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Fencers and Farmers



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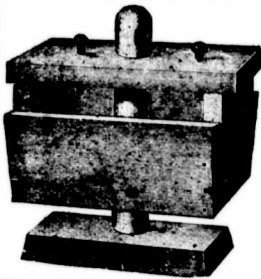
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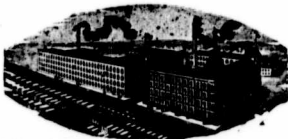
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The Farming World

For Farmers and Stockmen

Vol. XIX

AUGUST 20th, 1901

No. 8

Our Annual Autumn Number.

THE next issue of The Farming World will be our big annual Autumn number. Extensive preparations have been under way for several weeks back in connection with this number, and we can promise our readers a rich and rare treat. The unique feature of the issue will be a series of specially prepared articles dealing with agriculture in the eight provinces and territories of the Dominion and outlining what the various local governments are doing to assist the farmer in making his business more profitable. This series has been compiled by the ministers and deputy heads of the agricultural departments for each province, including Hon. Mr. Rogers, for Prince Edward Island; B. W. Chipman for Nova Scotia; Thos. A. Peters for New Brunswick; G. A. Gigault for Quebec; Hugh McKellar for Manitoba; C. W. Peterson for the Northwest Territories; J. R. Anderson for British Columbia, and W. B. Varley, secretary to the Minister of Agriculture, and Thos. Southworth, Director of Colonization for Ontario.

Other important features will be specially written articles by Prof. J. W. Robertson, Agricultural and Dairy Commissioner, and F. W. Hodson, Dominion Live Stock Commissioner, the former outlining the work being done at Ottawa for agriculture, and the latter dealing with some important features of the live stock industry gathered from his recent visit to Great Britain. There will be a special article by W. H. Hay, accountant to the Experimental Farms dealing with Canada's display at Glasgow, while Canada at the Pan-American will be reviewed by a member of The Farming World staff. In addition, the several departments of the paper, including the Sugar Beet World, The Agricultural Gazette, Studies in Nature and the Farm Home will contain matter specially prepared for this number.

The issue throughout will be profusely illustrated by a large number of photo engravings, showing farms and other scenes in the different provinces as well as numerous views of Canada's exhibits at Glasgow and Buffalo. The larger number of these illustrations have been specially taken for this number and will appear there and nowhere else. Our readers, therefore, will find this number specially pleasing in the way of illustrations as well as most instructive in letterpress.

Need we particularize further?

Enough has been said to indicate that the annual autumn number of The Farming World for 1901, the first year of its kind that has yet appeared in Canada. We know our readers will like it, and we trust that they will draw the attention of their friends and neighbors to it. This special issue should be in the home of every Canadian farmer. A large number of extra copies will be issued, and parties desiring copies should send in their names early.

The Farming World Tent.

As has been our custom for several years back, The Farming World will have a tent at the Industrial Fair. It will be located at the old stand, opposite the Farmers' Institute tent and adjacent to the live stock judging rings, and we shall be glad to meet any of our advertisers, subscribers and friends there. Pens, ink and paper will be at the disposal of those desiring to use them. Call and see us.

Attend the Fall Fairs

Heretofore, Canadians have had every reason to feel proud of their annual fall fairs. As compared with those held in other countries they excel them in many features, and as all round agricultural shows, are vastly superior. Visitors from abroad, and who, by the way, are every year becoming more numerous at our fairs, tell us this and take special delight in carrying back to their homes good reports of Canada and her people gathered at the fairs.

Many of our own people who visit the annual fair year after year, fail to appreciate this fact. They become accustomed to locking upon it as "the same old thing," losing sight of the fact that substantial progress in this line, as well as in any other, must be gradual, and is scarcely noticed year by year, excepting by the close observer. But a glance back to the fair of ten, or even five, years ago must convince one that very substantial progress is being made, and that the fair of to-day has many new features and many more opportunities for education and amusement than its predecessor. In the agricultural exhibit alone, this is very marked. Take the Toronto Industrial for example: Five years ago there was no live stock judging competition, in which young men of the farm competed for prizes in judging cattle, sheep and swine. At that

time there was no butter-making competition, combining the advantages of a working dairy, to show visitors how good butter can be made. These, as well as other new features, are shown in the agricultural exhibits of to-day. And equally notable signs of progress could be given in other lines. The big fair of to-day has to be a live and progressive institution or go out of business. And we need no stronger testimony to show that the leading Canadian fairs are progressive and up-to-date than that they are in active operation to-day, and making a stronger bid than ever for the people's patronage.

And we firmly believe that notwithstanding the proximity of the Pan-American, Canadian fairs will be largely patronized this year. It would be a serious mistake if such were not the case. These fairs are doing more to advertise Canada and her products abroad than many people realize, and Canadians should keep faith with them, and whether they visit the Pan-American or not, arrange to spend a day or two at some one of the leading fall fairs. In Ontario the three at the head of the list are the Industrial, Toronto; the Western, London, and the Central at Ottawa. In Quebec the annual fair at Sherbrooke leads while each of the Maritime Provinces has its own provincial fair.

The managements of all these fairs are making every preparation for big displays of the country's products this year, and we would bespeak for them a good attendance of our farmers and citizens. It will pay farmers to attend these fairs if for no other reason than to become familiar with the kinds of live stock that are needed for supplying the world's markets of to-day. Nowhere can object lessons of this kind be secured so easily, and no Canadian farmer can afford to be in ignorance of the types of horses, cattle, sheep, swine and poultry best suited to the needs of the market. Let there then be a big rally at all our large fairs this season.

The Transmission of Tuberculosis.

The statement of Dr. Koch, the great German scientist, before the World's Tuberculosis Congress in London, England, that: "Human tuberculosis and bovine tuberculosis are radically different diseases," has come as a thunderclap to the leading scientists of the day. Nothing like this was expected and consequently the greatest

excitement and interest were caused by Koch's declaration, the more so as it was a reversal of his own view, a recantation of a former dictum after years of careful investigation.

For some years past the medical profession and scientists have contended that man could convey tuberculosis to the bovine and that the consumption of tuberculosis milk would induce tuberculosis in the human being. To guard the human race against such contagion, most stringent laws were enacted and thousands of valuable cattle were destroyed under such legal enactments. Dairymen and breeders suffered most severely, by the enforcement of these laws, and the value of pure bred stock and dairy cattle decreased considerably because of them. In addition to this the consumption of cows' milk decreased very largely in many cities as people became afraid of contracting the disease. To such an extent was this the case that the more progressive city milk dealers to increase their trade made a special point of advertising that the herds from which their milk supply was procured were tubercular tested and entirely free from the disease. To the theory that bovine tuberculosis was communicable to the human is largely due the formation of large companies in nearly all our cities to carry on the business of milk supplying on a purely scientific and sanitary basis. And thus good has resulted from a false assumption.

While physicians and the majority of scientists, (there were not a few scientific men previous to Koch's declaration who held that the transmissibility of tuberculosis through milk and meat was not proved,) have contended that bovine tuberculosis was very easily communicated to the human breeders and dairymen took the stand that such a contention was not warranted by the facts. And so the dispute has gone on with law-makers in nearly every country taking the side of the scientist and enacting laws for the suppression of the disease by the slaughter of all animals reacting to the test. The enforcing of these arbitrary measures has served to unite breeders and stockmen the world over almost in one solid phalanx in opposition to the test. Had more rational methods been advocated in the first instance for coping with the difficulty there would never have been this strong opposition to the test which we find not only in Canada but in every country where the breeding of live stock has assumed large proportions.

But it is a long road that has no turning, and of late years there has been a decided change of view as to the best methods of coping with the disease which has culminated in the deliverance of Dr. Koch. Scientists and the faddists, who felt it to be their duty to destroy every animal in the country if need be, so long as their methods of eliminating the disease were carried out, if not convinced by Koch's statement will no doubt now take a different view as to the attitude of the breeder and dairyman to this whole question. The theory of purely self interest on the part of the breeder will no longer

hold water. His practical sense of right and wrong in this matter told him all along that these extremists were unreasonable and unjust in their demands, and now he has the testimony of one of the greatest scientists of the age to back him up in his contention.

The important point to be noticed, however, is the effect Dr. Koch's declaration will have on the whole question of tuberculosis and the many ramifications our law makers have interwoven into it. It is rather early yet to make any predictions in this regard. The breeders of this and other countries have been fully justified in the course they have taken in regard to the too stringent measures adopted which is very gratifying indeed. The danger to avoid now is reaction. Though bovine tuberculosis may not be transmissible to the human it is transmissible to other animals and consequently all reasonable means should be taken to preserve the health of the cattle by good sanitation, ventilation, etc., in stables.

The County or Travelling Libraries.

In *The Farming World*, of July 2nd we published some items in reference to the development of county or travelling libraries, in the United States. Mr. Wm. Stewart, Librarian of the Public Library, Lancaster, Ont., writes us to the effect that at a recent meeting of their board a recommendation was made for the extension of the benefits of the library to the outlying school sections. The intention by circulating books in the rural districts, is to greatly extend the advantages of the library.

We are glad to know that the initiative has been taken in this matter by a Canadian library board. The county or travelling library is a practical and workable scheme that could be adopted in many of the rural sections of Ontario with very little cost. Such a circulating library could be very well managed through our Farmers' Institutes if the matter were taken up in the right way. Another plan, as suggested by the Lancaster board, is to work it through the school sections. This also seems feasible. The only difficulty is to get a plan in operation. But this should not be difficult with some live executive body to direct affairs. Let a start be made this fall.

The Cheese Carrying Trade.

A Steamship Company justly censured

Prof. Robertson last week issued a very important statement in regard to the transportation of cheese from Montreal. For sometime the Dairy Commissioner has been urging upon the steamship companies engaged in this trade, the necessity of providing proper ventilation in the holds of vessels where cheese are stored and a sufficient amount of cool air to keep it at a proper temperature. To properly equip vessels for this work fans and refrigerating apparatus are required. The cost of such an installation would be about \$10,000 for each vessel, and of this amount the Govern-

ment had promised to pay half, the extra cost to the shipper being about five shillings per ton.

While nearly all the companies complied with Prof. Robertson's request, there was one that didn't, the exact position of affairs being shown by the following:

"The Allans are fitting all their vessels with the fans and cooling apparatus as fast as they can get them in hand, the Thomson, Donaldson and Manchester Lines were being fitted with the fans, and each line is having two or more vessels provided next season, if they find their shippers appreciate their efforts. The only line that had taken no steps in the matter was the Elder-Dempster Line. This line had expressed the opinion that they were doing all that was to be expected. In connection with this line, he might mention that he had seen cargoes discharged at Bristol in a most discreditable condition. Nearly 40 per cent., over 30 per cent. anyway, of the boxes were smashed and much of the cheese was smashed too. He would say that he knew of nothing so disgraceful, and the Canadian cheese trade was suffering more from this cause than from any other. He had the full authority of the Canadian Government in saying this, and he felt that something must be done to save the cheese trade from the consequences of such methods."

The stand the Government has taken through Prof. Robertson in regard to this matter will no doubt receive the hearty approval of dairymen and those interested in the shipping of cheese. To turn out a good quality of product and have it injured on the way to the consumer is a most unsatisfactory way of doing business. Besides it is most unfair to the farmers who supply the milk, as well as to the maker who goes to the trouble of making that milk into cheese, and every effort possible should be made to have the finished product conveyed to its destination in the best possible condition. No steamship company engaged in this important trade can afford to ignore the need of up-to-date equipment for its vessels and when one refuses to comply with the reasonable request of the Dairy Commissioner it certainly is deserving of exposure.

The Corner Stone Laid.

An event of considerable importance to agriculture took place at Guelph on Wednesday, when the corner stone of the Massey Hall and Library at the Ontario Agricultural College was laid by Mr. W. E. H. Massey. The building is already well under way and from all appearances will be a handsome and commodious structure in keeping with the group of buildings among which it stands.

The proceedings were opened by the presentation of a silver trowel to Mr. Massey by Mrs. Dryden, wife of the Minister of Agriculture. After the corner stone had been laid several important addresses were delivered by Dr. Mills, Mr. Massey, Hon. James Young, Dr. Goldwin Smith and a number of others. All the speakers dealt with the great importance of agriculture and the need of training

and educating young men on the farm along agricultural lines. The college is doing a most important work in this connection, and the erection of this building will add materially to its facilities and equipment for educating young people for the farm.

Ontario Crops.

The August crop report just issued by the Ontario Department of Agriculture summarises the acreage and yields as follows:

The acreages are final, but the yields (except in the case of hay and clover) will be revised from actual threshing results in November.

Fall wheat has an area of 920,587 acres, yielding 16,237,499 bushels, or 17.6 bushels per acre. In 1900 there were 1,068,640 acres, yielding 23,369,737 bushels, or 21.9 bushels per acre.

Spring wheat has an area of 458,043 acres, yielding 5,772,303 bushels, or 12.6 bushels per acre. In 1900 there were 376,905 acres, yielding 6,940,533 bushels, or 18.4 bushels per acre.

Barley has an area of 687,201 acres, yielding 16,857,161 bushels, or 26.5 bushels per acre. In 1900 the area was 577,810 acres, yielding 14,904,751 or 29.3 bushels per acre.

Oats have an area of 2,408,264 acres yielding 79,868,890 bushels, or 33.2 bushels per acre. In 1900 the acreage was 2,398,831, yielding 89,684,327 bushels per acre.

Peas have an area of 602,724 acres yielding 10,730,178 bushels, or 17.8 bushels per acre. In 1900 there were 661,592 acres, yielding 11,058,198 or 37.4 bushels per acre.

Beans have an acreage of 53,688 acres, yielding 1,069,928 bushels, or 19.9 bushels per acre. In 1900 the acreage was 44,053 acres, yielding 820,373 bushels, or 18.6 bushels per acre.

Rye has an area of 158,236 acres, yielding 2,690,927 bushels, or 17.0 bushels per acre. In 1900 the acreage was 2,398,831, yielding 89,684,327 bushels, or 37.4 bushels per acre.

Hay and clover has an area of 2,557,263 acres, yielding 4,638,317 tons, or 1.81 tons per acre. In 1900 the area was 2,526,595 acres, yielding 3,133,045 tons, or 1.24 tons per acre.

Other crops. The following acreages have been determined for crops for which no estimated yield can be made at present: Corn for husking, 323,923; corn for silo, 197,932; buckwheat 88,266; potatoes, 151,156; mangels, 61,095; carrots, 9,221; turnips, 145,909; rape, 41,633; flax, 7,083; hops, 1,054; tobacco, 2,935; orchard and garden, 354,299; vineyard, 12,227. Apples give an estimated yield of 13,834,224 bushels, or a little over 2 bushels per tree of bearing age, or less than 40 per cent of last year's yield. Live Stock on hand: Horses, 761,799; hogs, 1,491,885; poultry, 9,761,799; hogs, 1,491,885; poultry, 9,599,736.

Mr. Dukane—The list of warlike nations has been increased lately.

Mr. Gaswell—I did not notice it. What is the addition?

Mr. Dukane—I refer to Mrs. Carrie Nation.—Pittsburg Chronicle Telegraph.

Pan-American Notes.

Canadian Commissioner Elderkin has arranged for fifty four-year-old steers fresh from the ranges of the North-west to be sent to Buffalo. These steers have never been under cover. A car load of range sheep and about twenty-five horses will also be sent. A number of cowboys and a score of Mounted Police will accompany the exhibit. The horses will be picked animals from the Mounted Police stables, and upon these, guardians of law and order in the North-west will give a musical ride. The cattle will be shown in a corral and the ranchmen will handle them just as they do on the plains. They will also display feats of horsemanship. It is likely that a number of fine short-horn cattle belonging to Hon. Thomas Greenway will be sent to Buffalo for exhibition. A carload of poultry from Winnipeg will also be on view. The Territorial live stock exhibit will be open to the public from the 9th to the 21st of September.

The Bureau of Animal Industry of the Department of Agriculture is making arrangements to have photographs made of representative cattle at the Pan-American Exposition for use in government publications. This is a merited recognition of the thorough manner in which this important department of the Exposition is being conducted.

October 19th, has been set aside as a special National Grange Day when a like invitation is extended to their farmer friends all over the country, and the result is expected to be unprecedented in the attendance of farmers and those interested in agricultural pursuits.

There are six hundred individual entries for swine which will be shown this month, the number of exhibitors of each breed are as follows:—Berkshire six, Poland China four, Chester White four, Duroc-Jersey two, Small Yorkshire one, Large Yorkshire four, Essex two, Cheshire two, Tanworth three, Victoria two. The entries are coming from territories as far west as Iowa and as far east as New Brunswick, and South to North Carolina.

Superintendent Converse has arranged for a mammoth meeting of swine men to take place on the Exposition Grounds September 5th, and 6th, at which time speakers of prominence in swine lore will be there to make such addresses upon different subjects as are pertinent to the cause. At this meeting, representatives of foreign countries from the Government offices, who are interested in live stock, will be present.

Another Live Stock interest which should not be passed over is the dog show which will be held in connection with the swine exhibit, from August 27th to August 31st. This exhibit will include more than a thousand entries from the best American and Canadian kennels.

President McKinley has accepted an invitation to be present at the Pan-American on September 4th, and 5th; he will speak in the Stadium at 4.30 on the afternoon of the 5th; this is the largest structure in America and it is expected that twenty-five thousand people will hear President McKinley on this occasion.

Breeders' Notes.

By Stockman.

Sheep Feeding.

Sheep are fond of a change of pasture and a change of food, and do best where this is provided. They need a good deal of exercise and should have a good range of pasture. It is not a good plan to turn sheep into a field and keep them there till they eat it bare. Frequent changes are much preferable.

Clydees.

Baron's crown (10679) was first at the Royal Show at Cardiff and second at the Highland Show at Inverness in 1901. He was bred by Wm. Hood Chapellton, Kirkcudbright, and is by Baron's Pride (9122) out

Tapeworms in the Horse.

There are three tapeworms that make their home in a horse. Toenia Mammillana is about half an inch long, composed of wedge shaped joints, is found in the large intestines. Toenia Perfoliata is from one to five inches long, is the most common kind found in the horse—usually dwells in the coecum Toenia Placata may be in length from six inches to three feet. It is found in the small intestines and rarely in the stomach. Though these parasites are not uncommon they rarely cause death, and not often are they blamed for serious injury to the health of their host.

Our Western Letter.

Crop and Live Stock Condition in the West.

Everyone is thinking and talking crop and crop prospects. The fear of loss of a greater or less portion, through scarcity of labor, has been dispelled by the arrival, during the past week, of nearly 10,000 men from the Eastern provinces, and the promise of almost as many more in the next seven days. We can now laugh at our fears of the past month, but we realize that the Government and the railways could not have made such strenuous efforts had not a well-founded anxiety spurred them on.

Harvest has now commenced in the southern parts of the province and another week will see it general throughout. The next transportation problem is the movement of some forty million bushels of wheat. It is freely predicted that this factor will induce an early settlement of the trackmen's strike, which for the past few months has been the cause of considerable delay and interruption of traffic. For the good of all concerned it is to be hoped that a settlement may be reached before the crop commences to move.

The weather has been favorable for haying, and a large quantity has been put up in good condition. Reports from all parts of the province state that both quantity and quality are much ahead of last year. Weather for harvest is excellent. There have been local showers in most parts of the province during the past week, but not sufficient to cause any damage. At many points it was not sufficient to show in the glass. There

has been no damage by frost, though the Eastern press has been supplied with bogus reports of frost, hail, etc. The object of spreading such information is somewhat difficult of comprehension. Chicago telegrams predicted frost for Wednesday night (Aug. 7th) but the thermometer proved the prophecy ill-founded. The mercury has several times gone startlingly near the danger line, but, having come safely thus far, we feel confident of escaping any loss from this cause.

The implement men are working night and day in a vain endeavor to keep up with orders. Harvest has come on earlier than expected and consequently "rush" orders are numerous. The blame of this state of affairs rests chiefly with the farmer; he is inclined to forget that others beside himself may need twine or machinery. Orders are delayed until the goods are actually required, consequently, many may have to wait for their supplies of twine and new machinery. There is likely to be a shortage of twine, though large quantities are now on the road from Eastern manufacturers.

