \$1 per 100 lbs., and there was a sympathetic break of 50c, per 100 lbs. and there was a sympathetic break of 50c, per 100 lbs. and there was a sympathetic break of 50c, per 100 lbs. and there was a sympathetic break of 50c, per 100 lbs. and there was a sympathetic break of 50c, per 100 lbs. and there was a sympathetic break of 50c, per 100 lbs. and there was a sympathetic break of 50c, per 100 lbs. and there was a s

BOOK TABLE

The New Ontario Agricultural Text-book.

AGRICULTURE," by Chas. C. James, M. A., Deputy Minister of Agriculture for Ontario. formerly Professor of Chemistry at the Ontario. Agricultural College. This book may be used as a text-book in any high school or public school in Ontario if so ordered by a resolution of the Trustees. Publisher, Geo. N. Morang, Toronto. Price, 20 cents.

This work is a long advance upon any agricultural textbook we have heretofore seen, though judged by modern pedagogic ideas of science teaching and the most approved way in which chemistry and physics, for example, are now presented in Ontario high schools, it is more an informing than a teaching book; the principle of the latter being that the child learns to do (and know) by doing. The design is to train his faculties for efficient service in observing and thinking rather than to fill his mind with facts and technical terms. Beginning, naturally, with the seed, we find seven chapters on "The Plant"; three on "The Soil"; nine on "The Crops of the Field," including weeds, in ects, and plant diseases; six on "The Garden, Orchard and Vineyard"; ten on "Live Stock and Dairying"; one each on "Bees," "Birds," "Forestry," "Roads," and the "Rural Home"; with an appendix giving lists of trees, shrubs, weeds, and spraying mixtures. Its 200 modest pages contain no waste space, and, barring possibly the appendix, and such as contain the tabulated parts of horses and cattle, there is hardly what even the general reader could call a dull page in the book. The admirable character of the book in that respect is bound to attract widespread and favorable attention. It is not a mere compilation of old materials hurriedly put together. Even a casual reading will show that infinite care has been bestowed upon its will show that infinite care has been bestowed upon its preparation. In an easy, interesting style it leads the reader on from natural objects and processes that he sees, such as the growing of a handful of oats scattered in the soil, to the how and the why. Here and there useful illustrations are used with good effect. Hints are given boys and girls how to make collections of plants, weeds and insects, forming little home museums that will both delight and instruct. The author does not profess to go exhaustively into the subjects involved, but rather to deal with simple first principles. In a field so vast it would be impossible to do otherwise. As an index of his method we would sible to do otherwise. As an index of his method we would note that towards the end of many chapters he weaves in a few suggestive questions the answers to which draw out from the scholar the salient points which he has grasped in the portion just studied. While designed and written as a text-book for use in the 4th and 5th public school forms, and intended to train the faculties and lead the student into a knowledge of the science as distinguished from the art of agriculture, the author has evidently had, to some extent, the farmer and his actual operations in his mind. As the reader would infer from the outline of the contents we have already given, the book deals with the formation (geology) already given, the book deals with the formation (geology) and treatment of soils, plant life (botany), insects (entomology), the animal body (physiology), the composition of things (chemistry), bacteriology, etc., all of which sciences have bearing upon practical agriculture, so that the farmer can read it with interest and advantage. The departmental can read it with interest and advantage. The departmental regulation puts the book, temporarily at least, in a merely tentative position, leaving the subject optional with boards of trustees. If the Minister of Education is sufficiently seized of the importance of the subject and the merits of the book to say that the latter may be used, he should go further and make it obligatory in the rural schools at least. This would give the subject a proper status, and prevent local indifference and trouble. If made compulsory, it would, we presume, be prescribed by chapters or sections. The measure of success attending it, and the ultimate benefits, will then depend upon the teachers and the training they have received for their

The Ontario Agricultural College will be repreented at the Industrial Exhibition, August 30th to September 9th. Mr. Zavitz, Mr. Jarvis, and Prof. Dean will all make exhibits, and Mr. Day will also be there conducting a dairy test. Mr. G. A. Putnam will be present at the tent of the Superintendent of Farmers' Institutes, to give information concerning the College.



MRS. GREENLEAF'S NERVES.

A STORY OF NERVES AND NONSENSE.

"I've a good mind to get nervous myself," said Mrr. Greenleaf as the looked around the kitchen, filled from side to side with tools, pieces of boards, milt palls, and all those odds and ends, doar to a farmer's heart (if not his wife's), to be found in the eutsched of ul-colored in the first the hoot piece, and these states of the day crying to fix the hoot piece, and these said her was no nervous he must leave it for a spell, so I've got, all these things to pied up and them get cupper. He won't be too nervous to eat suppor, I'll bet," she added grimly. Sliss Greenleaf was a well-to-do farmer living in a large nouse on a hill in Wilton. The farm itself sloped gently away toward the river, glimpses of which could be seen between the tail maples from the back windows. Mr. Greenleaf had been a hard-working, successful man till a year or so aco, when he began to shun work and say he shouldn't live long, his health was broken down. "A purely nervous trouble," Dr. Hadly said, when called in by Mrs. Greenleaf. Sliss accepted this theory fully and it had gained great power over him, till at this time his nervee were a sort of lightning-rod for any strange freak. At times the family crept about the house with hushed voices, it being one of the days every noise went through his head. Then there were days he couldn't bear to go to the barn, the cows made him so nervous; another he felt something was going to happen, and so on, Mrs. Greenleaf and her daughter taking his piace as best they might. Lately he had not been sleeping nights and had poor Mrs. Greenleaf and her daughter taking his piace as best they might be. He had not been sleeping nights and had poor Mrs. Greenleaf and her acquired his head of the colors in his saity to the medicine too strong, and another gave the same thing to everybody, so the patent medicine fever was having full sway at present. He sarely fluided. Art. Greenleaf and her daughter taking his piace as best their might had come to darken its rays. A look of resolve orosed her face as she stood

of my rest last night." Mrs. Greenleaf thought of her many sleepless nights when he would neither rest or let her rest, but said nothing as she set about getting the morning meal, moving with a slow tread, quite unlike her usual active tramp. When Silas returned from the barn, where he had gone with unwonted alacrity, breathast was on the table and Mrs. Greenleaf already seated with wearied look on her peaceful face. "I believe, ms." said Mr. Greenleaf, "you're nervous." A few days ago she would have repudiated the idea, but now she only said, "I believe I am, I'm having a good many of those same feelings you described to me a while back." After breakfast, instead of staying around the house and complaining as he had been in the habit of doing, Mr. Greenleaf proposed going to the woods and getting up a load of wood, but his wife said "No," she couldn't bear to stay alone, so he was forced to stay with her, and help clear up, between whiles to listen to divers complaints and nervous fancies. So it went on for more than a week, until one day, as she was getting dinner, Mrs. Greenleaf said to her husband, as he had so many times said to her, "I ain't the woman I was, Silas, and I wanted to tell you in case anything happens to me, what I.—," but Mr. Greenleaf waited for no more, but with an exclamation started for the shed door and from there to the woods, like a haunted man. "How beet I am," he said when he had gained the shelter of the tall trees. "I believe Marthy is about half cray, talking so much about herself and her nerves, a thing she never done before since we were married, even when the boys were sick so much, and her mother died, when Jim was too small for her togo to thefuneral; and then there was the time that note fell due, and she had to take the money she had been saving so long to buy a carpet for the front room, to help pay it." What a good wife she had been! Visions of her as a rosy young bride; as a fond young mother bending over their firstborn; as a pale, anxious woman, who walked the find pa

Potato Straws.

Cut raw potatoes about two inches long and about one-eighth of an inch thick; fry in boiling fat till a golden brown, and crisp, drain well on a sieve before the fire and serve in the center of a dish of cutlets.

The Point of View.

SOME OPINIONS AND COMPARISONS OVERHEARD IN THE FARMYARD.

Once upon a time a Man was walking through a farmyard, and as his eyes fell upon the different animals therein he began to reflect upon his superiority to any and all of them. His own state compared with that of these members of the so-called lower creation made him regard them with supercilious contempt, and to experience more than ever he had done before his own greatness. While in this enviable frame of mind he suddenly heard the sound of voices. Listening attentively he became aware that the animals were talking, and he appeared to be the subject of their conversation.

talking, and he appeared to be the subject of their conversation.

"It must be awfully tedious," said the Dog, "to be obliged always to walk upon one's hind legs, and how awkard this Man looks! I have to walk on my hind legs occasionally out of mere complacency to my master, but I am always ashamed of myself for assuming so undignified a position. And, then, think how much of his time this unfortunate Man has to spend in dressing and undressing, and how he is forever fretting himself about something or other. Talk of a dog's life! Who would change it for the life of a man?"

Said the Hog—"It has often made me laugh to see what a lot of dishes a Man has to have when he eats his dinner, and what a fuss he makes when

he eats his dinner, and what a fuss he makes when everything isn't just so. Really it is perfectly ridiculous. For my part, I don't see why victuals that are going to be mixed together after they are swallowed should have to be kept apart before

they are eaten. I like to have everything in one dish, and I know I couldn't enjoy a meal otherwise."

Said the Ass—"Did you ever notice what absurd little ears a Man has? To my mind they are quite a deformity. And then when a Man or a Woman undertakes to sing! It is positively exasperating;

so different, you know, from a fine, mellow, ear-inspiring bray."
"And then," said the Horse, "the idea of hav-ing to take one's shoes off upon going to bed, and putting them on upon getting up! It would worry me to death, I'm sure."

The Hen thought it must be very annoying to have to pick up one's food with one's hands and carry it to the mouth, when it was so much easier to take it in the mouth directly. Hands and arms, she went on to say, were only rudimentary wings—a fact which showed that Man was an undeveloped animal.