Cattle exhibits from the West to the Pan-American are likely to be limited to Hon. Thos. Greenway's prize herd of Shorthorns, which includes some of the finest imported and home-bred stock in Canada. While it is to be regretted that none of our breeders of dairy stock are competing it is a matter for congratulation that the representatives from this province are to be of such superior quality. There will be no pure-bred stock exhibited from the Territories, and as there seems to be no class in which the fat ranch cattle may be entered, the Territorial Government purposes sending a bunch of these cattle to be exhibited as a "free attraction," accompanied by a detachment of the mounted police and "bronco busters." Whether the plan will materialize remains to be seen.

MARKETS.

Cattle.—Good steers are scarce, and butchers are supplying their trade mostly with cows and heifers. The summer exportations of grass-fed cattle began this week with a shipment from northwestern Manitoba, followed by one from Moosejaw. Prices range from 3 to 3½ cents per pound, for butchers' cattle, weighed off cars. Stockers \$14 to \$16 for yearlings and \$20 to \$22 for two-year-olds.

Sheep.—Choice sheep and lambs from 4½ to 5 cents per pound.

Hogs.—Demand is steady and prices firm at 6 cents per pound for choice packers. Heavies and inferior grades from 5 cents.

Butter.—The make of both creamery and dairy is much in excess of previous years, consequently, markets are somewhat dull. The British Columbia markets are full and Montreal does not seem to want our goods. Winnipeg dealers are offering 16 cents on cars here, which, compared with Vancouver quotations of 22 cents for Manitoba creamery, seems very low, and may lead to direct shipments by factories. Dairy butter is slow, as offerings are mostly second grade or

inferior stuff—prices run at 10 to 12 cents, according to quality.

Cheese.—The July cheese is now coming in. The quality is good and prices steady at 7 to 7½ cents. Buyers are endeavoring to contract for the season's make at these prices, with poor success, as sellers count on a substantial raise.

Eggs.—Case eggs 12 cents. New laid in small quantities find ready buyers at 18 to 20 cents.

With the commencement of harvest there is every likelihood of a rise in all lines of produce, which has been somewhat low this season.

The Provincial Government has appointed a commission to enquire into the question of establishing an Agricultural College, and report on its advisability, method of operation, probable cost, and all other essential particulars. The commission consists of Rev. Principal Patrick of Manitoba College, J. A. M. Atkins, K. C. Hon. Thos. Greenway, Harvey C. Simpson, Geo. H. Halse, John S. Miller and H. Irwin—four of the seven being farmers.

Winnipeg, August 12th. M. B.

CORRESPONDENCE.

The Dairy Test at Buffalo.

Editor THE FARMING WORLD.

Many Canadian dairymen are not aware that a very important test of cows is being conducted at Buffalo in connection with the "Pan-American" Exposition. This test is to cover a period of six months, which is the longest period that an official test has been conducted where all the conditions are under strict supervision of trained attendants. It is to be regretted that lack of preparation on the part of the Exhibition authorities and a lack of a conception of what would be required in such a test prevented the first part of the competition giving such satisfaction as might have been expected. However, through the vigilance of Mr. C. B. Elderkin, Canadian Live Stock Superintendent at the Pan-American, matters were very much improved after the first month. Canadian dairymen are indebted to Mr. Elderkin for his persistent demands that the Exhibition furnish men to do the work of testing, separating, churning, etc., who were above reproach in character and ability. The men who had sent their cows to compete in the test at a great sacrifice to themselves, because owners of cows in the test are at a complete loss of their products during the whole time that the cows are absent, had a right to expect that the work should be done in such a manner that it would command the confidence of the dairymen of the world. Then, too, there is a heavy expense borne by the Provincial and Dominion Governments in collecting and delivering the cows and returning them to their owners, and in paying for superintendence. Added to these, the reputations of the different breeders and breeds were at stake. All of these things made it doubly important that no expense be spared in having the work of testing, churning, calculating of costs and profits, etc., done in the best manner possible. So far as the writer is aware, the chief credit for securing the present staff of

competent men belongs to the Canadian Live Stock Superintendent, who insisted and demanded that the very best men be got for these responsible positions.

NOTES FROM RULES OF TEST.

Because of so many inaccurate statements which have been made in reference to "profits" of the different breeds, it may be well to give a few of the conditions of the test. The majority of the reports purporting to be giving the relative standing of the breeds (herds) as to profits, but do not state in what the profit consists, are to say the least misleading. All feed fed to the cows is weighed to the animals and is charged according to a scale of prices previously agreed upon. The "profits" are then obtained by subtracting the cost of the feed from the value of the product. The products are valued at 25c. for each pound of butter, and 9c. for each pound of milk solids as determined by the Babcock test and lactometer.

PRIZES.

There are four prizes to be given at the end of the six months.

1. "A prize shall be awarded for the herd showing the greatest net profit, butter fat alone considered, as determined by the Babcock tester."

2. "For the herd showing the greatest net profit, butter alone considered, as determined by the churn."

3. "For the herd showing the greatest net profit in total solids."

4. "For the herd showing the greatest net profit in total solids and in loss and gain of live weight. (The loss and gain of live weight of animals shall be computed at three cents per pound.)"

Readers will thus see that, according to the rules, there are four distinct lines on which "profits" are to be reckoned. Most of the reports published refer to the profits in the production of milk fat. It is evident that the "profit" in No. 4 cannot be ascertained until the close of the test, as the gain or loss in live weight is to be computed from the "average weight of each cow during the first five days of May, and the average weight of each cow during the last five days of October."

Of the ten herds (breeds) in the test, five are from Canada, and five from the United States. The Canadian herds consist of representative Jersey, Holstein, Ayrshire, French Canadian, and Short-horn cows. The American herds are Guernsey, Red Polls, Brown Swiss, Polled Jersey, and Dutch-Belted cows.

It is unfortunate that the animals suffered considerably during the extremely hot weather of July. The test is one of endurance on the part of the cows and of skill on the part of the feeders and milkers; but the lessons will be none the less valuable. Proper steps should be taken to publish the mass of data which will accumulate during the six months, in a readable form for the benefit of the public. They should not be allowed to become of no value to the Dairymen of Canada and the United States for lack of proper editing and publication as was the case at the World's Fair in 1893.

O. A. C. Guelph, H. H. Dean,
Aug. 9th, 1901.

Studies in Nature

A Review of Insect and Bird Life on the Farm

Edited by C. W. Nash.

BIRD NOTES

The season of bird song is now very nearly over, orioles, bobolinks and veerys have left us, and most of our other summer residents are quietly passing through their moulting season in secluded spots where they may not be readily observed. There are, however, a few tireless songsters who fear neither mid-summer nor mid-day heat, these may still be heard chanting their lays as merrily as in spring-time. In the woods, from among the tree tops, comes the somewhat monotonous and dreamy song of the red-eyed vireo. To most people this is a voice associated with the hottest days of summer, and nothing else. They do not know the bird and although they sometimes try, yet they never can see it. The vireo is a difficult bird to see when the trees are in full foliage, because its plumage harmonises so well with its surroundings that it is easily overlooked, and even when in motion, it glides so gently through the quivering leaves that it escapes detection. The song is indescribable, but once heard will be always afterward recognized, for no other bird keeps up such a continuous utterance of disconnected bars. The wood pewee, whose long-drawn pee-wee may be heard in the shady woods and orchards, or even in the trees of our city boulevards, still keeps up its song (such as it is) and will do so on fine days almost as long as it stays with us. To my fancy, the real musician of August is the indigo finch. See him perched on the top of some dead tree, at the edge of a briery clearing, right in the glare of the sun, he sits, and pours out his song with an ecstasy that is inspiring; his energies are not dulled by the heat; as he sings, his crest is raised, his little throat is distended to the utmost and he sways his body from side to side as if trying to throw his voice to all points of the compass at once. A merry, brave, little bird he is, and good to look at. Out in the open fields the only bird that sings regularly is the field sparrow. This bird is not generally distributed throughout Ontario, in some localities I have found it abundant, in others it does not occur at all, it is a very, quiet, unobtrusive little creature; one of the so-called grey birds; high, dry, scrubby pasture fields are its favorite haunts; in such places it may now be heard thrilling its simple song, which is only noticeable because of the prevailing silence; when singing it usually perches on the top of a bush or some low tree, where these are not to be found a mullein stalk or tall weed is made to serve. In the orchards a few wild canaries may be heard singing their rollicking song in the morning and evening, most of them have young in the nest at this

time. When they fly the singing will cease, and both old and young will devote their whole time to feasting on the thistle seeds that careless farmers allow to ripen along the road-sides and in the fence corners. Occasionally, at this season in the early morning, or in the evening, if the weather is fine and not too hot, a song sparrow or a vesper sparrow may be heard trying its voice, but the effort is a failure, the song is hardly recognizable, and the birds quickly abandon the attempt. They are now moulting, and while undergoing the process, their music fails them. When they have acquired their fall plumage they will again sing, but not the songs of spring, their notes will be quieter, less joyous and more in keeping with the sober, restless spirit that gradually seems to steal over all nature as autumn approaches.

BIRDS OF THE ROADSIDE.

Just as I was leaving the trees in which I saw the cuckoo, I heard a note closely resembling that of the tree frog, so much like it, in fact, that any person not very familiar with both might quite easily mistake one for the other. I looked carefully over the trees but could see nothing to which I could attribute the sound, until stepping back a few paces in order to get a clear view of a dead limb at the top of one of the trees, I caught sight of what I was expecting to see, a red-headed woodpecker, as I saw him he flew from the tree and alighted a few yards ahead of me on the top of a fence post, and then again uttered his frog-like notes; such a beauty he was; his crimson head fairly glowed in the sunlight as he twisted and turned it about, in order to take in as much as possible of his surroundings at once. The glossy black of his back and wings shone with a metallic lustre, contrasting beautifully with the pure white of the rest of his plumage. In a few moments he flew back to the dead limb and disappeared, then I discovered a hole in the side of the branch which was evidently being fitted up for house-keeping by the red-heads. From this hole the head of my friend was protruded every few seconds. I was closely watched and every movement I made was regarded with suspicion. Soon I heard the same note from another part of the trees, and directly my bird's mate appeared and went to the hole. Then a brisk conversation took place between the two; no doubt the subject being myself and my impertinence in standing staring at them whilst they were engaged upon their own private affairs. I felt guilty of a certain amount of rudeness in the matter, and so left them and strolled on, thinking about them and their ways. These birds, like all the woodpeckers, have a great variety of

notes, all of which express something understood by the woodpecker community. When two of them meet together an animated conversation is at once entered into, usually friendly enough, sometimes the reverse, and anyone at all familiar with the birds can detect the difference by the tone of the notes uttered, apart from the actions of the woodpeckers. Their peculiar frog-like note is, I think, used both as a call note and a note of warning. When calling, the bird usually sits close to the top of some dead branch, and the sound is a guide to the position of the bird, but when this note is uttered as a warning there appears to be some ventriloquism about it, and you cannot then tell from the sound where the bird is that uttered it.

INSECT NOTES.

I see by the crop reports now being issued that the loss caused by the hessian fly in the southern and south-western counties of Ontario, will be very great. This loss could have, to a great extent, been avoided, had the farmers of that section taken proper precautions against it. In *The Farming World* of January 1st, 1901, I gave the life history of this insect and pointed out the best known means of avoiding its ravages. Unless proper precautions are taken, this autumn before seeding, the pest will become widespread over the province and the loss greater than the country can well sustain.

The caterpillars of the tussock moth have done all the mischief they can for this season and are now in the pupal stage or have emerged from that and become moths. The chrysalids of this insect will be found enclosed in a whitish cocoon, which is spun by the caterpillar in the crevices of the bark of trees, or about fences and buildings. The female moth (which is wingless) never leaves the cocoon, but immediately after emerging crawls upon the top of it and there deposits her eggs in a frothy mass. These cocoons can easily be seen and should be sought for this fall and destroyed; by doing this the eggs will be destroyed also, and next year's brood cut off.

The most noticeable insect just now is the cicada (*cicada tibicen*) often called a locust or harvest fly; this is the insect whose loud vibratory song we so frequently hear from the trees on hot days. It is never injurious here and its life history is very interesting. I can only say here that it is not a locust nor has it any connection with that family. At some future time I hope to refer to it again.

ANSWERS TO CORRESPONDENTS.

W. J. T.—The caterpillar sent is the larva of the tussock moth, one of our most destructive orchard and shade-tree pests (see insects, this issue).

Pointers for Cattle Feeders

MAKING BABY BEEF

(Press Bulletin.)

In the latter part of October, 1900, the Kansas Experimental Station put into the feed lots 130 head of calves that had just been weaned. They were divided into lots to test the value of alfalfa hay, prairie hay, corn, Kafir corn and soy beans in the production of baby beef.

Sixty head of heifer calves were purchased in the Kansas City stock yards, weighed an average of 418 pounds each, cost \$1.25 per cwt. at the yards, and cost an average of \$18.25 per head delivered in the College feed lots. These were range calves, grade Shorthorn, Hereford, and Angus. Fifty head were purchased of farmers near Manhattan and had been kept with their dams through the summer in small pastures. Twenty head were mixed-bred calves that had been purchased around Manhattan when born, and had been raised at the College by hand, ten being raised on creamery skim-milk, and ten on whole milk. The calves were vaccinated to prevent blackleg. Without this safeguard we should not have dared to undertake the experiment.

All lots were fed twice daily all they would eat, water and salt were always before them, and they were sheltered in common board sheds opened to the south. The yards were fenced with woven wire.

The calves were fed seven months with the following results:

Feed.	Average gain per head, lbs.	Grain per 100 lbs. gain, lbs.	Hay per 100 lbs. gain, lbs.
Alfalfa hay and corn	407	470	541
Alfalfa hay and Kafir-corn	379	521	636
Prairie hay, corn and soy beans	378	520	636
Prairie hay, Kafir-corn and soy beans	342	504	539
Skim-milk calves, alfalfa hay and corn	449	439	436
Whole-milk calves, alfalfa hay and corn	494	470	320

At the close of the experiment May 27, the entire lot averaged 800 pounds per head, in the College feed lots. The shrinkage in shipping to Kansas City was three per cent. Thirty-two steers averaged 838 pounds and sold at \$5.40 per 100 pounds, seventy-four heifers averaged 755 pounds, and sold at \$5.35, and eighteen heifers averaged 741 pounds and sold at \$5.15. Six head of heifers went as springers.

The remarkable feature of this experiment is the small amount of feed required to make 100 pounds of gain. Last year the Kansas Experiment Station reported making 100 pounds gain on 1000 pound steers with 718 and 780 pounds of corn. Many old feeders wrote us that they could not make such gains with so little feed. Professor Henry reports that he finds the average in a large number of feeding experiments with steers to be 100 pounds of gain for 1,000 pounds of grain and 500 pounds of roughage.

These calves averaged 100 pounds gain for from 439 to 594 pounds of grain and 436 to 2626 pounds of hay, about one-half the amount required for mature cattle.

H. M. Cottrell.

IMPORTANCE OF GOOD CATTLE

We have frequently drawn attention in these columns to the importance of the farmer raising only the very best cattle. It is a subject, however, that cannot be dwelt upon too often. Today the markets are overloaded with inferior grass-fed animals that bring very far from the top figure, and are scarcely wanted at that; while really prime animals are in active demand at high prices. So there is every reason, from a financial point of view, that only the very best animals should be raised for beefing purposes.

In this connection we are glad to have our views backed up by so valuable a journal as The New England Farmer, which says:

"We wish we could impress upon every owner of cattle the importance of the best animals of their kind over the inferior ones to be found in greater or less number in so many herds among the common farmers. Good animals of their kind are not accidents—they are the result of breeding such animals as reproduce their own desirable characteristics. Hence all inferior animals are the result of improper breeding.

We remarked last fall the unevenness or lack of uniformity of the herds of grade cattle seen at the fairs. One animal would represent one characteristic, and another something widely different. There was no point to the herd, no purpose shown in the animals making up its numbers. Looking at the herd one would be at a loss as to what the owner was keeping cattle for. This is just the condition of far too many herds as found on many farms all over the state.

This all comes from an indifference on the part of the owner as to the value of the best animals over the inferior. There is not an owner to be found but realizes the superior value to him of some individuals of his herd over others he is keeping. Yet he fails to put forth the required effort to make up his herd of only those made up for the work he has in hand. This is more especially marked in the breeding of animals than in the selection by purchase.

While a well bred steer will make twice as rapid growth as another, and when he is grown he is so made up as to be a greater value per pound and one cow will give twice the milk of another on the same feed, yet owners of these animals do not seem to put forth great effort to breed those of the best. We once heard a noted breeder of fine cattle say that he never saw a superior bull in any man's hands, but if he really felt that he ought to have him to use in his own herd he contrived some way

to get him. If every owner of cattle felt like that and would give corresponding attention to the quality of the animals he is breeding there would be far less inferior animals kept than is now the case.

PROFITS FROM FEEDING CATTLE.

Prof. Thomas Shaw is credited with the following on profits in cattle feeding:

"Profits from feeding cattle depend upon many things, so many that it would not be easy to enumerate them. They are such as relate to the grade of the animal, to the age of the same, the price of feed and the markets. But more depends on the knowledge of the feeder than on any of these things. Some experimenters have found only a profit in the manure made. When feeds are very dear, especially grain, and meat is not dear, which sometimes happens, the manure may be the only profit that is left, that, however, should not satisfy any feeder. If only the fertilizer is left to the feeder in the northern Mississippi basin, he will not consider himself very well off, especially in those localities where manure is drawn out on expense, and burned, as the solution of the best way of getting rid of it. In the South it will be different, the fertilizer is highly prized there, because of the effect which it has on crop production.

But the feeder should do much better than that. If he understands his business he will pretty nearly make as much on the increase during the fattening period as it will cost to make it. For instance, suppose one feeds a steer for five months and makes it gain 250 pounds. If that steer when finished brings five cents per pound, the 250 pounds of meat will be worth \$12.50. Now, unless grain is unusually dear, it should not cost the feeder much more than \$12.50 to feed that steer for five months during the finishing period. It may be asked then, where will be the feeder's profit? Let us see. Suppose he buys the steer and it weighs 800 pounds at the time. If he sells the steer at five cents a pound, he will get \$8 more for the 800 pounds than he paid for it. Now, if he has been able to make the other 250 pounds at a cost of \$12.50, then he will make a profit of \$8. If the cost of fattening exceeds \$12.50, it will reduce that profit by the cost of fattening over and above the \$12.50. If the person has raised the steer, he would probably not sell for more than four cents per pound, when the fattening began, so the profit would be the same. Under nearly all conditions, the manure is worth more than the cost of labor and feeding, hence the feeder has all the profit that he makes over and above these items. Judiciously conducted, there is usually a profit of about a cent a pound on every pound of the live weight when the feeding begins.



Ideal Farm Homes

Design No. 41, the perspective view and floor plans which we show with this article, is another of those conveniently arranged and well-planned houses specially designed for this

journal. If you will examine the perspective view you will find that it is a good substantial-looking house; then look over the floor plans and you will be reminded that the old style of building houses has given away altogether to the newer ideas.

Here is a house with four rooms on the first floor and three on the second floor, planned for convenience and at the same time keeping in view the artistic. The stairway, which in some plans takes up the greater part of the front of the house, here is taken to the centre of the house, giving the front all of the view space that there possibly can be. The rooms are not square, as they are in many cases, but if they were all made square there would not be a good many people who would not be satisfied, as many like the broken wall space. The porches do not go half way round the house, like the porches on a good many buildings, but they are spacious, being wider than the common porch, giving plenty of room for the size of the house. The sleeping rooms are all on the second floor, but there is a great call for this kind of a house, with the sleeping rooms and bath arranged in this way. In size, this house is 28 feet wide and 42 feet long, exclusive of porches.

The blue prints consist of cellar and foundation plans; first and second floor plans; roof plan; front, rear and two side elevations; wall sections, and all necessary interior details. The blue prints, together with a complete set of typewritten specifications can

be had at the office of The Farming World for \$5.00. The cost of building this house would be about \$2,250, which price does not include plumbing, heating apparatus or mantels. It does include, however, excavation for walls, foundation, and in fact everything with the exception of the things we have mentioned.



First Floor Plan.



Second Floor Plan.

Rape as a Forage Plant

We have had occasion more than once to direct the attention of our readers to the value of rape as a forage plant. This plant is growing in favor every year and furnishes a cheap and quick method of providing good wholesome food for stock. Aside from the fact that rape, if fed judiciously to milk cows, will flavor the milk, this is one of the very best plants to grow for cattle and sheep feeding.

So important did the United States Department of Agriculture consider this plant that it issued a special bulletin on the subject from which we take the following:

Rape is best adapted to rather cool, moist climates, such as prevail in portions of Canada and the northern United States. It can, however, be successfully grown as a forage crop in many of the warmer and dryer sections. Thus, in favorable seasons or with a small amount of irrigation excellent crops of rape are grown in Wyoming, Montana, the Dakotas and other states in the so-called semi-arid region, and many instances are on record where good crops have been produced without irrigation under conditions of drought so severe as to cause the failure of corn and other farm crops. In parts of the South rape may be grown for late fall or winter forage.

For its best development rape requires a rich, moist, loamy soil, and will usually do well on any but light sandy soils and stiff clays, such soils being usually deficient in vegetable matter. In general a soil that will produce good crops of turnip, cabbage, wheat and corn will be suitable for rape.

Rape is a gross feeder and draws quite heavily on the nitrogen as well as the mineral constituents of the soil, and hence should be used in rotation with crops that feed largely on other elements of plant food. For example, rape and fodder corn take about the same proportions of nitrogen, potash and phosphoric acid from the soil, and experience has shown that corn does not do well after rape unless the land is naturally rich in these substances. Results obtained at the North Dakota Experiment Station indicate that the growing of a crop of rape on land that has been sown to wheat for a number of years produces a decided increase in the yield of wheat from the succeeding crop. This is a point of much value in regions where wheat is extensively grown.

All the varieties of rape that have come into prominence in American agriculture are winter or biennial sorts. Dwarf Essex or English rape has been most widely cultivated. Recently a variety has been placed on the market under the name of Dwarf Victoria rape, or simply Victoria rape, which has given excellent results in New England and also in the Northwest, yielding as a rule, rather better than the Dwarf Essex. At the

New Hampshire Experiment Station this variety is reported as yielding nearly 50 tons of green fodder per acre, and yields of 25 to 30 tons per acre are reported from South Dakota and elsewhere in the Northwest. Under average conditions a yield of from 10 to 20 tons or more may be expected from either of these varieties.

Owing to the great variety of ways for utilizing rape and the many places it may occupy in the rotation of crops on the farm, there are numerous methods of culture that may be followed in growing it. When it is grown as the primary crop of the season the land should be prepared by deep and thorough plowing, preferably early in the preceding autumn. In some soils a second plowing should be given in the spring before the seed is sown, but in soils that are naturally loose and mellow, such as are found in portions of the Northwest, a simple stirring of the surface with a cultivator or disk harrow will often be sufficient. The land should be well pulverized by harrowing before the seed is sown. When the land needs fertilizing barnyard manure may be applied before plowing in the autumn, or if the land is plowed twice the manure may be spread on during the plowing. Commercial fertilizers may be applied by harrowing in at the time that the land is being pulverized previous to seeding. Whatever treatment the land is given in winter or early spring before the last preparations for this crop it should be such as to afford a deep, mellow seed bed as free as possible from noxious weeds.

Throughout the Northern States generally seeding may take place from the first of June or possibly earlier, to the middle or last of July, according to the season and locality. In the South the seed may be sown in September or early in October. Under favorable conditions two or three pounds of seed per acre will be sufficient, and it will never be necessary to use more than five pounds per acre. The seed should be planted in drills far enough apart to allow cultivation. In practice the distance varies, but it is seldom less than 20 inches nor more than 32, 24 to 28 being perhaps the most satisfactory, all things considered. For planting small fields any of the common garden drills may be found quite satisfactory, but for large fields a grain drill with some of the feed hoppers closed may be used. When the ground is clean and in proper condition otherwise, good results may be obtained by using the grain drill with all feed hoppers open and giving no after cultivation. As a rule, however, it will be best to plant in wide drills and give sufficient shallow cultivation to keep the soil in good physical condition and destroy weeds. With favorable soil and climatic conditions good crops of rape may be

obtained from broadcast seeding, but whenever there is any danger of the surface soil becoming very dry during the time the seed is germinating or when land is at all foul drilling will give much better results.

When rape is grown as a secondary or catch crop it will not often be possible to pay so much attention to the preparation of the soil and the time and method of seeding, and quantity of seed used may be varied to suit the circumstances. Often fine rape may be grown on land that has already produced a crop of some of the early maturing cereals, such as rye, oats or barley. As soon as the crop of grain is removed the land is plowed or "disked" and at once seeded to rape. Field peas and other early maturing forage crops or rye or winter oats that have been pastured off in spring may also be followed by rape with profitable results.

Another practice which is coming into favor in some sections of the country is to sow rape in the spring with some grain crop, such as wheat, allowing the former to take possession of the field when the latter has been removed. This method is especially satisfactory when succulent forage is desired for fall feeding. Rape may also be sown in the cornfield just before the last plowing, as is often done with rye and winter wheat.

Aside from its value as a forage rape is an excellent crop to grow on fields that are foul with weeds. The late date at which the seed may be sown allows the weeds to get well started before the final preparation of the soil begins, they are further kept in check by the cultivation required for the crop during its early growth, and later the rape plants shade the ground so completely as to keep the weeds down. An excellent treatment for the foul field is to plow thoroughly in the late summer or early autumn and seed to rye or some other forage crop to be pastured off during the fall, winter or early spring. When the crop has been pastured sufficiently, and before the weeds have produced seed, plow again, plant rape in drills and give thorough cultivation. There are few weeds that will survive such treatment and the land will have given profitable returns in forage in the meantime.

The rape is usually ready for use in about eight or ten weeks from the date of seeding. The general practice is to use it as a soiling crop or as pasturage. Sheep and swine may be turned into the field and allowed to remain until the rape is pastured off. Cattle may also be allowed to run in the field, but as they waste much of the forage by pulling up the plants and trampling them down it is a better plan to cut the rape with a scythe or mower and feed it to the animals.

With sheep and cattle care should be taken at first not to allow the animals to eat too much, as there

is danger of injury from bloating. Hungry animals should not be allowed to eat their fill, and it is not best to turn them into the rape when the leaves are wet. There is no danger of bloating with swine. It is an excellent plan to have the fields so arranged that the sheep and cattle have access to an open pasture as well as to the rape. Animals should have free access to salt at all times when being pastured on this crop.

Rape has a high feeding value. It makes an excellent feed for fattening sheep and swine and for producing an abundant flow of milk in milch cows. On account of danger of tainting the milk many people do not feed it to the cows until after milking. Rape can be used to good advantage as a part of the ration for animals that are being fed in pens for market or for the show ring. It is also a valuable food for young lambs at weaning time. By beginning as early as practicable in the spring and seeding at intervals of two or three weeks a continuous succession of rape can be produced throughout the period when the permanent pastures are most likely to be short. Rape will endure quite severe cold weather and thus will last a long time after the ordinary pasture grasses succumb to the frost. By the use of this crop stock can be gotten into good condition for the holiday markets or for winter and there need be no check in growth, fat and milk production through insufficient succulent food during the late summer and autumn months, as is too frequently the case.

Three Ways of Feeding Milk to Calves.

Press Bulletin.

Twenty head of grade Shorthorn and Hereford calves were purchased by the Kansas Experiment Station in the spring of 1900 and divided into two lots. One lot was fed on sterilized creamery skim-milk with a grain ration composed of equal parts of corn and Kafir-corn meal, with all the alfalfa hay they would eat. The second lot was fed the same as the first, except that fresh whole milk was used instead of skim-milk. In addition to these two lots the Station secured the privilege of weighing twenty-two head of high-grade Hereford calves which were running with their dams in a pasture near the Experiment Station.

Results with Skim-milk.—For the twenty-two weeks under experiment the ten calves consumed 24,736 pounds of skim-milk, 1,430 pounds of corn chop, 1,430 pounds of Kafir-corn meal and 641 pounds of alfalfa hay. The total gain was 2,331 pounds, or a daily average of 1.51 pounds per head. Figuring skim-milk at 15 cents per 100, grain at 50 cents per 100 pounds and hay at \$4 per ton, the total feed cost for raising these calves was \$52.68, or \$5.27 per head. The feed cost for each 100 pounds of gain was \$2.26.

Cows that are milked will produce larger yields than suckling calves. According to the average yield at

this station, ten cows (one for each calf) produced 55,540 pounds of milk testing 3.93 per cent butter fat. With butter fat at 15½ cents per pound, this would amount to \$338.52. The value of the skim-milk not needed by the calves would raise this to \$371.24. Deduct from this the value of the feed consumed by the calves and there remains \$321.56, or \$32.15 per calf to pay for the expense of milking, feeding the calves, and hauling the milk to the creamery. At 12½ cents per hour, this expense need not be one-half the above sum, leaving \$15 to \$16 clear profit for each calf raised on skim-milk.

Results with Whole Milk.—During twenty-two weeks these ten calves consumed 23,287 pounds of fresh milk, 835 pounds of corn chop, 835 pounds of Kafir-corn meal, and 835 pounds of alfalfa hay. The total gain was 2,878 pounds, or a daily average of 1.95 pounds per head. Charging butter fat at creamery prices, the feed cost of raising these calves amounts to \$157.19, or \$15.72 per head. The feed cost for each 100 pounds of gain amounts to \$5.46.

Results with Calves Nursed by the Cows.—On May 28, 1900, twenty-two calves that were running with their dams averaged 174 pounds. On October 15, these same calves averaged 422 pounds, or an average daily gain per head of 1.77 pounds. The only expense attached to raising these calves was the keep of the cows, which was estimated by the owner to be \$12 per head. Multiplying the average daily gain of these calves by 154, the number of days in previous experiment, gives a total gain of 272 pounds per head. With \$12 as the cost of raising the calf, each 100 pounds of gain cost \$4.41.

Results in Feed Lot After Weaning.—In the fall all these calves were placed in the feed lot, where they were pushed for baby beef. During the seven months under experiment, the skim-milk calves gained 440 pounds per head, the whole-milk calves 405 pounds per head, and the calves nursed by the cows 422 pounds per head.

This experiment shows that the feed cost of raising a good skim-milk calf need not exceed \$5.25 in contrast to \$15.75 for a whole-milk calf, and \$8 for one nursed by the dam. The skim-milk calf becomes accustomed to eating both grain and roughness early in life, is handled enough to be gentle, and when transferred to the feed lot is ready to make rapid and economical gains.

D. H. OTIS.

Heredity.

Esther—My mother was renowned for her beauty. She was certainly the handsomest woman I have ever seen.

Miss Cayenne—Ah, it was your father, then, who was not good-looking.—Tit-Bits.

Old gent (to beggar woman)—And are you a widow, my poor woman?

Beggar—Worse nor that, sor, I have to support me husband.

Draft Horses.

By Prof. E. Davenport, III.

Uses.—There is one standard use for the draft horse, and that is to haul enormous loads at the walk only, generally in the cities and on pavements or hard road. They may be used single, in pairs, three or four abreast, unicorn fashion, or in four, or even six, eight, or ten horse teams, two abreast.

Description.—Strength is the one consideration in the draft horse, and broadly speaking, weight is the principal element. If, however, the mechanism of the horse is to endure the strain he must have a strong hind leg, especially at the hock, a heavy loin with short coupling and a strong front leg and dense hoof, because so large a proportion of his weight is, or should be, in front.

With the draft horse it is not a question of height, but of weight; indeed the nearer the ground he is the better both for service and endurance. To class with draft horses an animal must weigh not less than 1,500 lbs., in good flesh and he is all the more valuable if he weighs 1,800, to 2,000, or even more. He cannot be too heavy if his "bone" corresponds to his weight.

Such a horse should be blocky made with heavy bone, though smooth; short in the back, close coupled with heavy loin, rounded hips, wide strong hock, flat bone, moderately short pasterns, medium straight shoulder, heavy in the front with full breast and legs placed well apart, though not extremely wide. The animal should carry a good covering of flesh, be smooth finished all over, and manifest docility and a disposition to do heavy work with patience but with spirit. Accordingly he should show a bright mild eye, an erect ear, and a smooth easy action at the trot. It should be as straight and true as described under Class 1, though this is not so important, and action is taken at the trot, not because he is expected to use the gait, but because it is the best indication of the ease with which he can handle his legs. The good draft horse, is not expected to make speed, yet he must not be in constant "quarrel with his legs." Because it is easier to secure weight in fat than in bone, care should be taken to insure heavy bone in extreme weights, but this should not be done at the expense of fair finish.

Values.—Draft horses of good form sell almost according to weight, except that as weights increase, prices rise at a much greater ratio; so that extreme weights bring enormous prices if only the bone is satisfactory. Prices range from \$125.00 to \$300.00, with an occasional one higher and with an increase of about ten per cent. when matched in teams. These prices are sometimes exceeded, and dealers insist that prices were never so low that a span of draft horses would not bring \$600.00 if only they were good enough.

Production.—This is par excellence the horse for the farmer to raise. Only the blood of the best draft breeds, and the heaviest and best boned stallions are suitable. Even then the demand for extreme weights necessitates the use of large mares that

Some Sheep Diseases and Remedies

Extracts from "Fitting Sheep for the Show Ring and Market."

are good walkers. In no other way can coits be produced with sufficient bone and feeding quality to attain the size and finish demanded by the markets. Even then the youngster must be supplied with the best of feed in large amounts from the very first. Plenty of good pasture, clover hay, oats, and corn are imperative, and there is no better feed for young horses than green corn cut from the field and fed whole. Only the best blood should be used and then every effort must be made to keep the horse gaining from the first if he is to top the market.

All this is much like growing beef, and these are the horses to produce on the farm. They can be produced nowhere else to advantage and, when it is remembered that the draft horse is really the highest priced standard horse in the market, it is easy enough to see what horse the farmer should raise. He not only sells for more average money, but if bred with the same care there are fewer culls, and no training is required beyond light common work to familiarize him with the harness and with drawing. The disposition of the draft horse is so docile and his ancestors have labored so long that he works almost by instinct, and he requires no special training to go upon the markets.

Proper Use of Standards

Prof. Clinton D. Smith, of the Michigan Experiment Station, in an address before the Holstein breeders' convention, stated that he found a standard ration, based on an experience with seven cows for 43 months, to provide 22.41 lbs. dry matter, 4.89 lbs. digestible protein, 12.23 lbs. digestible carbohydrates, and 6.67 lbs. digestible fat—this amount daily per 1,960 lbs. live weight of cow. He adds:

"This standard ration is therefore an average, with all the limitations that go with the use of an average. A standard ration is a benefit or a delusion, according to its use. It is a measure which a skillful feeder will keep in his hand, but by which he will be guided in the most general way only. The owner of a Holstein cow who wishes to make a good record with her will either supervise the feeding himself down to the minutest detail, or will not be afraid of a little money if it is needed to secure him a man who understands the language of the cow. The individuality of the cow cuts a very large figure in the application of this standard. For instance, when Rosa Bonheur 5th was making her record of 190 lbs. of milk per day for 30 consecutive days, we found that we had to disobey about every law of good feeding to keep her up to her work. The weather was very cold and every dairyman who writes for the newspapers has said that the only proper place for a milk cow in such weather is in a warm stable. We had Rosa in a box stall away from the general cow stable, and with but one thickness of partly battened board between her and the outside air."

The fellow who fails as a barber might try his hand at running a clipping bureau.

THE SHEEP TICK

It seems remarkable in this day of enlightenment, when cheap and effective proprietary dips are scattered broadcast over the land, as it were, that ticks should be allowed to work such ravages among the flocks of our country. There is no doubt but that thousands of dollars are lost annually by our flock masters by allowing this pest to "live and wax fat" on their flocks. No sheep can possibly thrive when covered with ticks. The tick is by no means a difficult thing to get rid of. Two thorough dippings, one in spring and the other in the fall, will act both as a preventive and cure of this trouble. Oftentimes shepherds—I mean sheep-keepers—find upon shearing their sheep in the spring, that they are covered with ticks as thick as leaves in Vallombrosa. This should not be where the shepherd has the least regard for the comfort of his flock. Do not be guilty of keeping fowls among the flock as advocated by some authors, as this is entirely against the common accepted rules of up-to-date practical shepherding. No modern shepherd will allow a fowl of any kind near the sheep barn. The reason is obvious when we consider that sheep must have their hay-racks, feed troughs, etc., scrupulously clean, to say nothing of annoyance of the fowls eating of the sheep's grain, and chickens over running the place. Dipping is the only reliable way of eradicating ticks or other vermin, that sheep are prey to. Dipping in lime and sulphur concoctions will, no doubt, kill ticks, but still no modern shepherd will use or recommend such a mixture, as lime must be very injurious to the skin and fleece, being that depilatories are largely made up of the former-named article.

BLOAT

Bloat is generally brought about by the sheep eating too freely of succulent rations, such as rape, clover, etc., especially when heavily charged with moisture either from rain or heavy dews. Frozen rape, or clover, is also a cause of bloat. When suffering from this trouble, sheep appear uncomfortable and their stomachs become abnormally distended, especially on the left side.

The shepherd should always carry with him a trocar with which he may "tap" an animal that has become "blown" or bloated. This should be inserted at the most prominent point or where the stomach is most distended, which will be on the left side. It is most important that the trocar be inserted in such a way as to avoid striking the kidneys of the animal; danger from this being greatest where the animal is fat and the kidneys large. After an animal has been "tapped" it should receive a dose of linseed oil. Where the attack is not a violent one a dram of hypo-sulphite

of soda, a dram of ginger and three drams of spirits of ammonia mixed will quickly effect a cure. In cases of this kind the use of the trocar can, of course, be dispensed with.

DIARRHOEA

Diarrhoea quickly proves fatal where the animal attacked is not promptly attended to. This trouble is usually brought about by the animal partaking too freely of succulent rations. Frozen rape or frozen clover is also a sure cause of diarrhoea. The first thing to do in a case of diarrhoea is to administer a dose of castor oil, after which give one dram of laudanum, one dram powdered ginger, and prepared chalk, twelve drams. Dry rations of a poor quality should be given the sufferer until a change takes place.

TUMORS

There are few people having had experience with sheep but what have seen them suffering, more or less, from small tumors in the throat. Sometimes these are the true symptoms of tuberculosis, and it is highly undesirable to retain sheep in the flock, showing troubles of this nature. The tumors should be opened and washed out with a rather strong solution of carbolic acid. After having been well washed out a little ball of wool should be inserted in the wound to keep it open so that the pus or matter may escape freely.

BROKEN LIMBS

Although not common, cases of broken limbs do sometimes occur in the flock. Sheep suffering from broken limbs should be kept where they can remain free from molestation by the other members of the flock.

The first thing to be done in the case of a broken limb is to set it," that is, the bones should be placed in proper position just as soon as possible after the shepherd has noticed what is wrong. As soon as the bone is in proper position take a piece of cardboard and after placing same around the broken limb, wrap a strong linen bandage around this. If the bandage is dipped into starch previously to being wrapped around the cardboard it will be more effective.

COLIC

Colic is distinguishable from stretches in that the animal in lying down groans and grinds its teeth in the place of stretching itself out at full length and acting as if trying to get on its back for relief. Colic is usually caused by the animal partaking too freely of succulent rations, especially frozen rape, clover and such like. Unless quickly relieved inflammation sets in and the animal quickly succumbs. Relief is brought about by administering one dram of laudanum and one dram of powdered gingerin flaxseed.

Hints for Poultry Raisers

GETTING RID OF OLD FOWLS.