The Cow tossed up her head as she remarked how dependent man was upon her; the Sheep said it amused him to see how the poor creature tried to make a sheep of himself by masquerading in sheepish apparel, and the Cat referred to the ridiculous appearance of a person without a tail.

After listening to these remarks, and to what the other animals had to say, the Man's step be-came less buoyant; and as he hung down his head in humility, he murmured:

After all, everything depends upon the point of view.

The Fairy's Gifts.

Last night when I was snug in bed, A fairy came to me and said: "Dear child, three gifts to you I bring—A box, a mirror, and a ring. "Each morning use the mirror bright To bring your little faults to light; "When you have found them, every one, Open this box, as I have done, "And pack them quickly out of sight. Remember! shut the lid down tight. "We call these, best of gifts to youth, One, Self-control, the other, Truth. "This golden ring, Sincerity, Wins friends wherever you may be." I never spoke, I did not stir, I only lay and looked at her. And where she went I do not know,— She melted like a flake of snow. The door was barred, the window too— How do you spose that she got through? I'm sure she came—so real it seemed, But Mamma says I must have dreamed.

-J. Torrey Connor. The Bishop's Knee Breeches.

It is told of a certain bishop that, while dining at the house of one of his friends, he was pleased to observe that he was the object of marked attention from the son of his host, whose eyes were firmly riveted upon him. After dinner the bishop

approached the boy, and asked:

"Well, my young friend, you seem to be interested in me. Do you find that I am all right?"

"Yes, sir," replied the boy, with a glance at the bishop's knee-breeches. "You're all right; only" (hesitatingly) "won't your mamma let you wear trousers yet?"

Errors of construction are common enough with many of the most famous authors. Take the fol-lowing from Thackeray: "He had his top-boots in his room in which he used to hunt in the holidays." And this from George Flick (1971) tangled her foot from her netting and wound it up"—surely a very surprising anatomical feat. One of the most amusing blunders in syntax is to be found in Morse's old geography. According to it a certain town contained "four hundred houses and four thousand inhabitants all standing with their gable ends to the streets."

THE OUIET HOUR.

The Plan and the Teaching of Christ. (Continued from page 388.)

Let us consider the teaching of Jesus in some other aspects which equally exhibit its superhuman character. Here let me interpose an explanation. We refer to the New Testament as our authority for what His teaching really was And we do so without assuming its inspiration or its authority. For whatever we think of these books, here they are. And even if it were not true (as it is) that no competent or intelligent scholar would deny that they contain the historical reflection of the teaching of Jesus, we should still be confronted by the extraordinary phenomenon of the sublime practical and ethical teaching which they contain, incomparably more exalted and majestic than can be found in the writings of any philosopher or sage of antiquity. And the problem would remain, Who could be the author of teaching so sublime? It is easier to believe that Jesus taught thus than that any of His fol-lowers invented such discourses or such precepts. To return, then. Here we are face to face with

To return, then. Here we are face to face with the unique and wonderful utterances of Jesus Christ. Open your New Testament and read the Sermon on the Mount, for example, and then tell me where you will find another such discourse among all the literatures of the world. What sage or philosopher ever taught as this uneducated young artisan out of an obscure Jewish village? Notice the majesty, the moral breadth the death Notice the majesty, the moral breadth, the depth of insight, the sublimity of tone, which breathe through the words. It has been well said: "If any one can doubt of the superior excellence of this religion above all which preceded it, let him but peruse with attention those unparalleled writings in which it is transmitted to the present times, and compare them with the most celebrated productions of the pagan world; and if he is not sensible of their superior beauty, simplicity, and originality, I will venture to pronounce that he is as deficient in taste as in faith, and that he is as bad a critic as a christian.'

But there is much more than this. There is about the discourses of Christ an indescribable tone and perfume of another world. The voice that speaks here carries with it an authority such as is felt in no other teacher or philosopher who ever taught or wrote. It somehow commands us, and holds us, and impresses us, as none other. He does not argue with us; He simply announces His precepts or makes His demands as one having authority. And our consciences yield obeisance to the kingly sceptre which He wields in these matchless discourses and parables and precepts.
"The spirit of man is the candle of the Lord," says the wise man of old. Yes, and this spirit of man responds to the teaching of Jesus; recognizes its truth, its authority. I speak now of moral truth, and I affirm that we can and do perceive the validity and the obligation of a moral precept or principle when stated. It appeals to us. It finds us. It arrests us, and we cannot challenge its authority.

Now, the moral teaching of Jesus has just this uality. requires no credentials witness. It bears stamped upon it the image and the supercription of the King. It is coin of the realm and kingdom of the truth, and every son of truth acknowledges its genuineness and its value.

He that is of God heareth My words. I have not time to enter upon an analysis of Christ's teaching. Such an analysis would show, among other things, its difference from all other ethical systems, its spotless purity, its freedom from any weakness, or local prejudice, or national narrowness, or superstition. It would show how it discredits many of the most boasted virtues of the age in which it appeared, and exalts from the mire of contempt to the throne of glory such qualities as meekness, humility, purity. It would point out how Jesus made love the basis and root of His entire system of ethics and of social law. But I press the question, What account are we to give of such teaching? Is it thus that men have taught? Is it a phenomenon that takes its place in the course of natural development? Is it according to the law of human development that a young, uneducated Galilean youth, born of the narrowest and most exclusive race in the world, and brought up in a society the most unenlightened, in an age the most corrupt, should suddenly rise to the sublimest height of moral truth, as far outshining other great teachers as the sun is brighter than the smallest star, and that He should reign supreme in the firmament for eighteen centuries by the pure brightness and effulgence of His own teaching and example—is this, I say, a natural phenomenon? or is it not rather an event altogether unprecedented. altogether apart from natural development, plainly supernatural? In the words of Horace Bushnell, What human teacher ever came down thus upon the soul of the race, as a beam of light from the skies, pure light, shining directly into the visual orb of the mind, a light for all that live, a full transparent day, in which truth bathes the spirit as an element? Is this human, or is it plainly divine?

[TO BE CONTINUED.]

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"Knock and It Shall Be Opened."

I thought myself indeed secure, So fast the door, so firm the look; But, lo! the toddling comes to lure My parent ear with timorous knock.

My heart were stone, could it withstand The sweetness of my baby's plea— That timorous baby knocking, and "Please let me in—it's only me."

I threw aside the unfinished book, Regardless of its tempting charms, And, opening wide the door, I took My laughing darling in my arms.

Who knows but in Eternity,
I, like a truant child shall wait
The glories of a life to be
Beyond the Heavenly Father's gate?

And will that Heavenly Father heed The truant's supplicating cry, As at the outer door I plead, "Tis I, O Father, only I?"

"Three Wise Men of Munich."

In old Nursery Rhymes we read of "Three wise men of Gotham"; but these three wise men seemed to be bent upon a different sort of pastime to that of our ancient friends. Those flagons — that cask and the general surroundings—are highly suggestive. Surely that rotund individual to the right looks like a worthy Burgomaster, and is entitled to first like a worthy Burgomaster, and is entitled to first taste from this suspicious-looking cask. I fancy his companions won't be long before they take his valued opinion and also fall to—with a will—for it evidently takes three to test this kind of beverage! The artist has put a great deal of vivid expression into these faces. The pursed - up lips and merry eye of ve Bur-

merry eye of ve Burgomaster with the wrinkled waiscoat, who seems to find the liquor (shall we call it?) to his taste; the sly drollery in the face of the middle boon companion; and the humorous sedateness—coupled with expectancy - of number three; - all make it an easy matter to read their thoughts. Truly, what with their flagons, their cask, their cigars, and their jolly faces, we may safely predict that these "Three Wise Men of Munich" intend to go in for a jovial time generally!

Very Natural.

Recently, two gentlemen, driving along in a waggonette, were smoking, when a spark falling from one of their cigarettes set fire to some straw at the bot-tom. The flames soon drove them from their seats; and while they busy extinguishwere ing the fire, a country-man, who had for some time been following them on horseback, alighted to assist them.

"I have been watching the smoke for some

time," said he.
"Why, then, did you not give us notice?" asked

"Well," responded the man, "there are so many new-fangled notions nowadays, I thought you were going by steam.—Edinburgh Scotsman.

A poor Arab, traveling in the desert, met with a spring of clear, sweet, sparkling water. Used as he was only to brackish wells, such water as this appeared to his simple mind worthy of a monarch, and, filling his leathern bottle from the spring, he determined to go and present it to the caliph himself. The poor man traveled a long way before he reached the presence of his sovereign, and laid his humble offering at his feet. The caliph did not despise the little gift, brought to him with so much trouble. He ordered some of the water to be poured into a cup, drank it, and, thanking the Arab with a smile, ordered him to be presented with a reward. The courtiers around pressed forward, eager to taste of the wonderful water; but to the surprise of all, the caliph forbade them to touch a single drop. After the poor Arab had quitted the royal presence with a light and joyful heart, the caliph turned to his courtiers and thus explained his conduct: "During the travels of the Arab," he said, "the water in his leathern bottle had become impure and distasteful. But it was an offering of love, and as such I have received it with pleasure. But I well knew, that had I suffered another to partake of it, he would not have concealed his disgust; and therefore I forebade you to touch the draught less the heart of the poor man should the draught lest the heart of the poor man should be wounded."



Jack's Literary Effort.

Jack's composition-day was Thursday, and this record of Jack's manners and customs in literary matters begins on Wednesday. All of his compositions were begun on Wednesday and usually were completed on the same day. You might from this conclude that he had the pen of a ready writer; but you would be misled. Jack was really an ingenious postponer.