One reason why many farmers do not reap the benefit from poultry raising they should is because they are slow in getting rid of the old hens. The following on this subject, by a well-known English authority, is worthy of consideration:

"Old fowls are often found to be a poultry-keeper's ruin, and where worn-out birds are kept to any extent it is certain no profit can be expected or obtained. In many of our rural districts, by inspection of yards I have found that no system has ever existed for the clearance of hens at a certain age. The owners have been satisfied to keep their birds until they die of old age. To be successful, and to do the thing that is right, I know, from experience, that it is necessary to work by a system the same as a farmer does with a flock of sheep, that is, to clear them from the flock at a certain age. With hens, it is even more necessary than with sheep, for reasons which I will give. Old age in fowls produces all sorts of diseases and fatalities, especially scaly legs, bumble foot, apoplexy, diphtheria, canker, cholera, egg-bound, liver disease, etc. We all know that the same is found with dogs. When a dog gets old it is always ailing—suffers from skin diseases, etc.—which in the prime of life we never see a sign of. I have known many cases where the mortality among old fowls has been very great after they attain the age of two years. This applies in particular to birds that have been badly fed, and on unsuitable foods; the constitution will stand it for only a certain period. Several very remarkable instances of old age have come to my notice during the last few years. It is not needful for me to mention more than one. Last year, at one of my lectures in the County of Kent, an old lady (a farmer's wife) came to me with a request that I should visit her poultry-yard next day to give some advice, or to try and discover the failure of her fowls as egg-producers. She assured me that a few years ago her fowls were known to be wonderful layers—she had always eggs—but of late years, with the same kind of fowls, feeding and management, it was a complete failure; so she was led to believe that the yard had become tainted and sick of poultry. My visit the next morning revealed the fact that the reason or cause could be explained in two words—old age. I saw some fine old relics I shall never forget. Inquiries proved that many of them were ten years old, or to give the lady's own words in reply to my question: "How old are these birds? Some of them appear very ancient." Answer: "They are not very old, sir. All except six were pullets when we came here five years ago, and I believe most of the old

ones are dead." Not one pullet had been introduced into this yard during five years; the mortality had been 38 per cent. Who can be surprised that such neglect came to a failure? I have seen scores of parishes containing some thousands of old fowls that are kept at a dead loss—birds entirely worn out, and those that should have been made into soup years ago. Don't keep your old fowls another year, or perhaps more, because you cannot find a customer, or do not care to eat them yourself. Sell them at what price you can get, or better even to give them away. It has been ascertained that the ovarium of a good hen is composed of about 600 ovales, or eggs, so that it is not possible for her to lay more than this number. Nine years will be required to do this, in the following proportions—First year after hatching, 15 to 20 eggs; second, 100 to 120; third, 120 to 135; fourth, 80 to 90; fifth, 70 to 85; sixth, 60 to 70; seventh, 35 to 45; eighth, 15 to 25; ninth, 1 to 10. It shows that it cannot be profitable to keep hens after the fourth year, as their produce could not pay for their keep. This, however, does not apply to birds that are scarce, fancy or valuable breeds. In my estimation, we have in Great Britain to-day 4,000,000 useless hens, the majority of which produce nothing at all. These, if replaced by suitable birds, on an average would produce fifty eggs per bird more than those now in stock. This improvement would give us 200,000,000 which if sold at a low price—9d per dozen—our country poultry-keepers would benefit to the extent of £625,000 every year. There can be no question that a good or wonderful layer gets worn out quicker than the unprofitable bird. A fowl that lays well for three seasons cannot be expected to do more; that is why I advocate a system of clearing all birds at a certain age, irrespective of their origin. Some yards are entirely made up of curios; the owner makes the following or similar excuse for not clearing them:—"Those were hatched from eggs given me, others are pets, or were very pretty chickens when young." Discard all these fads and use common sense. If certain fowls have been wonderful layers and paid well, do not be led to believe that they will continue so forever. Those which lay on an average less than 50 eggs per year will wear for a very long time; the work they do is not enough to interfere with their constitution."

TURKEYS FROM HATCHING TO MARKET.

Newly hatched turkeys are very delicate; the less handling you give them during the first twenty-four hours, the better your chance of raising them. Whenever practicable leave them in the nest until the hen

exhibits a desire to leave for "fresh fields"; then coop them. In moving handle the poultts carefully and as little as possible. See that the coop is clean, and of fair size, with a board floor, either covered with sand or scrubbed clean every other day. Arrange the front to close at night; a wide board will answer all purposes. Make a run of wire netting on boards, so that it can be easily moved, which should be done about once a week. Now we have them in the coop, they are ready for their first meal, which should not be meal at all, but wheat-bread moistened with milk, Dutch cheese, and hard-boiled eggs crumbled fine. Season the food lightly with salt and black pepper; after a few days a little lettuce or onion tops chopped fine may be mixed in. After the first two days give sweet milk to drink. About the third week commence feeding cooked corn-meal. The best way to cook meal is to make Johnny-cake; the inside of loaf can be fed without wetting; the crust moistened enough to crumble. Keep them on cooked food until ten weeks old. Never feed sour or sloppy food. Have all food fresh, sweet and moist enough to just hold together. Feed each time only so much as will be eaten up clean. After the first two weeks give sour milk, all they will drink. Keep them confined to limits of pen the first week, then let out after the dew is off. Turkeys must be kept dry, clean and comfortable until fully feathered and have thrown out the red on their heads. For disease we use the "ounce of prevention"—clean coops, fresh food, and pure water is all-sufficient. Scrub out coops and drinking troughs two or three times a week with copperas water, to which add a few drops of carbolic acid. Once a week mix pulverized charcoal in food, with plenty of gravel or coarse sand, to aid digestion, and there isn't much danger of disease.

For lice use plenty of Persian insect powder when setting hens, also when cooping them, and whenever lice appear, a newspaper loosely folded and burnt in the coop after each scrubbing kills all insects and mites. But "eternal vigilance" is the only preventive we know of. After they are fully feathered and have thrown out the red on their heads, give free range in all sorts of weather; but always feed, if but a little, so they will come to roost. Turkeys must be kept growing and you cannot feed too much. About the middle of September or first of October we increase their feed. Keep plenty of pure water handy, and give an occasional soft feed with charcoal.

Some two weeks before Thanksgiving time separate from the rest all you intend for that market, and feed four times a day all they will eat, until twenty-four hours before slaughtering time. We never had

any luck confining turkeys, they fat-weeks of good feeding will put them in the best possible condition.

Different markets have different notions about dressing, the only sure way is to find your market and dress and pack according to its wants. Don't scald; dry picked usually brings the higher price. If picked at once the feathers will come off easily enough. Remove all pin-feathers carefully, take care not to break or bruise the skin. Wash feet clean, wipe off any spots on body, and put away to cool, but do not freeze. When possible it is best to sell alive; it saves trouble of dressing or worry if the weather is warm.

MRS. ELMER D. WEST,

In Michigan Farmer.

Swarming Bees.

"Here I am down again to bother you with some more questions."

"Well, what is it this morning, Mr. Brown?"

"You will remember that when I left you the other day, I went in a hurry because the blowing of the horn told me my bees were swarming."

"Yes, I know you got off about as lively as any fellow I ever saw, except one who has some bees in his hair. You left me without even saying why you were going."

"Well, after I had hived that swarm, an old farmer bee-keeper came along and told me that, as only old bees went with the swarm, it was always best to give each swarm a frame of hatching brood, on living them, so they could have young bees coming on as the old ones died off. Then he told me other strange things, among which was that the young queen emerged from her cell within 24 hours after the swarm left, so the young bees left behind, would have some one to rule over them before they got wild."

"Did you believe him?"

"Well, hardly; but as I could not answer him to my satisfaction I thought I would run down a little while this morning and see what you thought in the matter."

"Up to within a few years I allowed natural swarms to issue as a means of increase, and have experimented largely during thirty years to know under what conditions swarms issue as a rule, and have found, as regard to age of bees, that bees of all ages, in about equal proportion, leave the parent hive from the old forager to the bee that has been out of its cell but a few hours."

"How do you know a bee which is an 'old forager' as you call the old bees?"

"They are very easily told by their lack of hair, darkness of color, and their jagged wings. Did you never look close enough to discover such in your hives?"

"Yes, I have often seen such bees with torn and tattered wings, and have often seen them with the swarm, but I had supposed that something had happened to them."

"There undoubtedly had, but noth-

ing only what is the rule with old hive bees during June and July. Very much of our white clover grows with other grass, so that, soon after beginning gathering clover honey, the wings of the older bees begin to be torn; for, the older the bee the more easily torn are the wings—very much on the principle that it takes a much less blow to bruise or break the skin on an old person's hands than it did while that person was in youth."

"I see; but how tell the young bees?"

"They are more easily told than the old ones. Young bees, when they first emerge from their cells, are light-colored, from their being all covered with fine hairs, or down, which wears off and changes color as they grow older. Many and many times have I seen the ground in front of the hive nearly covered with bees so young as to be unable to fly, after the last of the swarm had got in the air, looking so white and feeble that a feeling of sympathy would come over me, and I would try to gather them up and put them back in the hive, but a little watching soon told me that they would all get back themselves, if a proper alighting-board were used so that they could travel back on foot."

"Since we speak of it, it reminds me that I have seen the ground covered with bees in the same way, but I thought that such bees had loaded with honey so heavily that they were unable to carry their load."

"If you had looked more closely you would have noted that they were not loaded nearly so heavily as multitudes with the clustered swarm. I am very sure that bees of all ages go with the swarm, so that each swarm is composed of field bees, wax-workers, and nurse bees, in about equal proportions, thus showing that the all-wise Creator knew how things should be when he pronounced good all which he had made."

"Then you think that a prime swarm needs no frame of brood to give them young bees?"

"Of course the young bees from a frame of brood would materially strengthen the swarm; but such strengthening is not necessary; for, had it been the swarms of our fathers would have perished—yea, and those since the foundation of the world, for no one ever thought of giving brood to prime swarms before the latter half of the last century."

"I guess you are right."

"Well, if you are satisfied on this part, let us suppose we are looking inside of a hive when preparations for swarming are being made, and see if we can not arrive at the truth in the matter as regards the conditions under which swarms issue, when the first queen hatches, etc."

"Can you tell anything about such things?"

"Certainly; and so can you, if you study these matters. The first indication of swarming is the laying of eggs in the drone-cells. While eggs in drone-cells are not a sure

sign that swarms will issue, yet, so far as I have observed, swarms never do issue without eggs laid therein. If the weather is propitious, the next step is the building of queen-cells, soon after which the queen deposits eggs in them. In about three days these eggs hatch into larvae, and said larvae are fed an abundance of food by the nurse-bees for about six days, when the cells containing the embryo queens are sealed over. If no bad weather has intervened, the swarm issues the next day, the old queen going with the swarm."

"Is this always the case?"

"Not always. But this is the rule with the black (or German) bee, and generally with the Italians; still, the Italians often swarm when the eggs are first laid in the queen-cells, and sometimes without the least preparation at all except for drones, although this last is something very rare indeed."

"You spoke of the swarm issuing on the sealing of the first queen-cell. Surely she could not emerge from the cell 24 hours later, as the bee-keeper told me, could she?"

"All good authorities say that the queen larva remains seven days in the cell as my experience also proves, and I can not conceive how any could make a mistake of six days, unless the swarm was held back by bad weather for six days from the time the cell was sealed. Should it be possible that any swarm was thus held back, then there might be such a thing as a young queen emerging from her cell 24 hours after the first or prime swarm issued."

"That seems plain."

"Yes. And that you may understand a little farther I will say that I have found as a rule, that the first queen emerges from her cell from six to seven days after the first swarm. If more swarms issue they usually come two days after, or from the eighth to the tenth day after the first, and never later than the sixteenth day. As soon as the bees decide that no more swarms shall issue, all queens in their cells are destroyed, when in from five to nine days the reigning young queen goes out to meet the drones—two days after which she commences to lay."

"I think I understand natural swarming much better than ever before, and I'll be going, as I see you are very busy."—Bee Culture.

"Appy 'Arriet"

British Museum Newton, the archaeologist, was a capital story teller, and Mr. Hare has preserved two or three of his tales. One is a spiritual seance, where an old Cockney was informed that the spirit manifested was his deceased wife, whereupon the following dialogue took place:

"Is that you, 'Arriet?"

"Yes, it is me."

"Are you 'appy, 'Arriet?"

"Yes, very 'appy."

"'Appier than you was with me, 'Arriet?"

"Yes, much 'appier."

"Where are you, 'Arriet?"

"In 'ell."

The Sugar Beet World

Devoted to Sugar Beet Culture in Canada and Allied Industries. Specially
Representing the Farmers' Interests

Edited by JAMES FOWLER

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Sugar Beetlets.

Seed, soil and season are all important factors towards a rich beet.

The sugar is the most valuable constituent in the sugar beet for feeding purposes.

The indirect benefits to be derived from the sugar beet culture are not few, and chief among them is the improvement of the soil.

It is not too much to say that unless beets can be grown with a considerable degree of certainty, it is a waste of capital to attempt to establish the beet sugar industry in any locality.

The thorough state of cultivation necessary for the probable growth of sugar beets vastly increases the soil's fertility for succeeding crops. Land in a perfectly clean condition, with a proper mechanical texture and rich in plant food, is the result.

A careful test of the beet-producing capacity of a given locality should be made before spending much money, not only with a view to determining the soil and climatic relations, but the adaptability of the population to the intensive agriculture which must accompany beet culture.

Fresh pulp will only contain about five per cent. of dry matter, approximately half the quantity found in roots. I should not consider it worth more than one-third the price of roots, but pressed pulp should be fully worth as much as the roots, taking pound for pound.

Sugar beets are a very valuable food, and when well grown from good seed they contain approximately twice the amount of dry matter of the ordinary root crop, i. e. from 22 to 25 per cent. of dry matter, three-fourths of which is sugar, which is a very valuable food constituent for the production of heat and the formation of fat.

A beet must not only be rich, but

it must have a high degree of purity, that is, in freedom from albuminous matter, or the sugar cannot be profitably extracted. If the crown of the beet is not kept covered by earthing, there will be an undue development of these albuminous substances. Fifteen per cent. of the sugar in a beet allowed to grow out of the land is not as valuable, therefore, as the same percentage in a beet grown under special culture in which the crowns have been kept covered.

When from exposure the albuminous substances develop in the root it prevents to a certain degree the profitable extraction of the sugar. It is not that these nitrogenous substances lessen the quantity of sugar so much, although it does that slightly, but they render more difficult the extraction of the sugar when the beet gets to the factory. There is a larger percentage of unobtainable sugar, if we may so put it, in beets containing much nitrogenous matter. That is why the factory men insist upon having the beets properly attended to in that respect. They want a small, well-shaped beet, showing no forks and which has been kept earthed up.

The sugar beet grows well on a soil which is suitable for Indian corn, wheat or potatoes. The best soil is a medium rich, sandy loam, in good, natural condition, reasonably level and well drained. Clay lands, or any inclined to bake, must not be used. Neither must mucky soils or those rich in organic matter be used. The land should be deeply plowed, and preferably subsoiled. A bulltongue may be used for the latter purpose if a subsoil plow is not obtainable. If the soil is only 8 or 10 inches deep to a hard subsoil, the proper development of the beet will be prevented. The soil should be well harrowed and in good mechanical condition.

Personals.

Our sanctum has been visited this week by Mr. John Messner, President of the Walkerton Sugar Company, who speaks in glowing terms of his section of the country and their prospects of a sugar factory. We are always pleased to have such friends call upon us.

Mr. John McConnell, representing the Warton Sugar Company, called upon us during the week. Mr. McConnell has charge of the stock subscriptions for the company and is actively engaged along that line.

Mr. Hunter, also of the Warton Sugar Company, favored us with a call. Mr. Hunter has been visiting the western part of the province soliciting subscriptions for stock, and reports meeting with flattering success.

More Factories.

And now it is Sarnia, Windsor and Galt that are to have sugar factories. This makes by actual count twenty-two factories that are sure to be built for next season's campaign, providing, etc., and several plans yet to hear from. Verily the earth do move.

Windsor.—Major Rothwell is promoting a company to erect a sugar beet factory at Sandwich. Already, it is said, two capitalists have agreed to invest \$50,000 a piece in the enterprise. The factory will have a capacity of 600 tons a day, which will involve the expenditure of \$350,000 annually for beets, and the employment of between 6,000 and 7,000 acres to grow them.

Sarnia, (Special).—Michigan capitalists, who control a number of successful beet root sugar refineries in that State, have completed negotiations for a similar venture in the Province of Ontario. They will erect a \$600,000 plant at some point in Western Ontario, where the soil is suitable and where railway facilities secure reasonable freights. This point will likely be in the County of Kent or Lambton. The company will be organized and the building started forthwith, so as to take advantage of the rebate in custom duties on beet-root sugar plants, which, at the last session of parliament, was authorized for one year. Seed will be distributed among the farmers this fall, and contracts signed to purchase whatever roots they can grow next season, by which time the refinery will be in running order. It is calculated that a refinery on a large scale can handle all the beets that can be profitably grown within a radius of 50 miles.

Ontario has territory and market for several such factories, and if this one succeeds others will follow. As to its success there is no question. In Michigan, where all the conditions are exactly similar to Ontario, the investment has proved highly profitable; notwithstanding that the bonus which the State voted to the industry was held to be illegal and was not paid. Stock in several of the Michigan and other north-western refineries is at 50 to 75 premium.

The names of the Michigan capitalists in the new concern and their Canadian associates will be announced in Toronto within a fortnight.

Walkerton

Mr. J. W. Bundy, the genial secretary-treasurer of the Walkerton Sugar Company, has laid upon our table some of the finest sugar beets we have ever seen at this season of the year. These beets, we are assured, have not been specially cultivated, and are only a fair average sample of the beets grown at Walkerton. These beets are an object lesson to farmers, and it has given us great pleasure to call the attention of many who have visited us within the past few days to them. Much interest has been taken in them and parties who have been sceptical regarding the suitability of the soil of Canada to growing sugar beets are convinced that in our locality, at least, sugar beets can be raised to advantage. It would be a nice advertisement for the sugar beet growing industry of this country, if the Government would make a display of these beets at the Pan-American Exhibition, and also at the Toronto Exhibition.

Agents Wanted.

Agents wanted in every sugar beet district, to solicit subscriptions from farmers. Write for particulars.

Capitalists and others interested in educating farming communities as to the profits of sugar beet raising, can in no other way accomplish so much, in so short a time, and at so small an outlay, as by sending The Farming World a few months to the influential men.

Communications.

Addison, Leeds Co., Ont.,

Aug. 10th, 1901.

Editor Sugar Beet World:—

My sugar beets are doing fine, considering time sown, on account of wet weather and seed not coming earlier. They were sown about June 1st. They are from 1½ inches to 2 inches at top, and about 7 or 8 inches long, tapering gradually with not many tap roots. I cannot see the advantage of sowing so many seed to the acre, as spoken of in papers, as we did not use at the rate of more than 3 or 4 lbs. to the acre, and have the beets too thick and an even stand, but we left them a little too thick. In this part of the country roots generally look fine. We have

about two acres of mangolds and feed sugar beets alongside of the sugar beets, and a finer crop I never saw before for this time of year. I did not sow all the seed sent, but have six rows about twenty rods long, sufficient to give a good trial and I cannot see why sugar beets cannot be successfully grown in Leeds County. The soil on which they are growing is a clay loam, green-sod, manured last fall and plowed, then worked this spring before sowing.

Any questions regarding beets I will gladly answer at any time.

Yours respectfully,

John M. Perival.

Warton, Ont., Aug. 10, 1901.

To the Editor of the "Sugar Beet World."

Dear Sir—I have been a subscriber to The Farming World for some time, and am well pleased with the tone and sterling quality of the paper, and especially of the beet sugar part of the paper. That part fills a long felt want. The beet sugar industry is so very important to the farmers of this country, and they are so indifferent to it as a class that it is absolutely necessary to flood the country with educative literature. The farmers are conservative in their methods and do not take kindly to a root crop. The sugar beet crop will pay the farmer at least twice as well as any other crop he can grow, and more where a factory is located. Farms double in value according to their proximity to this factory, but still the farmer needs something to impress him. We, at Warton, are going to flood the community with literature for the next four or five weeks, send every farmer in 10 or 12 townships a circular every week. In it we will discuss the benefits of the industry to them, also the benefits to the town and community generally. We will endeavor to show them that there is no industry which will distribute its benefits to all classes of the community like the beet sugar industry. There is no reason why Ontario should not grow and produce all the sugar for the whole Dominion of Canada. Why should we send millions of dollars to Germany for sugar, when we can produce it ourselves and find employment for thousands of men and hundreds of boys and circulate that money among our own people, enriching our own Province, increasing population, and building up millions of dollars worth of property in our own country?

Yours truly,

B. B. Freeman.

Warton, Ont.

Elements of Fertility Taken Up by Beet Crop.

Prof. F. T. Shutt.

I am frequently asked with regard to the amount of plant food taken from the soil by the growth of the sugar beet, and, therefore, I have made a calculation showing the amounts of nitrogen, potash and phosphoric acid taken from the soil per acre by the sugar beet crop. Thus in a yield of fifteen tons of roots,

there would be taken out 480 lbs. of nitrogen, 240 lbs. of phosphoric acid, and 990 lbs. of potash, and in the leaves from such a crop—the leaves we might estimate at about seven tons to the acre—there would be taken out 546 lbs. of nitrogen, 182 lbs. of phosphoric acid and 910 lbs. of potash. In other words, there is a little more nitrogen in the leaves than in the roots, and there is practically about the same amount of potash. There is a little more phosphoric acid in the roots than in the leaves. The deduction from these data is that by returning the leaves to the soil, one can replace a large amount of the plant food which has been extracted from the soil by the growth of the sugar beet. These figures also give an idea with regard to the necessary fertilizers. They show that a fertilizer in which potash predominates would be one which would give a good return. They show that next to potash, nitrogen is necessary to the sugar beet.