Jack had a pleasant room for study and writing It contained a low, broad, convenient table covered with green baize, whereon stood his green-shaded

student-lamp.
"Good night," said Jack to his family downstairs; "I have a composition to write for to-mor-

some reading up, and I haven't time, even if I had the books.

He crossed it out. 'The Hundred Days'—that won't do either. It would take at least half an hour to get the encyclopedia and cram up on it. 'Something about Earthquakes'—same trouble. I know that volcances have something to do with them, but I can't stop to find out now. And 'Eli Whitney' is in the same fix; I don't see but that I shall have to go at old number five!

He drew the foolscap squarely in front of him, dipped the pen well into the ink, shook it clear, and wrote the subject at the top of the sheet, making a small k. But after a few moments of aimless evering of the title. Jack seemed to be dissatisfied eyeing of the title, Jack seemed to be dissatisfied with the k, and made it into a capital K. Then not finding the title neat enough, he turned the sheet over, and wrote his subject slowly near the top of the other side. He sighed with satisfaction as he finished, and—the clock struck the half-hour.

as he nnished, and—the clock struck the hair-hour.

"Jimminy!" exclaimed Jack, "only half an hour left, and two hundred words to write. Let me see. That will be one hundred in fifteen minutes, and fifty in seven and a half minutes, and twenty-five in three and—Oh, I don't know! Here goes, anyway." And making sure there was plenty of ink on his pen, he wrote thus:

"I like them to be jolly and pleasant without being fooling all the time. Nobody likes fooling all the time, A joke now and then does no harm, of course; but while all work and no play makes Jack—"

He paused, crossed out "Jack," and went on "—a boy a dull boy, yet one need not be fool-

ing all the time. But what I do despise like most other people I guess is a sneak or a liar. No real boy can like that kind of a boy. Boys should study, too. Is there any reason why a boy can't stand at the head of the class and be a base ball pitcher too? don't think so. there are many kinds of boys, and we cannot all be the same. I like the character of Fast in Tom Brown. He was a good fellow—"

Here again Jack thought the teacher might not like "fellow," and he put in "chap" instead, though it didn't please him. But he had no time for reflection; his minutes were lim-

ited. "—chap, and yet he had fun in him, too. Boys should always tell the truth. To lie is to be a moral coward, and a how should he afraid. a boy should be afraid to be afraid of any-thing—" thing-

This struck Jack as being too sweeping, and he rounded it off thus: "—that they ought not to be afraid of such being struck by light-ning unless it is their

duty to do so. Time forbids me to tell all about the kind of boy I like, but can say in closing that a true boy should be boy-

like in all things."

Here, to Jack's intense dismay, and perhaps a little to his relief, the clock struck.

"There!" he exclaimed, "that will do for the "There!" he exclaimed, "that will do for the "the the morning early copy it. first draft; I'll get up in the morning early, copy it, and then I will polish the style up a little, and I guess she'll do."

But he didn't. He was rather late in the morning—which did happen sometimes—and took the composition to school intending to copy it during

a half-hour of study time.

Perhaps you will not be surprised to learn that when he read it over by daylight, he concluded to answer, "Not prepared."—St. Nicholas.

It is a custom among a class of preachers to open their annual conferences with the cheerful hymn:

"And are we yet alive To see each other's face?"

In a town where the annual conference was once held the preachers were treated with extraordinary hospitality. Every housekeeper had the table groaning with fried chicken and yellow gravy. All the choice fowls were killed to satisfy gravy. All the choice lowis with the day after ad-the white-cravatted epicures. The day after adjournment the evening paper of the town had a picture showing two scrawny-looking young roosters peeping at each other out from under the barn, and then, crossing their necks, saying:

"And are we yet alive To see each other's face?"

Ask your neighbor if he reads the Farm-



"THREE WISE MEN OF MUNICH."

"Now, where's that list of subjects?" was his next inquiry. He ransacked his pockets in vain. He sat down and thought about it. He rose and went down-stairs again.

"Mother, have you seen my books?"
"Maybe you left them on the hat-stand," she

"Maybe you left them on the hat-stand, she answered, losing count of her stitches.
"They're not there," said Jack, after going to see. "I do wish people would leave my things—Oh! I know!" and with a sudden recollection that he had late them in the front ward while he had played left them in the front yard while he had played hand-ball with his brother Will, Jack ran out, searched in vain, came back for a candle, and at last found his bundle of books hanging to a picket of the fence.

"I've got 'em," he said, in passing, and returned

to his room.

The clock struck ten. "Jupiter Ammon!" exclaimed Jack, and then he sat down before the table, unstrapped his books, shook several vigorously, and, fortunately, at last dislodged the scrap of paper upon which he had scrawled the list of subjects. There were five. The teacher evidently had sought variety.

The Tulip-mania in Holland.

The Hundred Days.
Something about Earthquakes. Eli Whitney and the cotton-gin.

The Kind of Boy I Like.

"Hump!" was Jack's first reflection. Then he began to consider them. "'The Tulip-mania. I remember something or other about that. There was a humpback who made a fortune out of it, somehow. He thought a tulip-bulb was an onion and ate it—didn't he? But I don't see how that would make him rich. No, that subject takes er's Advocate. If he does not, get him to.

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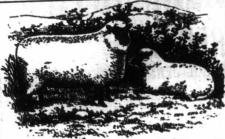
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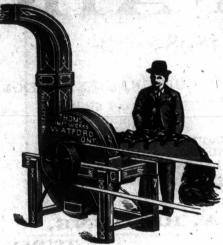
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J. G. SNELL ESTATE, R. R. Station: Snelgrove P. O., Ont. Brampton, G. T. R. and C. P. R.



VORKSHIRE Y Sows in pig of good breeding. Boars and sows, 3 months old, not akin, from prize-winning stock.

Write H. J. DAVIS, Box 290, Woodstock, Ont., breeder of Yorkshires, Berkshires, Shorthorns, and Shropshires.

HEADQUARTERS FOR

DUROC-JERSEY SWINE Our herd secured nine of the first prizes out of the eleven of-fered at Toronto Ex-hibition, and asimilar portion at London and Ottawa. We are

and Ottawa. We are justified in saying we have the best herd in Canada. First-class stock of all kinds for sale Canada. Address—TAPE BROS., at all times. Address—TAPE BROS., RIPGETOWN, ONT.

Harding's Sanitary Iron Hog Trough



IS INDESTRUCTIBLE, PORTABLE. SANITARY.

CHEAP, and answers all requirements of a desirable Hog Trough. One price only, 60 cents per foot. VOKES HARDWARE CO., Limited, 111 Yonge St., Toronto,

GOSSIP.

Hon. Thos. Greenway, Crystal City, Man, has sold to Purvis Thompson, Pilot Mound, the 1st prize four-year-old Shorthorn bull, Caithness.

Mr. W. D. Flatt, Hamilton, Ont., has recently sold, from his Trout Creek herd of Shorthorns, to Mr. N. P. Clark, St. Cloud, Minn., the roan three-year-old cow. Jolly Jilt 2nd, by Kinellar 2nd = 1950e, dam Jolly Jilt, by Royal Saxon =16737—, and the two-year-old roan heifer, Mina 2nd, by Royal Saxon =10537—, dam by Mina Chief =13570—, grandam imp. Lady Gladstone, bred at Kinellar

Lady Gladstone, bred at Kinellar

The estate of the late Mr. J. G. Snell, Snelgrove, Ont., offer in our advertising columns a choice lot of imported Cotswold sheep, including the 1st and 2nd prize ram lambs, the 1st prize yearling ewes and the 1st prize ewe lambs at the Royal show. The ram lambs are said by competent judges to be the best that have ever come to Canada. All the sheep and pigs in the estate are offered at private treaty, including a number of high-class Berkshires that were fitted for the fair.

R. Sangstar, Lancaster, Ont., wellag.

that were fitted for the fair.

R. R. Sangster, Lancaster, Ont., writes:
"Please find inclosed the amount for advertisement. I sold two of the three bulls by the ad., and I have five fine ones yet on hand. I go to Sherbrooke next week to judge the three classes of heavy cattle, viz., Shorthorns, Herefords, and Polled Angus, and all the sheep. This will be my sixth year in succession on the same work in Sherbrooke. I also have the five classes of heavy cattle in Ottawa this year. Our harvest is about over, with fine weather and fine crops."

At the dispersal sale of Mr. A. DeMornav's

weather and fine crops."

At the dispersal sale of Mr. A. DeMornay's flock of Hampshire sheep in England, which took place July 30th, a very large assembly of breeders was present, and this celebrated and typical flock which had sent many prize winners to the Royal Show was sold at good prices, the ram lambe ranging from £42 down to 5‡ guineas, and the noted two-shear ram, winner of numerous prizes, brought £32 10s.; while the grand yearling ram that won first at the Royal Show sold for £63.

There recently passed through Ontario, rest-

while the grand yearing rain that we will like the Royal Show sold for £63.

There recently passed through Ontario, resting a few days in Toronto, a valuable shipment of eight Clydesdale horses and colts, newly imported by Mr. N. P. Clark, for his extensive stud at St. Cloud, Minn. They were purchased from A. & W. Montgomery, and comprised the following: Montrave Matchless 9959; Senator 10283; Nansen 10383; Broad Arrow 10173; Border Baron 10169; Masher 10232; and two yearling colts by Baron's Price 9122. All the animals have an excellent prize winning record, and should prove a great acquisition to Mr. Clark's stud. It will be remembered that Mr. Clark was one of the largest exhibitors of Clydesdales at the World's Fair at Chicago, when he carried off a large number of premiums and champion prizes.

a large number of premiums and champion prizes.

J. H. Simonton, Chatham, Ontario, writes:—
"I have on hand at the present time a firstclass lot of choice Tamworth pigs. They are
doing well and in a good healthy form, having
lots of exercise in small fields and moderate
feeding, so as to make a good strong, vigorous
pig for breeding purposes. Parties buying
will get what they want at a tair price. I have
made some good sales of late, and have had a
large number of enquiries for Tamworths.
I will sell for the next six weeks at reduced
prices to make room for more. Parties wanting them will find it to their advantage to
write for prices. I have sold of late one boar
to R. R. Huff, Chatham; one boar and one sow
to A. Gage, Harwich; one boar to J. Craft,
Dawn Mills; one boar to W. Little, Tilbury;
two sows to B. R. Delbridge, Wincheslea; one
boar to Jas. Lottridge, Hamilton; one boar to
J. B. Stringer, Belle River; one boar and one
sow to J. B. Arnold, Irish Creek; one boar to
Jas. McDougald, Chatham; one sow to John
Harbour, Chatham; one boar to Mr. Miller,
Chatham; one boar to Mr. McKergan, Northwood; three sows to Kstate of H. H. Spencer,
"Dorset Farm," Brooklin, Ont.; and have four
sold that are not weaned yet."

SHORTHORNS AT MERTON STOCK FARM.

sold that are not weaned yet."

SHORTHORNS AT MERTON STOCK FARM.

A short time since the herd of Mr. David Hill was visited by a representative of the ADVOCATE. The farm is near the village of Staffa, Perth Co., Ont. Sixteen very choice young cows and heifers, together with four healthy-looking young bulls and the stock bull, compose the herd. Mr. Hill, the proprietor, recently purchased a young bull from the herd of J. & W. Russell, Richmond Hill, to take the place of Bianshard Hero, the present stock bull. Blanshard Hero is bred from the stock of James S. Smith, Maple Lodge, Ont. He is really a handsome animal, three years old, and is capable of heading a much larger herd than that of Mr. Hill's. He cannot be retained any longer, as his own stock has arrived at a breeding age. This will be a grand opportunity for any person who wishes to procure a vigorous animal who is just now in his prime. The young bull purchased from Mr. Russell is from his famous Isabella family, descended from Isabella 3203, the sweepstakes gold medal winner over all beef breeds at the Centennial Exhibition at Philadelphia, and Ist at Toronto in 1878 in a ring of seventeen imported cows. Mr. Russell refused \$300 for Isabella 10th of the same family, which has probably produced as many high-class prize winners as any other in the Dominion. See Mr. Hill's advertisement in this issue. SHORTHORNS AT MERTON STOCK FARM. in this issue.

the Dominion. See Mr. Hills advertisement in this issue.

A CANADIAN'S VICTORY.

The popular, level-headed Canadian turfman, Mr. Wm. Hendrie, of Hamilton, Ont., landed much honor and a good purse of \$35,000, on Aug. 23rd, at Sheepshead Bay, New York, with his colt. Martimas, by imported Candlemas, in a class of 22 two-year-olds in the Futurity contest. The colt, a chestnut, stands about 15.3, and is full of substance, and carries stamina in his depth of girth, his shoulders, his loins, his breadth, his couplings, and, in fact, in every portion of as well-knit a frame as a horse ever possessed. His legs are strong and admirably calculated to carry such a body. His distinguishing marks are a star, stripe and four white legs. He was bred in Kentucky, and purchased by Mr. Hendrie last year at public auction at Sheepshead Bay. He has started five times this year, and has twice been beaten. His last and greatest victory was a surprise to many, as the betting odds were 40 to 1 against him.

POTATO DIGGER

The CANADIAN CORWIN HERD of POLAND-CHINAS

Are in shape to dispose of breeding stock of all ages and both sexes. Also offering a Jersey heifer calf from Snell stock. Poultry a specialty. B. P. Rocks, Brown Leghorns, S. Hamburgs, and Silver and G. Dorkings. Eggs, \$1.00 per setting. Also 50 acres cleared land, with an abundance of natural gas. Kent Co. CAPT. A. W. YOUNG, Tupperville. Ont

Oxford Herd of Winning Poland-Chinas.

Having won the herd prizes at Toronto, London, Ottawa, and Brantford Fat Stock Show, we feel justified in stating that we are in a position to offer you what you may ask for from gilt-edge prize-winning stock. W. & H. JONES,

MT. ELGIN. OXFORD Co. POLAND-CHINA BOARS



Fit for service, and a few six months sows. Also booking orders for spring pigs, by the im-ported sire, Corwin Ranger, and Orme.

ROBT. L. SMYTH & SON, FARGO P. O., ONT.

2 POLAND-CHINA BOARS Also a pair of six mos. sows, with pedigrees running to imported sires. Booking orders for spring stock from showring dams and imported sires. -0

JOSEPH M. SMYTH, Box 619, Chatham, Ont

Springridge Poland-Chinas Now offering the 2year-old sire, Blackamoore, and a few of
his young females,
and booking orders
for young stook from
the royally-bred
Goldbug, lately added to the herd.

WM. J. DUCK, MORPETH, ONT.

RED TAMWORTH and PIGS DUROC-JERSEY-YORKSHIRE CROSS (The ideal bacon cross for profit)

Stock bred in the glass of fashion and mold of form (ready to wean) on hand and for sale.

Orders booked. Hermanville Farm, Hermanville, P E.I.

ELMDALE HERD OF TAMWORTHS. Offers 4 splendid young



boars and half a dozen sows, 6 months old, by Amber Luther 245, and out of prize-winning dams. Also booking

JOHN C. MCHOL, Hubrey, Ont. SPRINGBROOK HERD OF HOLSTEIN FRIESIANS AND TAMWORTHS.



of Tamworths and a few bulls. Stock only in breeding condition.

Stock for sale. Call and get my prices and com-A. C. HALLMAN,

NEW DUNDEE, ONT. Waterloo Co. TAMWORTHS-THE PACKER'S CHOICE



Sows in pig, and Sows ready to breed, Boars ready for service, and fifty head from six weeks to five months. weeks to five months.

Orders booked for fall pigs from 14 sows and 4 boars. Prices right. om J. H. SIMONTON, Box 304, CHATHAM, ONT.

Tamworths, Berkshires.

I have three litters of Tamworths that are bred right, of two distinct families. Also a few Berkshire sows descended from Baron Lee 4th

D. J. GIBSON, Bowmanville,

ONTARIO. I HAVE NOW ON HAND A CHOICE LOT OF YOUNG

TAMWORTH SOWS IN PIG. WRITE FOR PARTE ULARS

AND PRICES.

CHRIS. FAHNER, CREDITON ONT

P. R. Hoover & Sons,



BREEDERS OF CHOICE
TAMWORTHS.
Young boars and sows
ready for breeding purposes at prices which
should sell them. St., Locust Hill, C. P. R.;
Correspondence solicited.
9-1-y-om

TAMWORTHS



One yearling boar: one boar and half a dozen sows, four months old. by Algernon 573.

WHITEVALE, ONTARIO. 1-12-0 Locust Hill, C. P. R., 31 miles.

MWORTHS

Tamworth Boars five months old, sired by NIMROD IMP., dam Coldstream Garnet, she is bred from prize-winners. For prices write W. C. SHEARER.

Bright, Ont.



are in good form this season, and offering young stock of supe-rior quality and breed-ing of both sexes.

H. REVELL. INGERSOLL, ONT.

MERTON LODGE

Herd of Chesters and Tamworths are in full bloom, and are offering choice stock of



H. George & Son

CRAMPTON P. O., ONT. BORNHOLM HERD

IMP. CHESTER WHITES ! Stock for sale at all times, all ages. Nothing but first-class stock shipped. Inspection invited. Correspondence promptly answered.

BORNHOLM P.O., ONT.

D. DeCOURCEY. THE Chesters AVON HERD of

Are in fine form. Orders are now being booked for April litters from notable strains.

Henry Herron.

Avon P. O., Ont. JAMES CHRISTIE

WINCHESTER, ONT., Breeder of Chester White

pigs, the foundation of which was selected with the greatest care and from only the most noted breeders in Canada. O-- BARGAINS IN-

SHORTHORN AND JERSEY CALVES

Of both Sexes. Also in CHESTER WHITE PIGS. F. BIRDSALL & SON, -O BIRDSALL, ONT.

A NNUAL SPRING SALE OF POULTRY.

A Fifty Barred Rock Heas, bred to produce brown eggs. Price to suit the farmers. Also a few S. C. Leghorn Cockerels. Eggs from B. P. Rocks, Silver Wyandottes and S. C. Leghorns, \$1.00 per 13. Pekin Ducks, \$1.00 per 11.

W. R. GRAHAM, Bayside, Ont.

Silver and Golden Wyandottes From imported stock and prize-winners at Boston and Madison Square. ners at Bosto Pekin ducks. JAS. LENTON, Park Farm, OSHAWA.

FARMS for SALE

THREE FARMS FOR SALE ON KASY

THREE FARMS FOR SALE OF THRMS. PROPERTY SITUATED CON-VENIENT TO C. P. RAILWAY. FOR FURTHER PARTICULARS APPLY TO J. M. McNAMARA, Barrister, North Bay, Ont.

NOTICE.

A BUSINESS EDUCATION.

Classics are all right for professional men, and science is also valuable in some lines, but classics are all right for professions must and science is also valuable in some lines, but a practical business education is important to everyone, and especially the farmer, whose business transactions are perhaps more varied in character than those of any other class of men. The Hamilton Business College, an advertisement of which is in this issue, have made a study of the education needed by 1898 business men and women, and are prepared to give such a course. They hold final axaminations monthly, under the direction of Business Educators' Association of Canada, so that a pupil can enter at any time and graduate just as soon as fit. Address Hamilton Business College for circular. ness College for circular,

DENTONIA PARK FARM

W. E. H. MASSEY, Proprietor.

HIGH-CLASS RECISTERED **JERSEYS**

A FEW GOOD COWS Also some

HEIFER AND BULL CALVES. Prospective buyers should visit the farm. Full information given on request. Apply-



WM. PATTON, Supt., Coleman P. O., Ontario.