A Gentle Reminder.

Experience has shown that it is not profitable to undertake the manufacture of sugar from the sugar beet unless there is present at least 11 per cent of sugar. If you can grow such a beet, it is quite probable that a factory will be erected, and many valuable results will follow, among which may be mentioned:

First—Farmers would have a new industry open to them and consequently another source of revenue.

Second—There would be given employment to additional people by the factory.

Third—These factories involve a cost of about \$500,000, and the investment of this capital in your midst would prove beneficial.

Fourth—These factories need a large amount of limestone and of coal, and a demand would be created for them in consequence.

Fifth—The pulp is an extremely valuable cattle food, and an abundance of this cheap food would doubtless stimulate our dairy interests, etc.

Erroneous Notions.

We sometimes hear the assertion, that the beet manufacturer does not incline to a fair division of profits, with the beet growers. Nothing can

E. H. DYER & CO.
Holders of
SUGAR 
MACHINERY
 Cleveland, Ohio

Will contract to build complete beet sugar plants, including all machinery and buildings; also furnish the necessary technical and skilled help to operate them.

be farther from the truth. No existing industry pays more to the furnisher of raw material than does the sugar beet manufacturer, who pays \$4 to \$5 per ton of beets. The very fact that extra prices are paid for superior beets shows a laudable endeavor to divide fairly, the increased profit derived from beets with high sugar percentage. And after all is said, we must realize that sugar beets are to-day our best paying farm crop.—Sugar Beet.

The Wrong Way to Grow Beets.

A representative of the Michigan Sugar Beet, who has been making a tour through the beet growing district of his state, writes as follows:—Occasionally we found beet fields in deplorable condition. In Bangor township there is a ten acre field that has apparently been given up as lost. We have seen some weedy beet fields, but here was in truth a beety weed field. For some reason the crop grew unusually sparse and scanty. Either for the want of proper soil preparation or utter lack of care the beets are far behind the development of normal beet fields in that same locality. The weeds on the other hand are very numerous and luxurious, and at this season, this crop certainly looks like a total loss. Inasmuch as this is the only total beet crop failure noticed on our rambles, it may be well to inquire into the causes therefore. The soil properly prepared will grow paying quantities of sugar beets. Of this there can be no shadow of doubt. For only a fence and a ditch or two separates this forlorn bit of farm property from a beet field in perfectly normal condition and well taken care of. We understand the seed used was identical, being secured from the same factory. The weed field is a trifle lower than its more promising neighbor, and the heavy spring rains may be in part to blame for the backward condition of the beet crop. But we were also informed that little or nothing was done properly to prepare the beet seed bed. No effort was made to drain the field, nor fertilizer of any description used, to furnish the needed plant food. Then instead of trying to make up for lost seed, by rushing plenty of help into the beet field early to clear out the weeds and keep the surface soil from crusting by early cultivation the tiller of this particular field becomes discouraged and quits.

Had we seen the field earlier, we would gladly have given him a neat sum to take the belated beet crop off his hands, just as it stood. We would have cultivated early and often, and are confident we could have made even that forlorn field pay for our work and something besides. But as it is now, the crop will hardly make good cattle feed. It is a matter of credit to our local beet raisers, that the field just mentioned is a rank exception. In 90 cases out of every 100, we found the crop doing nicely and showing the effects of timely field work. In about nine other cases the work appeared somewhat tardy, especially the thinning of the beets, and we ask these beet growers to be sure and compare their crops with those of more enter-

prising neighbors who cultivated early and began the thinning on time.

Pure Water Required.

For a factory consuming 500 tons of beets per day, about 3,000,000 gals. of water are required, an amount of water equal to more than the entire consumption of a small city. In the first place water is used for bringing the beets into the factory from the beet sheds, which, in most cases, are quite a distance away from the factory. These sheds are connected with the factory by canals about two feet wide and three feet deep. The bottoms of the sheds are arranged on an incline plane, so as to allow the beets to slide into the canal as required in the factory. Sufficient water must flow through these canals to carry these beets to the receptacles in the factory arranged for washing them. The water is then allowed to run into the sewer. Water is also used extensively all through the factory for power and other purposes. As water is used largely to remove the impurities from the beets, it must be as pure as possible and must not contain much calcium or magnesium salts nor sulphates or alkaline carbonates; pure water is absolutely necessary to a sugar factory.

Subsoiling and Early Planting.

Forethought is an invaluable sort of judgment to exercise. Nowhere is this more indispensable than with a crop like sugar beets, in which both yield and quality are liable to be affected. Forethought applies here in selecting the land sufficiently in advance to prepare it by fall plowing, and in any event by subsoiling. The unbroken hard-pan, too often found in firm soils sets a limit to the volume of water stored in the soil, as well as a limit to the downward growth of the beets, the land prepared by subsoiling stores a larger volume of water against the time of need. It goes without any detailed statement of reasons that the plants commanding the greater supply of plant food, and in most equitable distribution, will yield the heavier crop.

Fall plowing is invaluable, not alone because of better provision (with subsoiling) for water storage, but because it makes early planting

possible. No satisfactory results in beet growing can be secured without first having a good stand of beets; early planting, if possible, as early as March, and certainly during April whenever and wherever it can be practised on suitable beet land, will make for a better stand than late planting. Not only will it do this, but it will result in earlier maturity, other things being equal, and consequently in earlier and more agreeable harvesting and less expensive delivery to cars or factory. I feel assured that a beet grower must determine at an early date where the next year's crop is to be grown, prepare by fall plowing and subsoiling, and that he may not wait to come to a conclusion on these points until he is persuaded to sign a contract for beet growing as the time of planting approaches.—Ohio Agricultural Station.

German Methods With Sugar Beet.

Whenever we found a good field of oats, that showed rich fall manuring, we immediately set that field down as the one that will bear sugar beets next season. Oats have been found an excellent crop just before your beet crop here, and as they are an early harvest, allow ample time for fall preparation of the coming beet field. Potatoes are never to be recommended, as they withdraw about the same soil vegetable food as sugar beets, and besides, they often leave the soil laden with nematodes, that will kill the succeeding beet crop. Rye is preferable to wheat as a crop to precede beets, as it clears the field earlier, and hence gives more opportunity for the all important fall preparation of the beet field. German beet growers have come down to a four year rotation, and many use a six year rotation of crops, for their elite beet fields. Large landed proprietors alone can provide lands sufficient for the latter, but wherever practicable, it is to be recommended. Some factories who raise their own beets under contract and consequently give their beet fields a most thorough cultivation and much care, use a rotation of (1) fall preparation of the field with artificial fertilizer, then (2) beets, light stable manure preceding, (3) rye or oats, followed again by plenty of fertilizer and another crop of sugar beets then sum-

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mer wheat, with light fertilizer and stable manure, followed by clover and a rich fall preparation of the soil, with another crop of beets.

One thing is certain. Beets are a good crop to follow after, for the soil is then always light, rich, free from weeds, and susceptible to fertilizer. In our flying trip we found acres and acres of winter wheat that had to be plowed under, especially of the English variety, which is most often planted here. Over one-third of the winter wheat acreage was given us as worthless, owing to the lack of sufficient snow covering, and the oldest farmers could not remember anything quite like it in their experience. What wonder then that they turn to sugar beets to retrieve their fortunes.

H. A. Ressnag.

By-Products

The North Carolina College of Agriculture says: The most important by-product of the sugar beet factory is the pulp, which is worth about \$1.17 per ton. Calculated to the dry basis it has about the same feeding value as corn fodder, but in the ordinary air-dried form it is about twice as valuable, pound for pound. The residuum after the extraction of sugar (molasses) is receiving some attention, and may be utilized for the manufacture of alcohol, for fertilizing purposes, or perhaps be worked over again for sugar.

Soil Exhaustion.

Much Depends on the Cultivation of the Crop.

Many farmers who are being solicited to take up beet culture for the next season, in new territory, are holding back for fear that the growing of the crop will rob their land of its fertility. Much has been printed in these columns on this subject and authorities quoted to prove the statement that the beet crop is not as hard on land as many believe.

We can, perhaps, better illustrate the truth of the statements that beets are not more exhausting than other crops by relating some experiences that come under our observation in our weekly visits to the fields in this section.

We have in mind a 20 acre field that was visited on Thursday that we know has grown beets for the past three seasons and the crop at present under cultivation on this tract is by far the best of the lot. The first crop of beets followed a poor crop of potatoes. The land is clay loam. The first crop of beets was a poor stand and a poor crop generally, going not to exceed seven tons per acre. It was given up that fall by the person who had a lease of it and was again let in the spring for a beet crop. The party who had control of it, for the beets, was advised against using it for beets but nothing daunted, he took up the work. It was spring prepared, and well prepared, the seed bed being in almost perfect condition. The stand was good, the crop received perfect cultivation and the harvest gave a yield of over 13 tons to the

acre. After the crop was off, the leaves, tops, etc., were left on the ground, and with the exception of a couple of hard clay knolls, on which unleached ashes were scattered, no fertilizer was used on the field. This spring the land was well prepared, and during the season the crop received the best of care, and judging from the appearance of the field as it stands to-day the harvest should yield not less than 15 tons per acre.

What is true of this field is true of many more in Bay county. We have seen many a field growing its second crop that gave better results than the first and, in nearly all cases, no fertilizer was used.

The "robbing of the soil," as it is called is not so much the fault of the soil as it is of the man who is working the soil. There are farmers who are forever complaining that crops rob the soil, while there are others who never think of it. Soil, properly worked and cared for, cannot be robbed. You can take from and never give back and exhaust the oceans, but the farmer who wants to grow beets need have no fear of his soil becoming exhausted if he works his land. We cannot pick out a field in all our travels among the beet growers that has received proper cultivation for the beets that is now giving better yields to-day in other crops that follow, and all because of the better cultivation the land received through the beets. If more farmers would put more work on their land to-day they would get on less commercial fertilizer in the future, and nothing is doing more to prove this fact than the sugar beets. —Mich. Sugar Beet.

Value of Sugar Beet Molasses.

Mr. H. G. Leavitt, of Nebraska, says: One of the important by-products in the manufacture of beet sugar is the molasses. This is fed to stock to a large extent, but owing to the high price of sugar in this country, much of it is converted into low grade sugar. In Europe, about one-fourth of the product is fed to stock. Much trouble has been experienced there in feeding it, owing to the large amount of salt contained in it, which has a purging effect upon the animals. This effect is counteracted by mixing with the molasses a dust or mill obtained from the moss turf that grows on peat. This purging effect is not noticed in the molasses produced in America, but farmers have been puzzled to find some material with which it can be mixed.

Hay or straw cut very fine can be used and the molasses poured over it, being first thinned with water. To every 100 pounds of this chaff, add 20 pounds of molasses. Feed with 15 pounds cottonseed meal or linseed meal or a larger quantity of wheat bran. After cows get used to it, they will consume daily 20 pounds per head of this chaff and molasses, besides other fodder. The feed has been found to be most excellent for sheep, hogs, cattle and even horses, but for all stock it should be given in small quantities at first and the ration increased very gradually. The

experience of prominent American chemists with sugar beet molasses is herewith given:

The residue molasses from beets if of the same sugar content is of equal but of no greater value than the molasses obtained from sugar cane, the former is almost universally fed to cattle abroad with excellent results, and I have never heard of any detrimental effects from its use. Where factories there are equipped with a means of drying pulp the molasses is mixed and dried with it, otherwise it is sprinkled on the dry feed of any kind and the cattle or other stock eat the mixture with avidity.

Subsoiling Necessary.

But few indeed are the natural homes for the beet, and hence much space is given to the selection of favorable soil, as one of the rudimentary requirements for successful beet culture. Avoid clay soils that are easily congested by rain, and then become baked, crusty and fissured in the heat of the summer sun. Such a field would bring an inevitable failure for a beet crop. It would prevent the natural functions of air and light and heat, and dwarf the root. Such a soil would demand several years of careful preparation with liberal quantities of manure and proper fertilization. Then during the season of ground congestion, it would necessitate frequent harrowing of the subsoil. Time and labor alone can make such a field profitable to the beet grower. It would require to be thoroughly plowed to a depth of at least 30 centimes. For the beet root seeks nourishment at even greater depths, and consumes all the vegetable foods in the soil. Moist lands are not well adapted to beet raising. They require late preparation, and this alone is a bad factor in a crop that requires 26 to 28 weeks for full development. This is another potent reason why beet fields should be plowed to unusual depths, and be well harrowed. Look well to the drainage of your beet fields. Keep the surface always free from water, and if your soil has the required conditions for beet culture, there will be ample moisture for the beet root during its early growth. Subsoiling has been found an effective aid in getting good results from such fields. The beet grower cannot be urged enough to familiarize himself with his lands. Make a study of each bit of ground you own. Do not be satisfied with merely scraping over the top as our forefathers did with their primitive tools. Go down deep and learn what underlies your farm. Study your weather conditions year in and year out. In time you will find that your locality is subject to certain ratios of sunshine and rain, heat and cold. These are the normal conditions of your particular neighborhood. Arrange your farm work accordingly. There may be abnormal seasons, this you cannot avoid, but you can by systematic study and application assure yourself seven fat years to one lean, where the reverse ratio may result from neglect of your opportunities.

H. A. Ressnag.

The Agricultural Gazette

The Official Bulletin of the Dominion Cattle, Sheep and Swine Breeders' Association, and of the Farmers' Institute System of the Province of Ontario.

THE DOMINION CATTLE, SHEEP, AND SWINE BREEDERS' ASSOCIATIONS.

Annual Membership Fees:—Cattle Breeders, \$1; Sheep Breeders, \$1; Swine Breeders, \$2.
BENEFITS OF MEMBERSHIP.

Each member receives a free copy of each publication issued by the Association to which he belongs, during the year in which he is a member. In the case of the swine Breeders' Association this includes a copy of the swine Record.

A member of the swine Breeders' Association is allowed to register pigs at 50c. per head; non-members are charged \$1.00 per head.

A member of the sheep Breeders' Association is allowed to register sheep at 50c. per head, while non-members are charged \$1.00.

The name and address of each member, and the stock he has for sale, are published once a month, and each Experiment station in Canada and the United States, also to prominent breeders and college buyers resident in Canada, the United States and elsewhere.

A member of an Association will only be allowed to advertise stock corresponding to the Association to which he belongs; that is, to advertise cattle he must be a member of the Dominion Cattle Breeders' Association, to advertise sheep he must be a member of the Dominion Sheep Breeders' Association, and to advertise swine he must be a member of the Dominion Swine Breeders' Association.

The list of cattle, sheep, and swine for sale will be published in the third issue of each month. Members having stock for sale, in order that they may be included in the gazette, are required to notify the undersigned by letter on or before the 9th of each month, of the number, breed, age, and sex of the animals. Should a member fail to do this his name will not appear in that issue. The data will be published in the most condensed form.

A. P. WESTERVELT, Secretary,
Parliament Buildings, Toronto, Ont.

List of Stock for Sale.

DOMINION CATTLE BREEDERS' ASSOCIATION.

Shorthorns.

Birdsall, F. & Son, Birdsall.—Bull and heifer calves, Yearling heifers and cows.

Chapman, J. G. & Son, St. Thomas.—2 bull calves 5 and 11 months, heifer calf, 10 months.

Douglas, J., Caledonia.—10 bulls, 5 to 17 months; young cows and heifers.

High, D. K., Vineland.—2 bulls, 9 and 11 months; heifer 22 months.

Jeffs, E. & Sons, Bond Head.—2 yearling bulls, 8 bull calves, young cows, heifers, heifer calves.

Ross Bros., Nairn.—3 bulls, 1 year, 2 heifers, 18 months.

Smith, A. W., Maple Lodge.—10 bulls, cows and heifers.

Weber L. K., Hawkesville.—3 bulls 10 to 12 months, 2 heifers, 1 and 2 years, 2 cows.

Jerseys.

Birdsall, F. & Son, Birdsall.—Bull calf 2 months.

Ayrshires.

Owens, W. Montebello, Que.—Bull calves all ages.

Polled Angus.

Phillips, F. W., Oakville.—Young and matured stock, both sexes.

DOMINION SHEEP BREEDERS' ASSOCIATION.

Leicesters.

Armstrong, G. B., Teeswater.—Aged ram, shearing ram, ram lambs, aged and shearing ewes.

Clifton, Wm., Appleby.—6 shearing ewes; ram and ewe lambs.

Douglas, J., Caledonia.—Ram and ewe lambs, shearing ewes.

Dunnet Bros., Clanbrassil.—Aged ram, 6 shearing rams, aged ewes, shearing ewes, ewe and ram lambs.

Jeffs, E. & Sons, Bond Head.—Aged ram, shearing ram, 5 ram lambs, aged shearing and ewe rams.

Smith, A. W., Maple Lodge.—60 ram lambs, shearing and two shear rams, 60 ewes and ewe lambs.

Dorsets.

Hunter, John, Wyoming.—Ram, 2 shears, 2 rams, 1 shear, 4 ram lambs, ewe lambs.

Phillips, F. W., Oakville.—Young and matured stock, both sexes.

Southdowns.

Jeffs, E. & Sons, Bond Head.—2 aged rams, 2 shearing rams, 10 ram lambs aged shearing and ewe lambs.

McEwen, R., Byron.—Aged, shearing and ram lambs, aged shearing and ewe lambs.

Shropshires.

Staples, L. F., Ida.—1 shearing rams, ram and ewe lambs, shearing and aged rams.

Switzer, N. W., Streetsville.—Ram, 2 shears, shearing rams and ewes, ram and ewe lambs.

DOMINION SWINE BREEDERS' ASSOCIATION.

Berkshires.

Jeffs, E. & Sons, Bond Head.—Aged boar, yearling boar, 2 sows, 5 months, pigs, 2 months.

Yorkshires.

Owens, W., Montebello, Que.—Stock 1 and 6 months.

Phillips, F. W., Oakville.—Young and matured stock, both sexes.

Chesler Whites.

Birdsall, F. & Son, Birdsall.—Stock both sexes.

FARM HELP EXCHANGE.

The Farm Help Exchange has been started with the object of bringing together employers of farm and domestic labor and the employees. Any person wishing to obtain a position on a farm or dairy, or any person wishing to employ help for farm or dairy, is requested to forward his or her name and full particulars to A. P. Westervelt, Secretary, Live Stock Associations. In the case of persons wishing to employ help, the following should be given: particulars as to the kind of work to be done, probable length of engagement, wages, etc. In the case of persons wishing employment, the following should be given: experience and references, age, particular department of farm work in which a position is desired, wages expected and when last employed.

These names when received together with particulars will be published FREE in the two following issues of the "Agricultural Gazette" and will afterwards be kept on file. Upon a request being received the particulars only will be published, the names being kept on file.

Every effort will be made to give all possible assistance, to the end that suitable workers, male or female, may be obtained. Every unemployed person wishing to engage in farm or dairy work is invited to take advantage of this opportunity.

Help Wanted.

Man wanted to work on a farm near Goderich. Must thoroughly understand farming, raising and care of horses, cattle and pigs. A man from 15 to 55 preferred, with wife and either grown or half grown family, who would be willing to work under their father and mother. Must be willing, capable and trustworthy in every respect. No. 812. a

Wanted by September 1st:—Competent farm hand, to work by the year on a farm in Brant County. Must be able to milk and tend to stock; must be thoroughly trustworthy and capable of taking temporary management. Young man with some education preferred; also one who neither uses tobacco nor any alcoholic liquors. Good wages and permanent employment for the right sort of man. Correspondence solicited. No. 813. a

Man wanted to look after bees, poultry garden, and to help on a farm. Married man preferred. State wages expected. No. 841. a

Man wanted to work on a 300 acre farm near Toronto. Everything very convenient. Good wages paid to suitable person. No. 845. a

Single man wanted to work on a farm. Must be steady and willing to do his best. Farm consists of 250 acres and all kinds of live stock is kept. Man must be a good milker and kind to stock. Wages \$200.00 per year to right man, with board. No. 846. a

Farm hand wanted by the year to attend to stock in winter and work on the farm in summer, must have some experience in feeding stock or willing to learn. Married or single, if married a convenient house with wood provided. May commence work in October. Permanent situation for suitable man. No. 847. a

Comfortable house for man and wife on a fruit farm, would not object to one child. No. 848. a

Man wanted for year to work on farm. Must be good ploughman and milker and willing to do all kinds of farm work. Married man preferred. House and wood furnished, also garden. No. 849. a

Man wanted by the year. Steady employment for suitable person. State wages expected. No. 850. a

Situations Wanted.