CHAMPION CLYDESDALE STALLION

ROE

VES

Pigs. ONT. TRY. duce leo a B. P.

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AWA.

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al men, es, but tant to whose varied lass of an ade, have by 1898 epared axaming Busiso that aduate

Busi.

25 miles east of Toronto, on C. P. R.

of this breed in foal to the above stallion. We also have for sale a number of other choice stallions—Clydesdale, Standard-bred, Thoroughbred.

ROS., Claremont, Ontario.

Exhibition Jerseys for Sale

That cannot fail to win in any showring. Two 4-year-old cows, milking 40 lbs. a day each, superb udders; one 3-year-old, splendid udder, great beauty; one 2-year-old, tested 11 lbs. butter a week at 23 months old. These should not be separated, as they can enter in three classes and then show as a herd. Also a 3-year-old bull, a 2-year-old, a yearing and a calf. No one need apply except those who WANT THE BEST, and are willing to pay a fair price. BROCKVILLE, ONTARIO, CAN.



The WESTERN REVERSIBLE ROAD GRADER

(A PERFECT ROAD MAKER).

Also High-Class THRESHING MACHINES, ENGINES, HORSE POWERS, CLOVER HULLERS and SAWMILLS

For descriptive catalogue, prices and terms, apply to Sawyer & Massey Co., Limited, - Hamilton, Ont.

Statement Showing Consumption of

ALBERTS' THOMAS-PHOSPHATE POWDER

GOSSIP.

The following is a paragraph from preface to Herd Book for 1898 of Maine State Jersey Cattle Association:

"While we have no intention of making the Jersey Herd Book an advertising medium, we being cognizant of the great value to stockmen of "Fleming's Lumpy Jaw Cure," have concluded to give space to a notice of the remedy, together with a few samples of the many testimonials of it merits.

"Winthrop, Maine.

New Yorked in sold to have 20 catalytich.

"Winthrop, Maine.

New Zealand is said to have 22 establishments for freezing meat for European markets, and these handle some 4,000,000 sheep a year. The refrigerator has also set a value on the heads of all New Zealand rabbits, and the trade in frozen rabbits has developed rapidly. At the price of 12 cents each a couple of thousand of them are being sent into the freezing works daily. One exporter receives between 16,000 and 20,000 rabbits a day, and between 16,000 and 20,000 rabbits a day, and pays for trappers and in wages between 34,000 pays for trappers, to whom he has entrusted about 500 trapps. Last year he exported 700,000 frozen rabbits, and anticipates sending away 1,250,000 this season. Several other exporters have dealt with them almost as extensively. It is estimated that for this season the total output of frozen rabbits will be between 5,000,000 and 6,000,000, which will yield a sum of \$300,000 for distribution among the trappers, while the total amount going into the pers, while the total amount going into the colony for exported rabbits will be between \$500,000 and \$750,000. The trade is young, and the will sense to the season's operations.

R. W. WALKER'S HOLSTEINS. R. W. WALKER'S HOLSTEINS.

rabbits a day for next season's operations.

R. W. WALKEE'S HOLSTEINS.

Near the village of Utica, in Ontario County, midway between Myrtle, on the C. P. R., and the Port Perry stations, G. T. R., we found the enterprising Mr. R. W. Walker, whose special attention in the way of live stock is being directed towards the breeding and developing of a good dairy herd of Holstein cattle. In his first selections he informed us that he purchased a pair of cowe from the well-known breeder, P. Bollart, and which we were shown. Diploma 3rd 461, by Bonnie Queen's Last Boy 239, and out of Diploma, with Queen's Last Boy 239, and out of Diploma, with pedigree running to imported Barrington, was calved in March, 1891. She has been a very successful breeder and performer since coming to her new home, and her owner feels justly proud of her. In conformation she is a medium-sized cow, in possession of much good quality and a splendid udder. Madam B651, by Sir Westwood, and out of imported Madam Dot (dam purchased at a cost of \$300, record 75 lbs. milk per day) is also a useful type of a cow, carrying a good udder and a businessilke carrying a good udder and a businessilke tyle. The stock bull, Father Tenson, is in Archibald Wascot, and out of Maud Tenson, a daughter of the noted Cornelia Tenson, is in his third year, and doing active service outside of their own hered. We also saw a pair of useful yearling bulls. Madam B's Son, by Butter Boy 2nd, is a strong animal with many strong dairy points to recommend him, backed up by a splendid pedigree, in which may be noted some grand records, making him a bull to be decired in any dairy; while a few menths his junior is the finely-formed son of Diploma 3rd, by Father Tenson. They are a pair of animals that require but to be seen to find ready buyers.

HENRY ARKELL'S OXFORDS.

HENRY ARKELL'S OXFORDS.

Near a station by the same name, a few miles out of Guelph, on the C. P. R., is the farm and Oxford flock of Mr. Henry Arkell, farm and Oxford flock of Mr. Henry Arkell, farm and Oxford flock of Mr. Henry Arkell, whose special care and enterprise has established a wonderfully large business in Oxford lished a wonderfully large business in Oxford lished a wonderfully large business something Downs. The flock now numbers something over 250 animals of all ages, among which are some forty shearling ewes and half a dozen shearling rams, eighty ram and fifty ewe lambs. The grandly-bred and justly deserving estremed Royal Warwick3rd is still in the flock, and a splendid sheep he is, whose compactness he transmits to his progeny, is unmistakable, as is evident all through the fleck, giving them as is evident all through the fleck, giving them extreme uniformity in frame, flecce and color, extreme uniformity in frame, flecce and color. he transmits to his progeny. Is universely the near is evident all through the fleek, giving them as is evident all through the fleek, giving them as is evident all through the fleek, giving them as is evident all through the fleek, giving them extreme uniformity in frame, fleece and color, coming as he did from one of the best if not the best flock in England. Of late importation we were shown four very choice ram lambs, which are well advanced, promising sheep, which are well advanced by Mr. William Arkell, Kempsford Farm, Fairford, England, probably one of the best known breeders of the day, and who won first at the Royal on his ram and ewe lambs this year. Mr. Arkell informed us that he intended offering two or perhaps three of the imported lambs, and whoever is fortunate enough to purchase any one of them will have no reason to regret the transaction by any competition he may chance to cross this season. Mr. Arkell still retains a few very good Shorthorns, and offers a couple of useful young bulls for sale. The sires most recently employed have been out of such herds as Watt's, Russell's, and Nicholson's. The females are directly bred from the Hon. Adam Ferguson's gook.

| 1885 | 19.00 | 1892 | 250.000 | 1893 | 250.000 | 1894 | 250.000 | 1895 | 19.00.000 | 1895 | 19.00.000 | 1895 | 19.00.000 | 1895 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 1896 | 19.00.000 | 19.000 | 19.000 | 19.000 | 19.000 | 19.000 | 19.000 | 19.000 | 19.000 | 19.000 | 19.000 | 19.000 | 19.0000 | 19.000 | 19.000 | 19.000 | 19.000 | 19.000 | 19.000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.00000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 | 19.0000 |

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The system of training is Normal, Specific, Thorough, comprising full instruction and practice in

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This College is OPEN THROUGHOUT THE YEAR. Students may enter at any time. Now is the Time. ROBERT BOGLE,

J. FRITH JEFFERS, M. A., WRITE FOR CALENDAR.

OL A MUNI II 10,000 Students and Graduates.

Circular FREE. State subject you wish to study.

THE INTERNATIONAL CORRESPONDENCE SCHOOLS

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A FARMER'S SON!

Needs a business education in order to successfully manage the business affairs of the farm. A training in commercial subjects in the

Hamilton Business College

will prove the very best kind of educa-tion that a progressive farmer can have. Circulars upon application to

THE PRINCIPAL, HAMILTON BU: WESS COLLECE, HAMILTON, ONT.

FALL TERM OPENS SEPT. 1st.

Jusiness College STRATFORD, ONTARIO.

One of the largest and most successful so in the Dominion. Graduates eminently cessful. Write for beautiful catalogue. W. J. ELLIOTT, Principal.

Established 30 years; most widely-attende in America; 22 years under present Principal who are authors and publishers of Canada Standard Business Books, namely: "The Canadian Accountant," "Joint Stock Book keeping," and "Notes and Bills." Affiliate with the Institute of Chartered Accountant Address

ROBINSON & Belleville, Ont. **BUCKLEY'S**



PAT. WATERING DEVICE

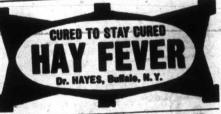
The only economical device for watering cattle in stables. Cheese-factory and creamery eutits, etc. Write for catalogue and prices. RANEY SELBY & CO., Kingston, Ont.

Bee - Keepers

Do you want BEE HIVES,

And all kinds of goods for the Apiary—ITALIAN QUEENS and Bees? A sample copy of the Ca-nadian Bee Journal and one circular free.

BRANTFORD, CANADA, LIMITED,



Central Canada xhibition

OTTAWA, ONT.,

September 16th to 24th, '98

OVER \$75,000 expended since last Ex and improving the grounds and creeting

Cattle, and Swine Departm

ial prises for Milk Test. ty-two Gold Medals as St as for Horses and Cattle.

low Rates on all lines of trav WM. HUTCHISON, M.P.,

GET THE VERY BEST OIL

ROGERS'

WON IYGOLD MEDALS. FOR THE PARMERS USE ON AGRICULTURAL MACHINES AND GEN. EARL PURPOSES. HARDWARE AND GENERAL STORES SELL IT TO THEIR BEST TRADE. 'DON'T TAKE ANYTHING ELSE, GET "PEERLESS." CITY OIL COMPANY, Limited, TORONTO

The Germs of

Contagious Abortion Hog Cholera

West's Fluid

IS PROPERLY USED. IT IS ALSO ONE OF THE VERY BEST SHEEP DIPS ON THE MARKET. FULL INSTRUCTION UPON APPLICATION.

THE WEST CHEMICAL CO., TORONTO, ONT. Agents wanted in all counties.



Will do all Knitting required in a family, homespun or fac-tory yarn. SIMPLEST Knit-ter on the MARKST. We guarantee every machine to do good work. Agents wanted. Write for particular

Bundas Knitting Machine Co'y, DUNDAS ONT.

TO SAVE 1 CENT A POUND

ON YOUR BUTTER, USE THE " Maple Leaf Churn."

It saves time, work and cream, and makes the fluest butter. Buttermakers should study it. Ask your dealer to show it, or write for descriptive circulars to the manufacturers. WILSON BROTHERS,

COLLINGWOOD, ONT.



\$29 BUYS MACHINE AND WIRE to build 100 rods of the best coiled wire fence made. Do not fail to see us at Toronto and other leading fairs. McGREGOR, BANWELL & CO. Windsor, Ont.

Machine \$10 TO BUILD THE STRONGEST AND BEST WIRE FENCE. 16 to 24 Cents per Rod. No farm rights, royalties or patent stays to buy. AGENTS WANTED. Write for circular.

The Bowen Cable Stay Fence Co.

NORWALK, OHIO, U.S.A.

NOTICES.

Improves with age.

The fencing problem is not a question relegated to the fate of the sickle and the spinning wheel, because rails are no longer obtainable by the general farmer. The fact is, farm lencing is a very live subject, but now takes a form along different lines to what it did years ago. It is about settled that wire is the material to be used, but the particular form of construction is still debatable. A grand opportunity to judge between the merits of many good forms will be provided at the opportunity to judge between the merits of many good forms will be provided at these we would suggest that the "Gem," advertised selsewhere in this issue by McGreggor, Banwell & Co., Windsor, Ont., be carefully examined. It will stand close inspection and severe test.

Attention is directed to the advertisement

examined. It will stand close inspection and severe test.

Attention is directed to the advertisement in this issue of Stanley Mills & Co., of Hamilton, Ont. This concern, by dealing honestly and straightforward with their customers, have in a very few years built up an immense letter order business with subscribers to the Advocate living in all parts of Canada. The firm handles all lines of merchandise, and every subscriber should have a copy of their large free new catalogue. The editor would urge every one of his readers to write at once for the catalogue and become a customer of this firm. Their address is Stanley Mills & Co., Hamilton, Ontario, and their name has become household words everywhere.

Miss Helea R Stanley, City Missionary, 25 Rockville Park, Roxbury, Mass., writes Dr. P. Harold Hayes, Buffalo, N. Y., who cures asthma to stay cured, as follows: "I have had neither hay fever nor asthma since I stopped taking the medicines. I did not have either last summer. I never was healthier than now. Last winter I had grippe and bronchitis and was sick four weeks, but my hay fever and asthma did not return. Before taking the medicine I had hay fever every summer, followed by asthma. Both were growing worse. I took your medicines, and for a long time my disease did not yield entirely, but I persisted in the use of the medicines with the determination to get well. After several seasons of trial I was cured and am entirely free from hay fever and asthma. People tell me that I am the picture of health. I feel as well as I look. I feel indebted to you for your help and your patience with me."

A USEFUL POULTRY-KEE PERS' GUIDE.

The Poultry Manual, by F. L. Sewell, a true

help and your patience with me."

A USEFUL POULTRY-KEEPERS' GUIDE.

The Poultry Manual, by F. L. Sewell, a true poultry fancier and unexcelled artist, and Mrs. Ida E. Tillson, a practical poultry woman and former valued contributor to the FARM-ER'S ADV COATE, is a valuable treatise or textbook on practical poultry culture. Mr. Sewell illustrates and describes twenty-one leading breeds of pure-bred fowls in a finished style, and Mrs. Tillson gives out the lessons from her years of experience in careful detail. Ducks and geese, as well as hens, are not neglected, the dressing and marketing receiving special attention. The chapter on diseases is also useful; in fact, the work is a concise guide to successful poultry-keeping. It can be had through this office at the regular price, FAMILY KNITTER!

Will do all Knitting required in a family, homespun or factory yarn. SIMPLEST Knitter on the HARKET.

We guarantee every machine to do goed work. Agents wanted. Write for particulars

paper covers. It first came out in January of this year and has already passed through two editions.

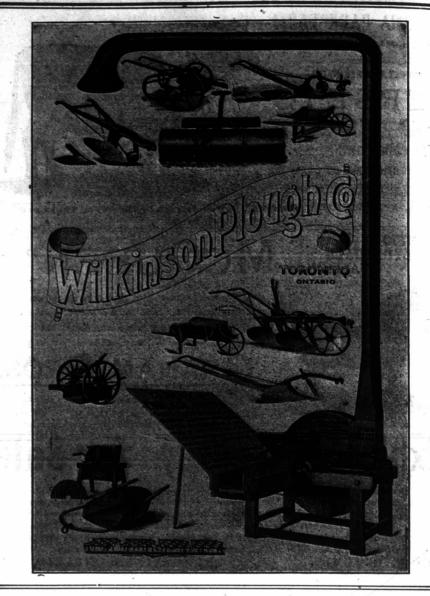
WESTERN ONTARIO DAIRY SCHOOL.

In this issue will be noticed an advertisement of the Western Dairy School, which is situated at Strathroy, Ont., and is operated by a highly qualified staff of instructors solely as a training school for buttermakers. The 1898-99 circular just issued points out that the former superintendent, F. J. sleightholm, B. S. A., has still the supervision, under the direction of Pres. Mills, of the Guelph Agricultural College. Messrs. Smith and Crealy instruct in buttermaking, separating, and milk testing, and the home dairy department is supervised by Miss L. Shuttleworth. The first of the five four-weeks courses in factory buttermaking will open Nov. 23rd, 1898, and the last will close April 24th, 1899. The entire work of a creamery will be in constant operation along advanced lines. Eight-weeks courses will also be conducted and will be open to those who have had one year's experience in a creamery.

Home dairying will be taught under the competent lady-instructor above mentioned, and is intended to help farmer's wives and daughters especially who wish to perfect themselves along the lines of buttermaking on the farm. This course is free to ladies and commences Nov. 23rd. The school building is large, well heated, well ventilated, and furnished with every convenience for the comfet of students, besides being fully equipped with all the modern machinery and appliances needed in a buttermaking dairy school. A circular giving full information can be had by applying to the Principal. We trust the school will be taken advantage of by large numbers of dairymen, farmers' sons and daughters who wish to properly qualify them selves for their work.

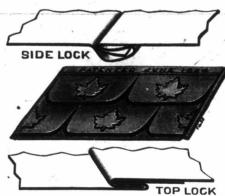
POULTRY. Rocks, S. and W. Wyandottes.

Poultry. L. and D. Brahmas, B. and W. Rocks, S. and W. Wyandottes, Black Minoroas, Indian Game and Red Caps. Young stock and eggs from abave breeds. Eggs, \$1.25 for 13: \$2 for 26. Satisfaction guaranteed. JACOB B. SNIDER, Cerman Mills.



NEW METAL ROOFING.

Patent Lock Safe Shingles



Constructed on entirely new principles Shingles interlock one another on all four sides, leaving no laps to open up or admit rain or snow. Guaranteed to be absolutely weather proof, and they are also fireproof, and have never been known to be struck by lightning. They add to the appearance of any building and are low in price, and will last a lifetime Send postal for catalogue and prices.

The Metal Shingle and Siding Company, Limited,

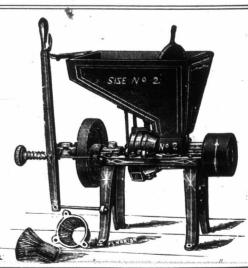
PRESTON, ONT., CANADA

A New Feed Grinder

I T will grind corn on the cob as well as small grain. It will grind them both at the same time, mixing the product evenly. This machine is made in three sizes. It will do more work with the same power than any other machine on the market. Send for catalogue. We manufacture also

TREAD POWERS, THRESHERS, FEED CUTTERS. HAY PRESSES, ETC., ETC.

Matthew Moody 😹 Sons, TERREBONNE, QUE.



WE MAKE A SPECIALTY 0F

and send free catalogues and estimates upon application.



Our Hilborn Wood Furnace is unquestionably the best and most economical heater on the market. We can refer you to many thousands of well-pleased customers located in all parts of the Dominion.

We have Furnaces suitable for wood only, coal only. Furnaces and Combination Heaters (hot air and hot water). Send postal for estimates and catalogues.

CLARE BROS. & CO., PRESTON, ONT. WINNIPEG, MAN. 898

th-

Harness and Halters.

Harness and Halters.
Horse Blankets.
Buffalo Robes.
Buggies and Sleighs.
Road Carts, \$15.
Keystone Dehorners, \$10.
Cutting Box Knives.
Hay Knives, 500.
Log Chains, \$1.25.
Hog Rings, per 100, 30.
Bone Mills, \$5.
Feed Boilers, \$12.50.

WRITE FOR CATALOGUE.