Experienced stockman, Scotchman, wants a position as stockman on a dairy farm. Age, 28 years. Recommendations from last employer. Salary \$25 a month, with board and washing. No. 943. a

Position wanted by young man 23 years of age. Englishman with three years training at an Agricultural College, and six years practical farming.

Thoroughly understands butter making also breaking young horses and horse breeding. Strong and not afraid of work. No. 944.

N.B.—Where no name is mentioned in the advertisement, apply to A. P. Westervelt, Parliament Buildings, Toronto, giving number of advertisement.

Tent of Live Stock Associations and Farmers' Institutes at Toronto Industrial.

A tent for the accommodation of members of the Live Stock Associations and Farmers' Institutes will be located, as usual, near the cattle ring on the grounds of the Toronto Industrial Exhibition, August 27 to September 6. Mr. A. P. Westervelt, secretary Ontario Live Stock Associations, and Mr. S. C. Creelman, superintendent of Farmers' Institutes, will be in the tent each day from 9 a. m. to 12 noon, and will be pleased to meet any one connected with the Farmers' Institutes or live stock work. Mr. F. W. Hodson, Dominion Live Stock Commissioner, will be in the tent from 9 a. m. to noon each day of the second week of the Fair.

The tent will be provided with seating accommodation, and will be at the disposal of the Agricultural and Live Stock Associations for the purpose of meetings.

Writing supplies will be provided, and it is hoped that those interested may make this their headquarters while attending the exposition.

Hy. Wade, Registrar of Live stock, will, as usual, have his headquarters in this tent.

Stock for the West.

The following letter has been received from British Columbia. Any person having stockers of this kind for sale it would be well for them to communicate with Mr. Gibson.

"I am writing to ask to be put in touch with reliable stock dealers in the East, who would be able to quote me prices on young stock, calves or yearlings this fall. I am thinking of shipping in about 300 head of calves or yearlings from Ontario if I can buy sufficiently cheap, and get low enough transportation rates to land either calves or yearlings at Ashcroft, B. C. This place is 138 miles north of Ashcroft, and if I can get calves landed at Ashcroft at say \$11.00 or \$12.00 and yearlings at \$16 or \$17, I would try and buy up 300 head.

The cattle would arrive at Ashcroft not much later than the end of September, and calves should be weaned some weeks before they are shipped. If I could make a success of this experiment I would take about 500 each year if prices were satisfactory."

—E. A. Garon-Gibson,
150 Mile House, B. C.

Provincial Winter Fair Meeting.

A meeting of the board of the Provincial Winter Fair was held at the Palmer House, Toronto, on Friday, August 9th, at 1.30 p. m. It was decided to hold the next Provincial Win-

ter Fair on December 10th, 11th, 12th and 13th, 1901.

The following officers and committees were appointed—

President, A. W. Smith, Maple Lodge, Vice-President, F. W. Hodson, Ottawa; Secretary-Treasurer, A. P. Westervelt, Toronto.

Committee on Cattle—Arthur Johnston, Greenwood; G. W. Clemens, St. George; John Bright, Myrtle; A. W. Smith, Maple Lodge; A. F. H. Jones, Guelph; J. M. Duff, Guelph; John M. Tyson, Guelph; Henry Wade, Toronto; John McCorkindale, Guelph; G. C. Creelman, Toronto.

Committee on Sheep—James Tolton Walkerton; John Jackson, Abingdon; A. W. Smith, Maple Lodge; John McGilivray, Uxbridge; J. M. Gardhouse, Highfield; James Miller, Guelph.

Committee on Swine—Wm. Jones, Mt. Elgin; Geo. Green, Fairview; Prof. G. E. Day, Guelph; Thos. Teasdale, Concord; G. B. Hood, Guelph; J. E. Brethour, Barford.

Committee on Bacon Classes—Left to Pork Packers.

Dairy Committee—G. W. Clemens, Prof. H. H. Dean, G. W. Clemens, R. G. Murphy, Elgin; Henry Wade, Prof. G. E. Day.

Poultry Committee—Wm. McNeill, London; A. W. Tyson, Guelph; F. W. Hodson, W. R. Graham.

Reception Committee—Hon. John Dryden, F. W. Hodson, A. W. Smith, Dr. Jas. Mills, Major John Kennedy, A. F. H. Jones, J. M. Duff, Superintendent of Building—D. G. Hamner.

Asst. Superintendent—J. H. Saunders.

JUDGES.

Cattle—Robt. Miller, Stouffville, and Thos. Crawford, Toronto. Reserve, J. T. Gibson, Jos. Gould. The judges for dressed carcasses were left in the hands of the executive committee.

Sheep—Fine Wools—Prof. G. E. Day, Reserve, J. C. Duncan.

Cotswolds, Leicesters and Lincolns—Jas. Douglas, Caledonia Reserve, John Rawlings, Ravenswood.

Sweepstakes—Jas. Douglas, Jas. L. Tolton.

Oxfords, Suffolks and Hampshires—Jas. L. Tolton, Reserve, Henry Arkell, Arkell.

Grades and Crosses—Jas. Douglas and Jas. L. Tolton.

Dressed Carcasses—Left in the hands of the executive committee.

Swine: Regular Classes—Judges appointed at Annual Meeting.

Bacon Classes—Left to the executive committee and the pork packers, Prof. Day to act with representatives of the packers on the bacon hogs alive.

Dairy—Prof. G. E. Day.

Poultry: Dressed—W. R. Graham and F. C. Hare.

Alive—Left in the hands of the Poultry Committee.

Essays—Dr. Jas. Mills, Prof. G. E. Day, and Supt. Creelman.

COMMITTEE IN CHARGE OF RINGS

Cattle—A. W. Smith, John Bright, Henry Wade.

Sheep—Jas. Tolton, John Jackson.

Swine—G. B. Hood, John Barber.

Dairy—G. W. Clemens.

The dairy rules were left in the hands of the dairy committee.

PRIZES FOR EXPORT STEERS.

Best three export steers, exhibitors to have owned and fed animals entered for at least three months previous to the show.

1st, \$50; 2nd, \$25; 3rd, \$15; 4th, \$10.

The naming of a judge was left to the executive.

Prizes for dressed carcasses in the Cattle Department will be as follows:

Sect. 1.—Pure breeds—1st, \$50; 2nd, \$30; 3rd, \$20; 4th, \$15.

Sect. 2.—Grades of Crosses—1st, \$50; 2nd, \$30; 3rd, \$20; 4th, \$15.

The competition will be limited to steers under three and heifers under four.

Sect. 2.—Grades or Crosses—1st, the Sheep Department will be confined to wethers.

Following are prizes for Export Bacon Hogs both alive and dressed:

Sect. 1.—Three pure breeds—1st, \$30; 2nd, \$27.50; 3rd, \$25; 4th, \$22.50; 5th, \$20; 6th \$17.50; 7th, \$15; 8th, \$12.50; 9th, \$10.

Sect. 2.—Three grades or crosses—1st, \$25; 2nd, \$20; 3rd, \$15; 4th, \$10; 5th, \$5, and reserve numbers.

Sweepstakes: \$50.

Three hundred and seventy-five dollars were donated by the pork packers. Some special prizes may be offered later.

PAYMENT OF JUDGES.

When a single judge is appointed, in addition to expenses he will be paid \$10 for his services at the Winter Fair upon receiving a report for publication, acceptable to the committee on essays, on the classes over which he adjudicated. This does not apply to poultry judges.

When two or more judges are appointed, the Secretary was empowered to select one of them to prepare a report.

TEN PER CENT. ADDED TO PRIZES WON ON DRESSED CARCASSES.

Exhibitors who wish to take advantage of the 10 p. c. added to prizes must present report with entries, and the reports as heretofore must be acceptable to the committee on essays.

\$10 IN GOLD.

Ten dollars in gold is offered for best three bacon hogs from the County of Wellington, by A. F. H. Jones, Manager Traders' Bank, Guelph.

ADMISSION TO THE FAIR.

Gentlemen, 25c; Ladies, 10c; Children under twelve years, 10c.

Special arrangements were again made for admitting the members of Farmers' Institutes.

All carcasses will be put up at auction after the fair.

Swine entered in the bacon classes, and those entered in all other classes under 9 months old must be owned and fed by exhibitor.

All rules and prize list as amended was accepted.

Moved by John Jackson, seconded by Jas. Tolton, that commencing with the Fair of 1902, all sheep exhibited at the Winter Fair be owned and bred by exhibitor. Carried. Meeting adjourned.

The Farm Home

At the Door.

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

My heart were stone could it with-
stand

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 to my arms.

Who knows but in Eternity
I, like a truant child, shall wait,
The glories of the 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?"
—Eugene Field.

What Shall it Profit a Woman if She Gain the Whole World and Lose her Own Life?

This text was forcibly brought to mind recently by overhearing a young man remark to his best girl and in tones which led me to think he was not speaking in irony but in downright earnestness. He said: "Mrs. — milks ten cows by herself, night and morning and helps the men with their work besides her house work. That's the kind of a woman for a fellow to have." I could almost imagine the girl would say inwardly, "young man if it is a working machine you want instead of a wife you are bringing your goods to the wrong market." I thought of the woman who had a young husband and a comfortable home and said with Solomon, "Fools die for want of wisdom," and it will be better for all concerned if she works herself into an early grave before bequeathing to the world some delicate children, children born tired, or working her body until her mind gives way and she finds herself in an insane asylum. Whose mission is it to open her eyes. She and all women who permit themselves to be overworked will never read these pages nor any other pages. She will be found in church; it would look like laziness for her to lie down to rest even on Sunday. Then would that we had ministers who could awaken such women (and men) that work and money are not all. That even the whole world is nothing when they have worked themselves to death.

Why does she do it? Does she expect to retain her husband's love by becoming a slave? Does she imagine a husband who would permit her to do so much work will love her when she is old and broken down and unable longer to plod? If she does, she is mistaken. My experience and observation which has been wider and keener perhaps, than that of the ma-

jority, teaches me that the women who retain the devotion and respect of their husbands are the women who are not everlastingly working. They are the comfortable women, who can make their husband occasionally forget to work, the women who have minds well stored and who can talk or listen intelligently and (I must emphasize this) the women who have retained their good looks and even when eighty or more have young faces and bodies and wide awake minds.

Does she imagine if she kills herself by over work, which is suicide just as much as though done with Paris green, that he will mourn her loss and be inconsolable? Not a bit of it. He will miss her but it will be only as he would miss the faithful horse that has worked for years and dropped in the harness. His first thought will be "where can I get another as cheap that will do the work as well." If she lives long enough to leave a grown up daughter he may at the wife's death shift the work to her daughter's shoulders, but in nine cases out of ten there will shortly be a step-mother over her younger children while the older ones seek homes elsewhere, and from the fact that it is usually a young and healthy girl that is chosen we must conclude that as well as saving her life she would have had more love by working less and looking less faded and worn.

Does she think she is laying up money for her future? She may be but she will lose the capacity for enjoyment of it, and besides if her husband dies first she may rest assured he will bequeath her only a paltry hundred or two hundred dollars to be hers as long as she remains single.

Why does her husband allow her to work so hard? It must be because he can get no servant to do so much for so little pay, but I believe women are oftener to blame than men when things get into this state. Habit is second nature with all of us and especially so with men. It is remarkable how quickly men get into the habit of leaving the ten cows to a woman, who is fool enough to take the pails and say nothing. Any one who would open such women's eyes to the fact that she would make as much money selling calves as selling butter with much less labor and could induce them to put calves to milk at least eight of the ten cows, would have done a greater work than the preacher who adds a new name to the church roll. If she could be led to do even this much for her own emancipation there would be hope for her in other lines of labor. Her life might be brightened, Her home made a genuine pleasure and her companionship might be made a delight to her husband and acquaintances and she might live to do good to others for years to come, and finally leave behind a generation of healthy children that would brighten the world with their ever widening influences. We all have sympathy with the woman who must "work in poverty, hunger and dirt," for a bare subsistence, but for a well to do woman to become a slave for riches we

can not think but sympathy on her bestowed were wasted. Why? Of why?
—M. E. Graham.

Hints by May Manton.

Misses Waists, 3853.

Dainty, filmy materials, lace-trimmed, are a feature of the season for young girls as well as for their elders. The charming little Swiss muslin with trimming of Valenciennes lace and yoke of inserted tucking, but is equally well suited to batiste, dimity, lawn and all similar materials as well as to albatross, veiling and the like, and simple girlish silks.

The foundation is a fitted lining that closes at the centre back. On it are arranged the round yoke, the full waist and the berth; but, when preferred, the lining material beneath the



3853 Misses Waist,
12 to 16 yrs.

yoke can be cut away, or such thin material as white batiste can be used. The sleeves are full and soft, with elbow puffs that terminate in frills of lace, but they can extend to the wrists if so desired. Pale pink Liberty ribbon is tied about the elbows and the same ribbon is used for belt and rosette.

To cut this waist for a Miss 14 years of age, $4\frac{1}{2}$ yards of material 21 inches wide, 24 yards 32 inches wide, or 2 yards 44 inches wide, will be required, with $\frac{1}{2}$ yard of inserted tucking and $4\frac{1}{4}$ yards of lace edging to trim as illustrated.

The pattern 3853 is cut in sizes for Misses 12, 14 and 16 years of age.

The price of above pattern post-paid is only 10 cents. Send orders to "The Farming World," Confederation Life Building, Toronto, giving size wanted.

Potatoes

Potatoes should be pared and thrown into cold water, the water changed at least four times before the potatoes are placed in boiling salted water to cook. They will taste like new ones if treated in this manner.

Mutton Broth.

Three quarters of a pound of neck mutton, one small onion, one carrot, one small turnip, two cupfuls of chopped cabbage, one tablespoonful of chopped parsley, one-half cupful of pearl barley, three quarts of water, pepper and salt to taste.

Wash the barley and put it on with the cold water to boil. Then wash the mutton, and add it, with one teaspoonful of salt, let all boil gently for one hour. Meanwhile wash the cabbage very carefully and chop it. Scrape and cut up the carrots in small dice. Peel the turnips and cut also in dice. Slice the onions very thin. Put all these into a basin and turn over them one quart of boiling water. Let stand ten minutes, drain in a sieve and add to the soup and boil gently for one and one-half hours longer; then add the chopped parsley, season to taste, take out the mutton and serve.

Lobster Rissoles.

Tinned lobster will do well for this. Pound the meat well, season it with salt and pepper, and mix with about two ounces of butter. Rub this to a paste, add a tablespoonful of anchovy sauce and the beaten yolk of an egg. Flour the hands well, and make the mixture with egg-shaped balls. Roll these on beaten egg, also in breadcrumbs, and fry to a light brown.

Mrs. Nation shows no inclination to bury the hatchet.

Clothes Moths.

In putting away articles, particularly furs or woollen things, it is better to try several remedies at various times to drive away moths, as either the moths become accustomed to the smell or it loses its pungency. Camphor, camphor-tar, naphthaline, alum, turpentine, and pepper are all objectionable to moths, and are possibly poisonous to the little grubs who do the mischief. Dry the alum to a cinder, then crush it to a powder, and sprinkle your drawers or the separate article whose preservation concerns you. Powdered bitter apple is another preventive favored by some housewives. Perhaps you have heard the "pepper" story of a great actress who, in a certain piece, had to wear costly furs. She had not been acting in this play for some time, and on its first re-appearance, when she came on the stage, she was seized with a fit of sneezing, so violent she was obliged to retire in confusion. The pepper had not been shaken out of the furs!

If moths have been successful in laying their eggs, there is some difficulty in removing the grubs, owing to their habitations being woven of the material of the cloth or fur, and it requires a careful examination to detect every intruder. The best way is to put the article in the oven all night, being careful that the heat is very gentle—a brick oven after the bread has been removed is of suitable heat. The grubs will fall out if the article is well beaten the next day. Moths may multiply in a house from having almost undisturbed possession of a box of rags or old carpets, &c. Such places which they are likely to infest should be sprinkled freely with turpentine.

About two thousand kinds of moths make their home in this country, and only five of these injure clothing, and of these five only two are common in our houses.—Exchange.

Curious Facts.

St Petersburg's cabs charge half the fare for women that they do for men.

Up to January 1 last the Massachusetts highway commission had improved 316 miles of road, at a cost of more than \$3,000,000.

The sugar cane was introduced into America soon after the discovery, and its cultivation rapidly spread over all those parts of the new world adapted to its growth.

France probably has the smallest conscript on record. Emile Mayot of Cunel in the Canton of Montfaucon measures three feet 9½ inches in his stocking feet and weighs forty-two pounds. He was accepted.

Charles Tiff of North Barre, Vt., has a fish pond in his own house. He has about two feet of water in his cellar, so it is reported, and has placed some fish in it that he caught in the river, so that he does not have to go out of his house for fishing.

It costs \$827 to fire a single shot from a sixteen-inch rifle, or more than enough to pay the wages of a private soldier in the regular army for five long years. Even an eight-inch rifle costs \$125 each time it is discharged.

"He was a man of strong will," remarked one friend of deceased.

"Yes," agreed the other, "I hear that even the heirs despair of breaking it."

MILLIONS OF WEALTH IN CANADA

Our

**Annual
Autumn
Number**

will be published about
Sept. 1st.

Her population is growing rapidly.

This year her harvest is the greatest on record.

The Farmer is strongly supported by the Government in all his worthy enterprises.

The purchasing power of the average Farmer has increased fourfold within a few years.

THE FARMING WORLD is the only weekly agricultural paper in Canada.

It reaches all the up-to-date, money making and money-spending Farmers and Stockmen.

An advertisement in it always brings business.

Rates on Application.

THE FARMING WORLD,

TORONTO

The Farming World.

PAPER FOR FARMERS AND STOCKMEN.

Publisher, P. T. McANISS.
Editor, J. W. WHEATON, B.A.

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Letters should be addressed to:

THE FARMING WORLD,
CONFEDERATION LIFE BUILDING,
TORONTO.

Modern Stable Construction

Written by Herbert Shearer.

Former Unsanitary Stables.

The proper housing of domestic animals, is receiving careful systematic consideration as never before. Investigations are being conducted by means of careful, practical experiments by men who are thoroughly conversant with the subject from a practical as well as scientific standpoint.

Mr. F. A. Converse, who has charge of the live stock and dairy departments at the Pan-American Exposition is a pioneer in this important field. He is demonstrating to the multitude at the Exposition by actual working models, how it is possible to build a really good stable for a very reasonable amount of money.

In our northern climate, warmer stables have for years occupied the attention of our best farmers, and stockmen and bank barns have been the outgrowth of the desire to provide comfortable stables that were both warmer and better. The convenience of having all stock under one roof tucked carefully away from the cold with plenty of feed over head, ready at all times to find its way to mangers and food racks by gravity, proved very alluring to ambitious farmers all over the country. Animals housed in these expensive dungeons were not happy and showed their discomfort in watery eyes, husterless hair, hot noses and hot feverish breath with fretful quarrelsome actions together with their inability to grow or fatten. Too frequently cattle thus housed were attacked by bovine disease germs which were materially assisted in their work of destruction so expensively though unintentionally provided. Stockmen thought the trouble was caused by too great a change in temperature by

allowing the cattle to go out for an airing or for water each day, to remedy this, water buckets were added to the stable outfit and the stock confined in an abominable atmosphere for weeks at a time.

Atmospheric conditions affect animals differently. The heavy breeds of beef cattle are usually phlegmatic in disposition, paying but little attention to ordinary disturbances; these suffered less in consequence, though it was noticed that they did not benefit from the quantity of feed as they should. Milch cows of a highly nervous organization are more susceptible to incipient diseases caused by objectionable surroundings than any other domestic animal. Not until progressive scientific men spent much time and money in investigations and experiments was the trouble traced to its true source.

Analyzing stable atmosphere led to the detection of harmful bacteria in incredulous numbers. Scientists engaged in the work were slow to give out the result of their first investigations, thinking that the conditions under which they were working might be abnormal. Prospecting further and while endeavoring to learn the cause they found conditions in these cellar stables particularly favorable to the propagation of stockmen's worst enemy. Harmful bacteria delight in a dusty atmosphere especially when it is impregnated with moisture, when a share of the dampness comes from the moisture-laden breath of animals that are obliged to breath the same air over and over again, bacteria conditions are complete.

Bank barns are always damp and always dusty, owing to their construction they never admit sunlight in quantities, sufficient to be of any use. Sunlight is destructive to all forms of harmful bacteria, therefore a stable properly constructed should admit the direct rays of sun to every stall, if possible.

Great progress has been made during recent years in stable construction, looking to the complete elimination of the troubles as set forth along these lines.

A model stable on the Exposition grounds, in which is confined a number of different breeds of the best dairy cattle in America, will demonstrate to the millions of Pan-American visitors, how a really good stable may be constructed at a low cost, that is warm in winter, cool in summer, and sanitary and hygienic at all times.

Public opinion backed by government milk inspection has resolved itself into a strict censure of dirty, antiquated methods. City milk supply is now traced to its source, the cows examined thoroughly for condition and health and the stable for cleanliness. If incompetency or indifference has led the dairy-man to disobey the state sanitary requirements he is not permitted to ship his milk until he satisfies the inspector that he has mended his ways. This course was made necessary by the rapidly increasing volume of business which is conducted by such a cosmopolitan class of people; comprising as it does, all grades of producers from the most

progressive farmer down the line of small dairy-men to the ignorant huckster. Cleanliness is required by inspectors first, last and all the time; thus, making the right start, for cleanliness, leads to many virtues. A man who is particular about all utensils, his wagon, stable, cattle and himself will not tolerate a poor stable or an unhealthy cow. He may not understand the science of ferments or disease germs, but his milk supply will be good and wholesome, because he robs harmful bacteria of the dirt upon which they thrive.

It is intended in a series of these articles to describe in detail the result of Mr. Converse's experiment along this line.

The Clover Hay Worm.

Press Bulletin, Kansas Experimental Station.

From specimens and inquiries reaching the Entomological Department of the Kansas State Experiment Station regarding the clover-hay worm (*Pyralis costalis*), it seems that this insect is more abundant than formerly in Kansas. It has been long recognized as a member of our fauna, but until recently has attracted little attention. With the extension of alfalfa growing, however, this species finds a new and entirely suitable food, and its abundance in stacks of this valuable hay, as evidenced through communications received at this office, may well mark it as a pest of importance.

This worm attacks clover and alfalfa hay, both in the mow and in the stack, cutting up the leaves into chaffy pieces and webbing the mass together by abundant cases of silken threads, which it is the habit of the worm to spin at all times. Hay so infested looks mouldy and matted, and the abundance of the silken threads, mingled with the excrement of the worms, renders the hay distasteful to cattle.

When young the worms are of a dirty white color, darkening as they grow older, until they become a livid brown. When mature they measure about three-quarters of an inch in length. The pupal stage is passed in a thin silken cocoon spun near where the larval life is passed, and the adult moth is soon given forth, a trim little insect with wings spreading about four-fifths of an inch, in color a lilac brown or purple, with two bands of a lighter shade each starting from a yellow spot on the front of the wing.

The moths may frequently be seen resting on walls and timbers within barns where clover-hay has been stored, and their appearance in such places should warn the owner to clean out the mows thoroughly before storing the new crop. The insect is always more abundant where old hay remains over summer, and in stack bottoms rebuilt in the same places year after year, of the waste hay remaining over. Much less danger of attack will result if such waste hay be fed out clean; or

if badly infested it should be burned. The amusing suggestion of a writer in a recent number of a Kansas paper, that the worms may be destroyed by placing on the top of the stack a vessel containing carbon-bisulphide, will hardly commend itself to 'practice with those having any experience with this liquid.

E. A. Popenoe.

Live Stock Meeting at the Pan-American.

As the time approaches for the live stock show at the Pan-American Exposition, the indications are that one of the largest and best shows ever brought together will be seen at Buffalo, the dates for which are as follows:

- Swine, Aug. 26th to Sept. 4th.
- Cattle, Sept. 9th, to Sept. 21st.
- Sheep, Sept. 23rd to Oct. 5th.
- Horses, Oct. 7th to Oct. 19th.
- Poultry, Oct. 21st to the 31st.
- Pet Stock, Oct. 21st to the 31st.

During the time of each exhibit arrangements have been made for the holding of mammoth meetings of breeders of the various classes of live stock, and through the courtesy of the New York Commission, the meetings will be held in the audience room of the New York State Building as follows: Swine Breeders, September 4th; Cattle Breeders and Dairymen, September 19th and 20th; Sheep Breeders, October 3rd; Horse Breeders, October 17th; Poultry and Pet Stock Fanciers, October 25th. An interesting program is in course of preparation, and invitations have been extended to the officials of the South and Central American countries to participate in the deliberations, as well as to all those of the United States and Canada who are interested in Live Stock meetings. These meetings are a result of an anxiety expressed on the part of live stock men to get in closer touch with the live stock interests of not only our own country, but of South and Central America as well.

A general invitation is extended to all stock men to be present at these meetings.

F. A. Converse,
Superintendent of Live Stock

A Boon to Manufacturers.

The action of the Central Canada Exhibition Association at Ottawa, in throwing open their agricultural implement building free to all who desire to exhibit their manufactures at the annual fall fair from September 13th to 21st, is causing great satisfaction among manufacturers. Not only is space free but power is also supplied gratis, in consequence of which the manufacturer secures a chance of exhibiting his products to the best advantage before thousands of people at a trifling cost.

The attendance at Ottawa's exhibition promises to be unusually large this year and Mr. E. McMahon, of 26 Sparks St., the secretary of the association, is daily receiving applications for space, information, etc., from all parts of the country. The special attractions, which comprise nearly everything from a troupe of

performing elephants to a pair of racing ostriches are sure to prove a big drawing card, and manufacturers will do well to write the secretary for information as to freight rates, space, etc., before it is too late to secure good locations.

London's Big Fair.

The "great holiday outing of Western Ontario" is a phrase that some one once bestowed upon the Western Fair of London, and as the years go by the description seems to become more and more fitting. But it is more than a mere holiday. It is educational in its nature. No man with his eyes and ears open can visit the Western Fair without seeing something to which he had heretofore been a stranger, while the improvements on old devices, the improved methods of agriculture and the higher grade of stock and cattle all combine to show the rapid advance being made in Western Ontario, and to demonstrate that we in this section are fully abreast with the rest of the world. The entries for this year denote a large exhibit, and space should be secured without delay. The speeding in the ring, as usual, will be one of the most attractive pastimes, and this will be made doubly so by the engagement of the greatest coterie of high salaried acrobats, gymnasts and aerialists that ever appeared in one combination in Canada, while novelty is added by the introduction of a full troupe of educated performing elephants. The fireworks display will be on a grander scale than ever, and will include a striking and novel representation of the "Fall of China" and "Taking of Peking," together with the most brilliant illumination and electrical effects ever before seen on the grounds. Special train service is being arranged over all railroads to leave London after the fireworks. None should miss this home exposition which can be so easily visited and at little expense.

Another Binder Twine Company.

The Canadian Cordage and Manufacturing Company has secured a free site, etc., in the town of Peterborough, and will at once begin the erection of buildings, etc., suitable for the manufacturing of binder twine, rope and cordage. The plant to have a capacity of five tons of binder twine and three tons of rope and

cordage per diem. Everything, it is expected, will be in shape for supplying binder twine for next season's crop.

Challenge.

I do hereby challenge any churn manufacturer in Canada to compete against my Columbia Air Churn at the Toronto Industrial Fair. Competition to be for time, quality and quantity, and will place \$1,000 with the editor of Farming World as a guarantee. The churn can be seen at the office of the Columbia Air Churn Co., Confederation Life Building, Toronto.

Witness,
S. W. Grant, F. Tierney,
324 Lenox Ave
Newark.

New Century Ideas.

The Toronto Exhibition, to be held from August 26 to Sept. 7, announces that its principal characteristic will be the adoption of New Century Ideas. The phrase might be considered a bit indefinite but for the fact that contemporaneously the statement is made that there will be daily and nightly displays of all the new weapons of war as well as recent developments in the arts of peace. The pom-pom will be on view, wireless telegraphy will be shown in practical use off the shore to passing vessels, magnificent displays of illuminating effects will be made, recently announced developments in electricity will be shown, demonstrations will be made in the cultivation of the Sugar Beet, modern methods of rescuing at sea will be illustrated, manoeuvres with latter-day artillery will take place, in fact the military will be very much in evidence in all its branches while the handy-man and the marines will also be used largely in the off-shore operations and the brilliant nightly spectacle the Bombardment of the Taku Forts by International forces. An International Military Tattoo will be the feature of the opening night, when a large body of troops will be utilized. A strong exhibit of French-Canadian cattle, as well as of Pan-American live stock is to be made. In fact, in the live stock, dairy products and manufactures, Toronto Exhibition never promised so well as this year. Greatly reduced rates on the railways and steamboats have been arranged for, and no better time for visiting both Toronto and the Pan American, or the former alone, could be desired than between August 26 and

Ontario, New and Old

DO YOU WISH TO SECURE A FARM OF YOUR OWN?
If you do write for a copy of the new pamphlet on land settlement in New Ontario to

HON. E. J. DAVIS,
Commissioner of Crown Lands, Toronto.

Sept. 7. When it is stated that this year Toronto will distribute upwards of \$35,000 in premiums and spend \$30,000 in special attractions, all of which can be seen from the grand stand for 25c, the magnitude of Canada's greatest exhibition will be appreciated.

Crops on Annandale Farm.

Mr. E. D. Tillson, Tilsonburg, Ont., writes: "I have 65 acres of the finest corn I ever had on the farm this time of the year, some of it is nine feet high and not in tassel yet. It bids fair to be 14 to 15 feet high and an enormous crop. Mangolds and soya beans are also just splendid, growing rapidly. I had a great crop of hay (175 tons) cut early and all in the barns by July 5th, about one-half clover. I believe in cutting hay very early and curing clover in cocks covered with hay caps. Forty-five acres of wheat is all harvested and in the barn, a fair crop for this year, but badly damaged by the Hessian Fly, but I think the Dawson's golden chaff will go 20 bushels to the acre, and the turkey red, or Texas wheat 15 to 18 bushels to the acre. Only for the fly I would have had a tremendous crop. But I feel well pleased that it has turned out as well as it has, as a large portion of the wheat in the neighborhood was completely ruined by the fly. Many fields have been plowed up or pastured.

I seed all my grain crops down with clover and have a good catch this year, so that if the wheat had failed entirely I would have had a good clover meadow for next year, and that is worth more for the land and the cows than the wheat. I never would think of plowing under a damaged wheat crop, as others have done when well seeded to clover.

—E. D. Tillson.

Bacterial Life in Milk.

(By Dr. H. L. Russell, Madison, Wis.)

Our subject is the bacterial life of milk—milk becomes contaminated with these infinitely little living forms.

Milk as secreted in the udder glands of a healthy animal does not contain germ life. It is an erroneous idea that the organisms that find their way into the stomach reappear in any way in the milk of an animal. Only in the case of a diseased tissue does a membrane permit the bacteria to filter through and so appear in the milk.

As it comes to our creameries, however, milk is teeming with microbes. Under ordinary conditions every drop contains hundreds and sometimes millions of these germs. The mere question of numbers is not so very important, but it may be interesting in passing to note that not infrequently milk is delivered to our creameries that contains tens of millions, if not hundreds of millions in every teaspoonful. The significance of these enormous numbers can perhaps be better understood if they are put in a somewhat different way.

Suppose the Washington monument at the National Capital was made of bricks of ordinary size—a structure 70 feet square at the base and 500 feet high. If every brick in the structure represented a germ, there is often enough bacterial life in a single teaspoonful of milk, to equal in number the bricks which would be put in such a structure, in numbers about 29,900,000.

In what way do we account for this enormous discrepancy between the conditions of the milk as it exists in the milk glands of the cow and as it passes through the weigh can. This great variation is due to two factors, to the introduction of germ life in varying quantities, and to the presence of conditions which favor a rapid growth and development of the organism originally seeded in the milk.

The composition of milk is such that bacteria find in it the most favorable conditions for growth, all the necessary food nutrients are there to promote rapid changes, and if the temperature is favorable a single organism will multiply and increase its numbers many fold in a short period of time.

The factors which account for this infection may be briefly summed up in cleanliness and temperature. Unless the temperature of milk is kept at a point where bacterial multiplication cannot go on, even a few germs in the course of hours will be able to increase so that the aggregate will be very large. But our purpose is to point out more specifically the way in which bacteria gain entrance to milk.

To Judge a Sound Horse.

Buyers of horses generally like to see the animal in motion before deciding whether they should purchase or not, but this is a mistake.

If he is sound he will—when standing still—stand squarely upon his limbs without moving at all, and the legs showing themselves posed in a natural and plump manner. The feet should not be thrown forward, the heel should not be raised, or the foot be lifted from the ground, and the weight thus taken from it, as in any of these cases tenderness or disease may be suspected. Many owners desirous of disposing of an animal do not hesitate to make it trot, or otherwise to keep it from a standing posture; hence intending purchasers should see the animal in both an active and passive condition.

To the Horse.

A toast to the horse, delivered at a recent dinner by Dr. H. H. Kane, fits the noble animal about as well as any that ever emanated from the heart of a true horseman. The toast is as follows.

"That bundle of sentient nerves, with the heart of a woman, the eye of a gazelle, the courage of a gladiator, the docility of a slave, the proud carriage of a king, and the blind obedience of a good soldier. The companion of the desert and plain; that

turns the moist furrow in the spring, in order that all the world may have abundant harvests; that furnishes the sports of kings; that, with blazing eye and distended nostril, fearlessly leads our greatest generals through carnage and the smoke of battle to glory and renown; whose blood forms one of the ingredients that go to make the ink in which all history is written and who, finally, mutely and sadly in black trappings pulls the humblest of us all to the newly sodded threshold of eternity."

An extract from a popular novel: "He pressed a burning kiss upon either cheek, and straightway her face became ashen."

Mabel — It's very hot. If I should faint you wouldn't take advantage of my helplessness and kiss me, would you?

Bob — Certainly not.

And Mabel sighed — but she didn't faint — Boston Globe.

Rich and Poor Alike use Pain-Killer. Taken internally for cramps, colics and diarrhoea. Applied externally cures sprains, swollen muscles, etc. Avoid substitutes, there is but one Pain-Killer, Perry Davis'. 25c. and 50c.

ALBERT COLLEGE

Business School Founded 1877

\$37.00 pays board, room, tuition, electric light, use of gymnasium and baths (all but books and laundry) for 10 weeks—longer time at same rate—in either department:

- (a) Bookkeeping
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Cramming Machines

Fattening Coops,

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All kinds of Poultry Supplies.

CATALOGUE FREE.

A. J. Torgan, Mfr., London.

Sample cop'ies of The Farming World will be sent to any address, free of charge, upon request. Send us the name of a friend who does not subscribe and we will send the paper for two weeks free on trial. Address, The Farming World, Toronto.

PURE-BRED STOCK

NOTES AND NEWS FROM THE BREEDERS

These columns are set apart exclusively for the use of breeders of pure-bred stock and poultry. Any information as to importations made, the sale and purchase of stock and the condition of herds and flocks that is not in the nature of an advertisement will be welcomed. Our desire is to make this the medium for conveying information as to the transfer of pure-bred animals and the condition of live stock throughout the country. The co-operation of all breeders is earnestly solicited in making this department as useful and as interesting as possible. The editor reserves the right to eliminate any matter that he may consider better suited to our advertising columns.

Horses

From the Scottish Farmer of Aug. 3, we learn that Mr. Colquhoun, of Mitchell, Ont., sailed on Saturday last with possibly the best shipment of big, handsome, well-bred horses which has left the Clyde for some time. Amongst them was the well-known horse Ornament (10 603), bred by Andrew Mitchell—and champion at the Union Show at Dumfries in 1898. Prince of Johnstone (9986) is a powerful big horse by Prince of Carruchan, the Cawdor cup winner. He is a horse of great weight and substance, and left good stock where he has travelled. Hanbury (11 061) by Macgregor (1487). This is a big horse of substance and quality. He travelled in England the past season. Mr. Colquhoun has two two-year olds, one by King of the Roses, the other by Prince Sturdy, and a yearling by the latter sire. Altogether, they are said to be an excellent lot of a good heavy type.

Cattle.

Mr. George Campbell, Hartmill, Keig, shipped on Saturday from Glasgow a valuable consignment of Short-horns for Mr. John Isaac, Markham, Ontario. This shipment consisted entirely of females. From Mr. John Young, Tillbournies, there was secured a three-year-old heifer, got by Allan Gwynne, and a two-year-old heifer out of the same cow after Remus, the sire of Mr. Merson's Highland champion bull Choice Goods. She has a heifer calf at foot by the Duthie bull Scottish Prince. From Mr. Davidson, Oldhall, Carthness, there was got a three-year-old heifer by the Cruickshank bull Anglo-Saxon, the sire of the dam being the Duthie bull Lord of Ury. She has a bull calf at foot by the Beaufort bull Corporal. Mr. W. A. Mitchell, Auchnagathie, supplied two good heifers, a Snowdrop, by Pride of Fashion and Lass of Gowrie, a red by Golden Dawn (bred at Uppermill). From the herd of Mr. Ledingham, Fintry, Turriff, there was secured an Orange Blossom by Sittyon Prince (bred at Collynie), her grand-dam being Star of Morning. Two went from Mr. Ross, Upper Park, by Fortunatus, bred by Mr. Duthie, the grand-dam being by the Cruickshank bull Gravesend, and the dam from the Kinellar Clementinas. Mr. Anderson, Wardes, supplied a two-year-old heifer by the Cairnbrogie sire Belasarius, and descended from the Rosebud tribe. From Mr. Strachan, Tillyorn, there came two heifers by the Heatherwick bull Spencer, and from the Kingcausie Countesses. Mr. Campbell bought from Mr. Thomson, Balbegno, a two-

year-old and yearling heifer from Avene X., by the Marr bull British Leader; a yearling named Wallflower, by the Collynie bull Count Joyful, and from the Winsome tribe; and two yearling heifers from the Kinellar Claret tribe, and by Count Joyful—North British Agriculturist.

Speaking of Mr. D. C. Flatt's recent importation, the North British Agriculturist says: "While the Argentine buyers of Shorthorns are forced to hold their hands just now, on account of the uncertainty as to the time at which the South American ports may be opened, the North American buyers are busy picking up a large number of the best Shorthorn heifers in the country. Last week we had occasion to note that Mr. W. D. Flatt, of Hamilton, had recently bought a large lot of high-class heifers from the Windsor, Dalmeny, Montrave, Collynie, Uppermill, and other herds. At the Inverness Show last week, Mr. Flatt also bought the champion Shorthorn, namely, the Craigwillie two-year-old bull Choice Goods, the price paid being £100 net. During the same week, Mr. Flatt also bought a number of heifers from the Rosehaugh, Balnahyle, Dunglass, and other herds in the north. Mr. N. P. Clarke, St. Cloud, has also been largely in evidence as a buyer. Among his other purchases was the Lovat heifer, which was the female champion of the Shorthorn section. The Lovat second prize-winner in the two-year-old heifer class, and also two yearling heifers from the same herd, will accompany the female champion to St. Cloud. Mr. N. P. Clarke has also bought from Mr. Robertson, Ballechin, seven short-horns, including the bull Evening Star, a cow and her heifer calf—the former being sired by the famous Star of Morning—and five yearling heifers. This was a very superior lot, and the price paid for them was highly satisfactory to the breeder. The Strowan bull, Cock Robin, which took third prize in the yearling bull class at Inverness, was also bought by a Canadian buyer.

Sheep

On Friday, 12th July, Messrs. Alfred Mansell & Co. shipped at Glasgow, on behalf of Mr. Robert Miller, of Ontario, 232 sheep, of various breeds. The selection comprised sixteen Oxford, all "Royal" prize-winners from the flocks of Mr. Treweske, Mr. Stilgoe, Mr. Treadwell, Mr. R. W. Hobbs, Mr. J. T. Hobbs. The Shropshires were an exceedingly choice lot, and quite equal to anything Mr. Miller has taken out before. They comprised the second prize (Mr. R. P. Cooper's)



Auction Sale

OF CLYDESDALES

Grand's Repository

TORONTO

Wednesday, Sept. 4th, at 10 a.m.