We have just published our new fall catalogue and we want to mail a copy to EVERY READER OF THE ADVOCATE. If you will please send us your name and address on a post card we will send you one of these catalogues free. It is a book of 134 pages, contains 10,000 prices of all the different articles which farmers usually buy, and has thousands of illustrations. This book will surely interest you, and will cost you nothing but a post card. Write at once before the issue is exhausted.

OUR SEWING MACHINES.

Our catalogue contains prices and illustrations of each of the following lines of goods:

Blacksmiths' Tools of all kinds.

X Cut Saws, 5 foot, \$2.25.
Clothes Wringers, \$2.50.
Pota' Smoothing Irons, 680.
240-lb. Scales, \$5.
Graniteware and Tinware.
Lard Presses, \$5.
Best Ranors on earth, \$1.00.
Cook Stoves, to burn wood or coal.
Sewing Machines.
Bioyoles, only \$29.50.
Toys, Games, and Dolls.
Double Barrelled, Breech Loading
Shotguns, \$10.
Winchester Rifles.
Violins, Autoharps, and all Musical
Instruments, Including Parlor
Organs.

Organs.
Waltham Watches of all kinds.
We repair Watches of all kinds.
Gewelry and Silverware.
Patent Medicines.

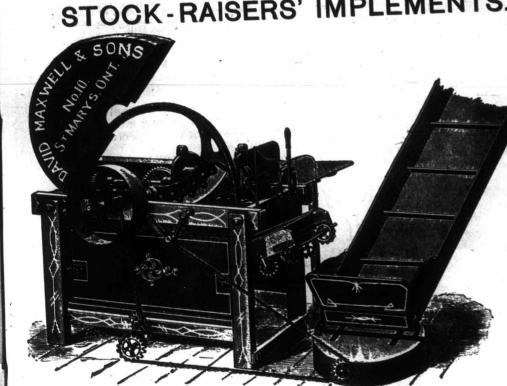
Farmers' Winter Mitts and Socks and Farmers' Winter Clothing of all descriptions. Fur Coats and Fur Caps. Dry Goods and Ready to Wear Clothing.

outilite.

Be sure you write for our fall Catalogue before the issue is exhausted. We ship goods to all parts of Canada from the Atlantic to the Pacific, and if you are a cash buyer we can interest you. Address all letters to the Letter Order Department of

STANLEY MILLS & CO., HAMILTON, ONT.

STOCK-RAISERS' IMPLEMENTS.



NO. 10, POWER ENSILAGE CUTTER.

The latest and most modern manufactured. Unsurpassed for Power, Durability, and Capacity. Made in two sizes: 14 and 12 inch. We are also placing on the market new and improved.

Pulpers and Slicers. Send for catalogue giving full description.

DAVID MAXWELL & SONS, ST. MARY'S, ONTARIO, CANADA.

(Please mention "Farmer's Advocate.")

PAGE WIRE FENCING IS THE CHEAPEST

you can buy. Ask any one using it if this is not so. Our fence has been in use
12 years, and the first is still in perfect condition. Don't experiment with the numerous
12 years, and the market. None of them are equal to the Page.

imitations now in the market. None of them are equal to the Page.

om

We have some illustrated advertising matter. Let us hear from you.

-om THE PAGE WIRE FENCE CO., Limited, Walkerville, Ont.

GOSSIP.

At the annual sale of Oxford Downs owned by Mr. J. T. Hobbs, at Cirenoseter, August 3rd, fitty rams realized an average of £15 13s. Mr. Treadwell, one of the oldest and best breeders, bought the highest priced ram at £2 guineas, and Messrs. Overman, Norfolk, the second highest at £0 guineas. At Messrs. Teadwell's sale at Winchendon, on the same day, sixty Oxford rams were sold for an average of £17 14s. The first-prize yearling ram at the Royal this year brought £0 guineas, and three others sold for the same price; another for £6 guineas, and the favorite of the sale for \$1 guineas.

M. RENNETT & SON'S RERESHIESS, CHESTER

Na. The first-prise yearling ram at the Royal shis year brought 50 guineas, and three others sold for the same price; another for 46 guineas, and the favorite of the sale for 31 guineas.

H. BENNETT & SON'S BERESHIERS, GHESTER WHITES, AND POULTRY.

Upon our visit to Mesers. Bennett & Son's farm, in Norfolk County, near St. Williams, Out., we were not only well received but shown over their stock for the third time within the short space of a trifle over a year. We are able to see very marked improvement. The Berkshire berd now figure up to some forty odd az mals, and although many of the older marrons are still in the herd, we are pleased to be able to report the presence of additional purchases of great importance. In looking over them we saw the daughter of the grand old Baron Lee 4th, Lady Bennett, in her two-year-old form, and although she reared uine fine pigs last spring, she is still in grand form, and again safely in pig to farrow in the fall, and from that litter Mr. Bennett still has a pair of splendid lengthy boars, good enough for the owner of any herd to be proud of. Bennett's Choloe is also in aplendid shape, and from her last litter we were shown some youngsters of which Mr. Bennett is justly wroud, being splendidly marked and good individuals. She also is being bred to farrow just he fall. Ruthamis 517. by Emperor 4128, and out of Lady Pollard 2601, is a trific over a year old, and poseesses a good amount of depth with awest quality, and due to farrow just before the Torento Fair. Volet 5763, by Tom Lee 4131, and out of Maud 5216, is rising a year. When three menths old she was purchased from her best day her of a sow, with sufficient size, carrying her evenness well through, with a splendid back and head and good markines. She is a good type of a sow, with sufficient size, carrying her evenness well through, with a splendid pence of a rail of his weight, and and of Pozonia 2828, is still at the head doing service, and from the impression his selection the province. Although the province of the

Good Butter Making

Windsor Salt.



FOR DAIRY OR TABLE USE IT IS UNEQUALLED.

Salt on the Farm

FOR WIREWORM, JOINTWORM, ARMY WORM, AND ALL INSECTS THAT DESTROY CROPS, SALT IS THE BEST INSECTICIDE. IT IS ALSO A FERTI-LIZER. TRY IT.

R. & J. RANSFORD, Clinton, Ontario.

FOR HORSES AND CATTLE. In car lots or less ; 500 pounds, \$3 here. Cash with order. TORONTO SALT WORKS,

TORONTO. EDMUND WELD.

Barrister, Solicitor, Notary Public, Etc. Moneys loaned on real estate, at lowest rate Investments procured. Collections made. Address, 87 Dundas Street, London, Ont.

GOSSIP.

Ario.

7. D. Reesor, Markham, Ont., writes: —"In rissue of Aug. 15th, 'A Record-breaking sey, Adelaide of St. Lambert,' you say a calved the property of and raised by t. Wm. Rolph. I beg to say I owned her, Princess Minette, also her sire, Comely's te Pogis, and bred and raised the calf and to Mr. Rolph when about six months old. terwards sold her dam also to Mr. Rolph."

An inter-collegiate contest in live stock judging has been arranged, to be competed for at the Trans-Mississippi Exposition, Omaha, in the coming October, when live stock classes will be at the show. The amount of money, donated by Mesars. Clay, Robinson & Co., Chicago, for the prizes is \$250, and will be divided into a 1st prize of \$125, a 2nd of \$75, and a 3rd of \$50, and must be competed for by students that are or have been regularly enrolled in any American College in 1898.

enrolled in any American College in 1898.

Alex. Hume & Co., Burnbrac, Ont., writes:—

"We are taking a full car of our Ayrshires to the leading fairs of Ontario, and we would invite all to look them over carefully. Owing to abundance of feed the herd is in the best possible condition. Our aged bull, Prince of Barcheskie, is very quies, having run in the pasture field all summer, and is as spry on foot as a two-year-old. He is also in grand breeding shape; the run has done him a great deal of good. The only time he was exhibited at Toronto, as a yearling, he secured first place. He is a right good one, and is fit to head any herd in Canada. We have a number of very choice young animals. Our pigs are doing well. We have some nice boars fit for service; others three and four months, and a litter just farrowed."

A. C. Hallman, of Spring Brook Stock Farm,

for service; others three and four months, and a litter just farrowed."

A. C. Hallman, of Spring Brook Stock Farm, New Dundee, Ont., writes:—"I have decided to exhibit a full line of Tamworths at Toronto, and possibly at London, including the famous imported Nimrod (although an aged boar, is as full of life and vigor as a two-year-old) and a full of life and vigor as a two-year-old) and a full of life and vigor as a two-year-old) and a full of life and vigor as a two-year-old) and a full of life and vigor as a two-year-old) and a full of life and vigor as a two-year-old) and a full of life and vigor as a two-year-old) and a full of life and vigor as a two-year-old) and a full of life and vigor as a two-year-old) and a full of life and vigor as a two-year-old) and a full of life and vigor as a two-year-old) and a year old, competed against all ages, his own pen mate taking let. Mr. J. E. Brethour, who selected this boar for me, gave this pig the preference to the let prise pig, and consequently bought him. As may be expected, he is not now in show trim after such severe shaking about and continual change of quarters. However, the quality can be seen. The sow, Whetaser Countees 2nd, is a grand specimen of a Tamworth and a noted prizewinner. Mr. Brethour considers her a far better sow than the gold medal sew at the Royal. She farrowed in quarantine; has now a nice litter of ten pigs beside her, all doing well—8 boars and 2 sows. My Holsteins are in grand form and doing splendidly. The two bulls I exhibit will be for sale, and they are of grand quality."

JAS. LENTON S BHORTHORNS, YORKSHIRES, AND POULTERS (WYANDOTTER, G. & S., B. P.

sale, and they are of grand quality."

JAS. LENTON'S SHORTHORNS, YORKSHIRES, AND POULTRY (WYANDOTTES, G. & S., B. P. ROCKS AND PEKIN DUCKS).