Selected Registered Clydesdales, rising three years old, fillies and stallions. Catalogues containing particulars and pedigrees can be obtained by writing.

WALTER HARLAND SMITH,

Grand's Repository, TORONTO.

Don't miss this Special Sale Wednesday, September 4th, second week of the Fair.

DO YOU WANT
More Cream and Less Work?
Then Buy an
**Improved
U.S.
Separator**



That is the kind that
Gets all the Cream

It also saves much time and labor and makes dairying more pleasant and profitable.

Illustrated catalogues are to be had for the asking.

Spooner's "PHENYLE" Powder

"Phenyle" GERMICIDE DISINFECTANT..
KILLS CHICKEN LICE
and Lice on Horses and Cattle, and Ticks on Sheep. Keeps them Healthy. Easily applied; no dip required.

60lb. boxes, 1lb. packages.....25c. lb.
70lb. pails.....15c. lb.
400lb. barrels.....10c. lb.

If your Druggist does not sell it, send direct to

ALONZO W. SPOONER,
Laboratory, PORT HOPE, Ont.

Will cure and prevent hog cholera.

pen of Shearling ewes at the "Royal," a grand ram out of Mr. P. L. Mills' pen at the R. A. S. E., fifteen smart ewes from Mr. T. S. Minton's flock, thirty-six rams from Mr. J. S. Harding, and other breeders; two ram lambs and two ewe lambs, winners at the Shropshire and West Midland Show; five ewes, first at Hereford, bred by Sir J. Pulley, Bart.; the pretty pen of five ewe lambs, first at the Shropshire and West Midland Show; twenty-three ewes and two ram lambs, all bred by the veteran breeder, Mr. John Harding, The Dorsets, Hampshires, Southdowns, and Cotswolds were also the best of their kind, and had mostly all been winners at the Cardiff "Royal"—North British Agriculturist.

Smith Evans, Gourrock, Ont., writes: "My sheep are doing nicely. I intend exhibiting at the Toronto and London fairs. Intending purchasers will have a chance to inspect my flock during these exhibitions."

Swine

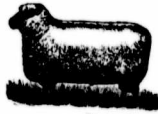
During the third week of last month Messrs. Alfred Mansell and Co. despatched, per the Donaldson Line, from Glasgow, a specially selected lot of high-class pigs to strengthen Mr. J. E. Brethour's celebrated Canadian herd. Three noted prize-winners hailed from Mr. Daybell's famous herd, and comprised two gilts, 1st at Cardiff Royal Show, Bath and West of England, Leicester and Peterboro', and an exceedingly long, well-made boar, 1st at Royal, Nottingham, and Peterboro'. In the pedigrees of this select lot of pigs the following animals appear, viz.: Bottesford Long Sow, brother to the prize boars at Bath and West of England Show, 1900; Long Sow, 2nd prize boar at Birmingham Royal; Bottesford Rufford, sire of 1st and 2nd pen of boars, and 2nd pen of gilts at the Royal Show of 1898; 1st and 2nd boars and 3rd gilts, and 1st sows at the Royal Show of 1899; and 2nd and 3rd prize pens of sows at the Royal Show of 1901; and Bottesford Queen 7240, a noted prize-winner, including prizes at the Royal of England—Mark Lane Express.

The Big Clydesdale Sale.

At the request of a number of people, Mr. W. Harland Smith, has decided to change the date of the big Clydesdale sale at Grand's from September 3rd to Wednesday, September 4th, which is Farmers' Day at the Toronto Fair. The sale will begin at 10 a.m. sharp, instead of 11 a.m., so as to give farmers a chance to attend the sale and get away in good time for enjoying the Fair. We are sure farmers will appreciate this little courtesy on Mr. Smith's part, by attending the sale in large numbers. The catalogue of sale is ready and copies may be had on application to Mr. Smith. The Clydesdales to be sold are all pure bred and nearly all from imported stock. Eighteen horses in all will be sold, 15 of whom are fillies, coming three years; 2 geldings and 1 stallion. These horses have been consigned by Messrs. Edmonds & McGregor, Blenheim, Ont., and will all be sold.

Sheep

Oxford Downs for Sale!



1 Imported aged Ram
4 Good Shearling Rams
15 Good Ram Lambs
12 Nice Ewe Lambs
6 Shearling Ewes
The above are all sired by Imp. Rams, 8 or 10 aged Imported Ewes

—PRICES REASONABLE.—

SMITH EVANS, : GOUROCK, ONT.

OXFORDS

AT FARNHAM FARM

50 Superior Yearling and Two Year Rams.
2 Extra Fine Imported Lambs.
100 Ram Lambs.
And a number of good Yearling Ewes and Ewe Lambs.
—PRICE REASONABLE.

HENRY ARKELL, Arkell, Ont.



ROCK SALT, for horses and cattle, in ton and car lots. **Toronto Salt Works, Toronto**

FOR SALE

Pure Bred Improved York-shire Pigs.

**ANNANDALE FARM,
TILSONBURG, ONT.**

LIVE STOCK LABELS
Send for circular and price list.
**R. W. JAMES,
Bowmanville, Ont.**

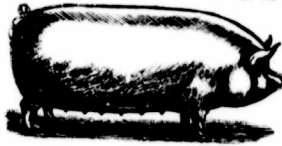


FATTENING AND CONDITION POWDER

THE great Blood Purifier for Cattle, Horses, Sheep and Hogs. A handful of this wonderful Purina mixed with the usual feed strengthens the nerves, hardens the muscles, and generally invigorates. Recommended by eminent veterinary surgeons in Canada and United States.

Gustave LaBelle & Co. Montreal, Que.

OAK LODGE YORKSHIRES



are acknowledged to be the best type of bacon hog to produce the ideal carcass for the best English trade. **CHAMPIONSHIP HERD AT TORONTO INDUSTRIAL EXHIBITION FOR NINE YEARS** also sweepstakes on Dressed Carcass at Provincial Winter Show. We have on hand now a large herd of different ages. Our prices are reasonable and the quality is guaranteed to be choice. Write

**BRETHOUR & SAUNDERS,
Burford, Ontario**

Stock

**MAPLE LEAF HERD
OF LARGE YORKSHIRES**

...Young Stock for Sale

ROBERT NICHOL, BRUSSELS, ONT.

W. R. BOWMAN

Mt. Forest, Ont.

Breeder of **POLLED ANGUS CATTLE**
Young Stock of both sexes for sale.

IMPERIAL HOLSTEIN-FRIESIAN STOCK FARM

10 Young Bulls from one month to four months, bred from Winnie R's De Kal.

W. H. SIMMONS,

New Durham, Ont.

RETTIE BROS.

HOLSTEIN-FRIESIAN BREEDERS

A few choice young animals for sale. **RETTIE BROS., NORWICH, ONT.**

Glen Crescent Shorthorns and Oxfords.

Sheep of both sexes and all ages, and two bull calves by imported sire for sale.

J. W. WIDDIFIELD,

Uxbridge, Ont.

The Up-to-date Herd Tamworths

Bred from sweepstakes herd.

Young stock of both sexes for Sale.

W. H. McCUTCHEON, BRUSSELS, ONT.

MAPLE LODGE STOCK FARM.

Shorthorns For Sale.

A few choice young bulls, and some excellent heifers and young cows. Our cows were awarded first prize at Prov. Dairy Test, 1899 and 1900. Imp. Knuckle Duster, and Imported Sir Wilfrid, at head of herd. Leicester sheep, imported and home bred. The best. **A. W. SMITH, Maple Lodge P. O., Ont.**

**CHICKENS
DUCKS
GEESE
TURKEYS**

WANTED

We forward empty crates to any express office in Ontario, and pay express charges both ways. As we have a steady demand for all the birds we can procure we would be pleased to purchase poultry at all times of the year and in any quantity. Write to us for further particulars, and if you have any time to purchase for us you will find it a very profitable employment.

Toronto Poultry and Garden Produce Co., Limited

Toronto Telephone, North 1030.

Davisville P.O.

Market Review and Forecast

Office of The Farming World,
Confederation Life Building,

Toronto, August 19, 1901.

General trade though not active continues fair for this season and prospects favor a good fall trade. Ontario on the whole will have a fairly good crop of cereals to dispose of. The other eastern provinces have fairly good crops while the big wheat crop of the west will make things active there. There is a good demand for funds both on call and for mercantile requirements.

Wheat.

Chicago is the chief centre in wheat circles just now and the speculative element is carrying on a vigorous campaign. On Monday last September wheat shot up to 74½c, an advance of 3c. per bushel. The shortage in the American corn crop and the estimated shortage in the European wheat crop are the factors being used for advancing prices. And certainly it would seem as if a stronger market were ahead of us. But the English market has not responded to the advance on this side and either prices at Chicago will have to take a drop or advance in England before any large export business can be done. On the other hand an estimated surplus of from 125,000,000 to 150,000,000 bushels in the United States would indicate that there will be no severe famine in wheat.

Canadian markets have been firm and prices at Ontario points advanced several cents, only to drop a cent or two towards the close of the week. There is no new wheat offering here yet. Old red and white are quoted here at 68c. to 69c. at outside points: goose at 64½c. to 65c. middle freight and No. 1 spring at 69c. east to 70c. On Toronto farmers' market red and white bring 69c. to 71c., goose 68c. and spring fine 67c. per bushel.

Oats and Barley.

The oat market continues steady with a slight lowering in values. Old are quoted here at 36c. for No. 2 and new at 31c. for No. 2 white middle-freight, on the farmers' market here, old oats bring 39c. to 40c. and new 35½c. to 37c. per bushel.

On the farmers' market here barley is quoted at 44½c. per bushel.

Peas and Corn.

The new crop of peas is reported light and buggy. The market is largely nominal and little business is doing. Old are quoted here at 70c. and new at 65c. to 66c. middle freights.

The corn market continues strong with Canadian yellow quoted here at 53c. to 54c. west, and American No. 3 at 64½c. Toronto.

Bran and Shorts.

Ontario bran is selling at Montreal at \$16 to \$16.25 and shorts at

\$17 to 17.50 per ton for car lots on track. City mills here sell bran at \$15 and shorts at \$16 in car lots L.o.b. Toronto.

Potatoes and Beans.

The Americans are buying largely of Canadian potatoes east and if they continue to do so a scarcity will soon be created especially in new varieties. The average yield is likely to be below the average. New potatoes are now selling in Montreal at \$1.00 per bag of 90 lbs. as against 50c. a year ago. The demand here is good and the supply moderate. Job lots are quoted at 85c. to 90c. per bushel and on farmers' market 90c. to \$1.00 per bushel.

There is a big boom on it beans. The new crop is said to be the smallest on record and consequently prices have gone up with a jump. Montreal quotations being \$2.19 to \$2.15 per bushel on track.

Hay and Straw.

Quite a lot of business was done in new hay last week at about \$8 f.o.b. and contracts for clover are reported at \$5.50 to \$6 f.o.b. at Quebec points. New hay is offering more freely here and car lots are quoted at \$8 to \$8.50 on track, Toronto. Old hay is dull at about \$9.50 per ton in car lots. On Toronto farmers market old hay brings \$13 to \$13.50 new \$10 to \$11.50, and sheaf straw \$19 per ton.

Eggs and Poultry.

English dealers are buying more largely of Canadian pickled stock. Straight Ontario eggs have been selling at Montreal at 12c. and fresh candled at 12½c. in a jobbing way. Selects in car lots are quoted here at 12½c. and fresh gathering at 11c. to 12c. On Toronto farmers' market new laid being 12c. to 11c. and held stock 12c. to 13c. per dozen. Prices for dressed poultry show little change from last week's quotations.

The Canadian Produce Co., 36 and 38 Esplanade east, Toronto, will pay for week ending August 29, for ducklings not under four lbs. each 4c. per lb. and spring chickens, not less than two lbs. each, 6c. per lb. For hens (including last year's birds) 4c. per lb. These prices are for live weight on arrival.

Fruit

Deliveries of fruit at Toronto fruit market have been larger than usual. The following are the quotations:

Apples per basket, 20c. to 40c; currants, black, per basket, 90c. to \$1.10; huckleberries, per basket, 90c. to \$1.10; Lawton berries, per box 8c. to 9c; muskmelons, per crate, \$1.25 to \$1.50, per basket 25c. to 50c; Canadian peaches, per basket, 40c. to 50c; do yellow, 75c. to \$1; Canadian pears per basket, 30c. to 60c; Canadian plums per basket, 50c. to 75c; tomatoes, Canadian, per basket, 25c. to 40c; watermelons, each, 17½c. to 35c.

Cheese.

Dairymen are counting on a large fall make though it is hardly likely to be as large as that of 1900. Even if it is so there will still be a shortage of over 300,000 boxes from Canada and 120,000 from the United States. The market, however, just at the present time, at any rate, is not in a satisfactory condition. The English buyer seems determined to hold off buying as long as possible and there will hardly be any putting up of prices to 11½c. to 11½c. in September as was the case a year ago.

At this date last year best West-goods sold at Montreal at 11½c. to 11½c. and then fell off to 10½c. and 10½c. for a week or two, but in September they took another jump up to the high basis of 11½c. to 11½c. Prices there now are 9½c. to 9½c. for finest Eastern and 8½c. to 9½c. for undergrades.

The local cheese markets have ruled fairly steady with a slightly lowering of values as compared with a week ago. At Brockville prices went 9½c. to 9½c. and it looked as if a turn upward were beginning.

Butter.

The Trade Bulletin has this to say as to the butter market of the week:

"The market is firm for finest fresh creamery, but is by no means active on spot, although there has been considerable business put through during the past week in the country, one buyer stating that there must have been at least 8,000 to 10,000 pkgs. picked up. When there is any demand, of course, the greater portion of the orders are filled in the country. Still there has been a fair turnover on spot, 20½c. to 21c. having been paid for best offerings of creamery. The Allan Grove Combination got 21c. for about 350 to 400 boxes. For certain fancy factories 21½c. to 21½c. has been paid; but for the general run of choice goods 21c. is a fair top figure. Quite a lot of fine creamery

CANADIAN PRODUCE Co.
TORONTO

Want Every Chicken in Ontario

AND WANT AGENTS TO BUY THEM.

has changed hands at 20c. to 20½c., and undergrades have sold at 18½c. to 19½c., as to quality and condition. Further complaints are heard of the poor quality of Western dairy, and several lots bought in the West have been refused. In this market the sale was made yesterday of a little over 100 tubs at 16½c., but the quality was fine, and another lot closely selected brought 16½c. A straight lot was sold at 15½c. and it is said the buyer is sorry.

Creamery butter is active and prices are steady here at 21c. to 21½c. for prints and 20c. to 20½c. for solids. The demand for dairy is moderate, the best rolls being quoted at 17c. to 18c. and pails and crocks at 18c. to 17c. in a bobbing way. On Toronto farmers' market pound rolls bring 19c. to 22c. and crocks 18c. to 20c. per lb.

Wool

Very little is doing in wool, and business is of a hand-to-mouth character. Medium quality is easier, while the fine qualities are firm. Canadian wool is quoted by dealers here at 12½c. to 13½c. for washed fleece, and 8c. to 9c. per lb. for unwashed.

Cattle

The cattle situation during the week has ruled weak, especially for inferior and medium quality, while the finest quality has barely held its own. Cattle quotations show live stock slow in England. At Toronto cattle market, on Friday, the run of live stock was composed of 747 cattle, 1,000 hogs, 1,952 sheep and lambs and 50 calves. The quality of the cattle offered was only medium, few first-class lots of either butchers or exporters being offered. Trade generally was dull with prices easier, especially for the common grades, shipping as well as butchers' cattle. There were few lots of exporters that sold at over 85 per cwt., the bulk going for less money.

Export Cattle—Choice loads of these are worth from \$1.80 to \$5.00 per cwt., and light ones \$1.40 to \$1.75 per cwt. Heavy export bulls sold at \$1.00 to \$1.25, and light ones at \$3.60 to \$3.75 per cwt.

Butchers' Cattle—Choice picked lots of these, equal in quality to the best exporters, weighing 980 to 1,125 lbs. each, sold at \$1.40 to \$1.60 per cwt., good cattle at \$1.00 to \$1.25, medium at \$3.60 to \$3.75, and inferior to common at \$2.75 to \$3.15 per cwt.

Feeders—Heavy, well-bred steers, from 1,100 to 1,200 lbs. each, sold at \$1.00 to \$1.25, and other quality at \$3.40 to \$3.80 per cwt. Light steers, 900 to 1,000 lbs. each, sold at \$3.25 to \$3.40 per cwt.

Stockers—Yearling steers, 500 to 800 lbs. each, sold at \$3 to \$3.25, off colors, and inferior quality at \$2.50 per cwt.

Calves—These are higher and active at Buffalo, veals bringing \$7.00 to \$7.50 per cwt. At Toronto market, ordinary calves bring \$2 to \$19 each.

Milk Cows—Milk cows and springers sold at from \$30 to \$50 each.

Sheep and Lambs

Sheep were firmer than earlier in the week and sold at \$3.10 to \$3.60 per cwt. for ewes, and \$2.50 to \$3.00 for bucks. Spring lambs sell at \$2.50 to \$1.00 each. At Buffalo, choice to fancy spring lambs bring \$5.65 to \$5.80 per cwt.

Hogs

There is no change in the hog market. Best, select bacon hogs, 160 to 200 lbs. each, sell at \$7.25, and lights and fats at \$6.75 per cwt. Unloaded car lots bring about \$7.00 per cwt.

The Wm. Davies Co., Toronto, for the week ending August 23th, will pay \$7.25 per cwt. for select bacon hogs and \$6.75 for lights and fats.

Horses

The usual sales were held on Tuesday and Friday at Grand's repository, when about eighty horses were sold. Some very good general purpose horses were sold at from \$80 to \$125 each, and drivers at from \$75 to \$100 each. A car load of good heavy draft horses were sold to go to Quebec. They weighed from 1,100 to 1,600 lbs. each and sold at an average of about \$115 each.

An important sale of hockneys, the property of Mr. Harry Livesey, Rottingdean, Sussex, and Mr. W. E. Galbraith, Terregles, Dumfries, took place at B1 thorough on Tuesday, 23th July, the first day of the Aberdeen show. Forty-five animals in all were offered, Mr. Livesey sending nearly two-thirds of them. This gentleman, as is well known, is one of the most successful breeders of hockneys in England. He has repeatedly won the championhip at the London "Royal" and other shows, and is always led to beat where hockneys are concerned. The animals from his stud sold included some very nice mares and young stock, suitable for founding or adding to a high-class stud. They are beautifully bred, and include some crack goods. Mr. Galbraith's lot should also command keen competition. They included several very taking mares and young stock, amongst the former being the fine mare Vivandiere, 19589, which won so many prizes, along with Trilby, two or three years ago. She promises to be as successful at the stud as she was in the show-ring, and has a very smart foal at foot, by Roador, which should cause some stir round the ring. Another very good mare is Lund Lassie, by Danegelt, the dam of Trilby and of three others included in the sale. This mare has a colt foal at foot by McKinday, and is again in foal to the same horse. Other mares worthy of mention are Lola, a notable prize-winner at the leading shows, Lady Ulrica, a great winner in Scotland, and Atlanta, a very good short-legged mare, out of Lola. The fillies are equally smart and well bred, amongst them being an own sister to Trilby, Messrs. Sexton, Grimwade & Peck were the auctioneers.

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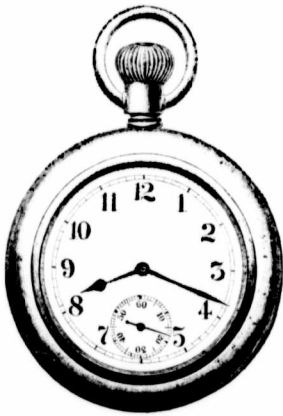
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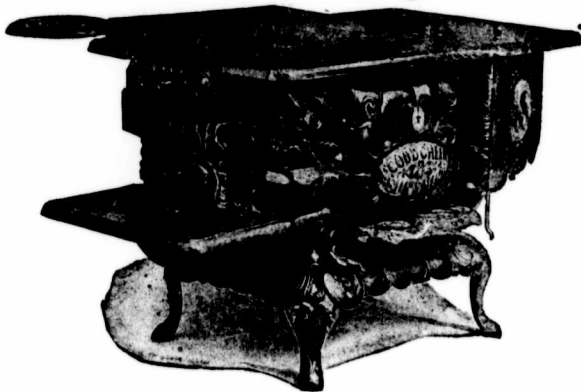
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