While passing through Osbawa, Ont., recently, we paid Mr. Jas. Lenton a friendly visit at his place (Park Farm) and saw some splendid poultry, as well as a very promising Shorthorn bull calf, which he says he will offer for sale a little later in the season. He also informed us that the bunch of Yorkshire also informed us that the bunch of Yorkshire season as featherston boar, and among them were a few very choice animals of the popular type. The chief attraction, however, was the Wyanvery choice animals of the popular type. The very choice animals of the popular type. The chief attraction, however, was the Wyandottes and Barred Plymouth Rocks. Our enduties brought to light the fact that the Silver Wyandottes are the descendants of stock obtained from Mr. Matheson, South Shaftsbury, Vt., a large exhibitor and winner at Madison Square Gardens, and known among the first men in the breed on the continent. This fall Mr. L. informed us that he would have about a dozen cockerels and twenty pullets for disposal, and we can say in confidence they are a splendid looking bunch. The Goldens were first obtained from another equally noted man in that breed, and a Boston and Madison Square winner, Mr. C. W. Johnston, Crawford, N. J., and of the 40 young birds for sale 15 were cockerels. Pekin ducks, of Hallock strain (a Boston winner), are also given attention, and a few choice birds will be shipped, as well as some excellent Barred Plymouth Rocks.

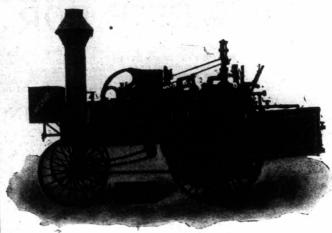
J. C. NICHOL'S TAMWORTHS.

J. C. NICHOL'S TAMWORTHS.

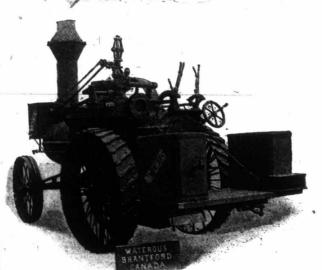
Plymouth Rooks.

J. C. NICHOL'S TAMWORTHS.

The farm of Mr. J. C. Nichol, near Hubrey, Ont., is situated some seven miles from the City of London. Tamworths have here been bred for some five years, and although not in great numbers, the best in quality has always for the present sire, Amber Luther 245, by Columbus Chief 230, and out of Glenvale Rose 267, was farrowed in 1894. He has done service in some of the best herds in Canada, and is regarded as one of the best sires of the breed. He is a true specimen of the breed, possessing great length and depth, with splendid bone and an extremely fine cut head. Among the matrons we saw Maud 236, by Buffalo Bill 143, and out of Ruby 211, a sow-oredited with much good stock and a grand individual herself. Last year in Toronto showring she won second in her class, and first as sow and four of her litter. Elmdale Beauty 556, by Rob Roy 344, and out of Goldfinch 137, is in her third year. In Toronto in 1896 she landed first in her class for sows under a year. She possesses a splendid side and even back, and is an all-round good sow. From her last litter we saw half a dozen welldoing youngsters. We also saw a useful sow under a year out of Maud and by Oak Hill Hugo, which is due in October. At the time of our visit Mr. Nichol had four splendid young boars and eight sows under six months, well advanced, even lot, and as we said on the offset, though not numerous, none but the best are kept in this herd. are kept in this herd,









RECENT REPORTS OF THE

New Waterous Traction:

G. A. McCubbin, Chatham, Ontario, writes, August 22nd, '98: G. A. McCubbin, Chatham, Ontario, writes, August 22nd, '98:

"The 14-H. P. new Waterous Traction Engine I purchased of you this season is giving the best of satisfaction, has all the power that is needed, and is easy on wood—half a cord will run all day, and 10 barrels of water. I draw the separator with it wherever I go; it is easily of water. I draw the separator with it wherever I go; it is easily of water. I draw the separator with it wherever I go; it is easily of water. I draw the separator was a gang of men threshing with an handled on the road. There was a gang of men threshing with an engine made by another firm and they could give the grain so fast that they had to stop and get up steam, and they came where I was threshing and went in the mow to shut my engine down, but they have not done it yet."

Nicholas Sliney, Richmond Hill, Ontario, writes, 20th August, '98: Nicholas Sliney, Richmond Hill, Ontario, writes, 20th August, '88:

"As you have not thought it worth your while to ask for a testimonial. I thought I would say a few words as to the good qualities of monial. It have run four will be started in Engine. It is the best firing my 14-H. P. new Waterous Traction Engine. It is the best firing engine I ever put a stick of wood into. I have run four miles with engine I ever put a stick of wood into. I have run four miles with have power to spare at 80 lbs., and I can travel on the roads at the have power to spare at 80 lbs., and I can travel on the roads at the have power to five miles per hour with 60 lbs. of steam and draw my rate of four to five miles per hour with 60 lbs. of steam and draw my rate of four to five miles per hour with 60 lbs. of steam and draw my rate of four to five miles per hour with 60 lbs. of steam and draw my rate of four to five miles per hour with 60 lbs. of steam and draw my rate of four to five miles per hour with 60 lbs. of steam and draw my rate of four to five miles per hour with 60 lbs. of steam and draw my rate of four to five miles per hour with 60 lbs. of steam and draw my rate of four to five miles per hour with 60 lbs. of steam and draw my rate of four to five miles per hour with 60 lbs. of steam and draw my rate of four to five miles per hour with 60 lbs. of steam and draw my rate of four to five miles per hour with 60 lbs. of steam and draw my rate of four to five miles per hour with 60 lbs. of steam and draw my rate of four to five miles per hour with 60 lbs. of steam and draw my rate of four to five miles per hour with 60 lbs. of steam and draw my rate of four to five miles per hour with 60 lbs. of steam and draw my rate of four to five miles per hour with 60 lbs. of steam and draw my rate of four to five miles per hour with 60 lbs. of steam and draw my rate of four to five miles per hour with 60 lbs. of steam and draw my rate of four to five miles per hour with 60 lbs. of steam and draw my rate of four to five miles per hour w

Lightest Engine for its power, 14-H. P. Traction, with water and fuel, weighs only 9,800.

Ample Boiler —blows off when running at 1-3 pressure under hardest work with injector full on.

Very Economical -easy on fuel and water;

Quickly Set and lined with separator; steer-

See it at Toronto and London Exhibitions, or write us-

Waterous, BRANTFORD, CANADA.

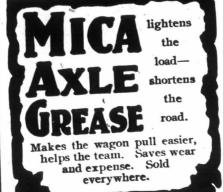
FARM IMPLEMENTS, ETC.

DEDERICK'S PATENT HAY PRESSES Made of steel—lighter, stronger, more power everlasting, and competition distanced.



Also all styles of Bale Ties made from best Steel Wire. A full line of repairs for Dederick's Presses always on hand.

MANUFACTURED BY BOYD & CO., HUNTINGDON, QUE.



GOSSIP.

H. Smith, Hay, Ont., writes: "The young Shorthorns I am offering just now are an exceedingly choice lot. They include a good red bull calf, a brother in blood to last year's champion steer, Bruce, and are mestly sired by Abbottsford 1946. The old bull's get continue to get to the top. There were two sired by him shown at the last Winnipeg Exhibition and both won first premiums, he being the only bull that sired more than one winner at that show."

The imported Clydesdale stallion, Mac-Quaker (9798), offered for sale in this issue by Mr. Harry Story, Picton, Ont., is a beauti-ful stamp of a draft horse, bred along the most fashionable lines, and is just at his best age—six years old. He was imported in 1895 by Graham Bros., Claremont, Ont., for whom he did valuable stud service, getting grand stock with pleasing symmetry and action from reasonably good dams. See advertisement elsewhere in this issue.

elsewhere in this issue.

At the auction sale of Mr. H. Moore's Hackneys, at Burn Butts Farm, Yorkshire, Eng., on August 3rd, sixty-eight animals of various ages brought an average of 55½ guineas (\$275). The high price of 350 guineas was made by the brood mare Frisk, and her filly foal of 1838 sold for 200 guineas (\$2,750 for mare and foal). The three-year-old filly, Dewdrop, brought 400 guineas, and the two-year-old filly Syringa, 200 guineas. At the sale of Messrs. Rowell's Hackneys at Rudham, Norfolk, a few days previous, four mares sold at prices ranging from 105 to 130 guineas, and a gelding for 105 guineas.

\$5,000 FOR A RAM.

\$5,000 FOR A RAM.

In another column in this issue our English correspondent reports the sensational prices paid for Lincoln rams at Mr. Henry Dudding's auction sale, held July 26th. The first-prize yearling ram at the Royal Show brought at this sale 1.000 guineas, or practically \$5,000, to go to South America; fifty-two yearling rams sold for an average of \$435. Mr. Dudding evidently has a Klondyke of his own,



THERE IS ITS PICTURE.

The LARIMER DITCHING PLOUGH

The peer of all ploughs on the continent for drain work, and underdraining is the most needed part of farm work in Canada today. This plough needs not to go begging. These who know about it ask for it. And those who use it are sorry they did not have it long before.

Covered by patent in Ottawa for Canada, and in Washington for the U.S. of America.

F. C. ROBINSON. Port Hope. Ont. May a "Two ordinary".

Washington for the U. S. of America.

F. C. ROBINSON, Port Hope, Ont., says: "Two ordinary workmen, who never worked at draining before, took the plough and in one day threw out ready for the tile is rods of ditch, 32 inches deep. The soil was a hard, dry clay subsoil, the day a hot one in July. I have employed experienced drainers before, and they never averaged more than six rods a day at the best through the same ground. The plough has proved perfectly satisfactory in every way." Write

R. G. SCOTT, "MOUNT JOY FARM, Martintown, Ontario.

