

1897

# FARMER'S ADVOCATE

AND HOME MAGAZINE

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

VOL. XXXII.

LONDON, ONT., AND WINNIPEG, MAN., AUGUST 16, 1897.

No. 436.

## EDITORIAL.

### A Hint to the Government.

The article on "Outlets East and West for Agricultural Products," and the letter from Mr. Larke, at present in Australia, on this subject will be read with general interest by Canadian farmers. Amid all the talk of a Canadian boom, opening new markets, subsidizing steamships, building railroads, mining and agricultural development, we do well not to get excited, but to have regard to economy and individual enterprise, and the Dominion Government will require to so hold the reins that the great land and water transportation companies will at least share the cream of increased trade with the humble producer and consumer. As dealt with more fully elsewhere, we look for largely increased trade with Britain under the preferential tariff arrangement, but despite the 12½ per cent. reduction this year on British goods (to be followed by another 12½ per cent. in 1898) we learn from an extensive importer that the goods he was receiving were actually costing him the same as they did before the reduction, by reason of increased freight charges. The explanation of this was the extra demand for shipping space, but it emphasizes what has frequently been urged for some strong, effective supervision of transportation matters, so that the people who pay the subsidies will share in the accruing benefits.

### Discoloration of Cheese.

A live question, as has been noticed in looking through the agricultural papers of Scotland and England during the past year or so, particularly with the cheese dairymen of Scotland, was that known as the "discoloration of cheese." In the latter country a Cheese Discoloration Committee has been at work, and investigations were carried on by various Dairy Institutes and Associations. The results, briefly stated, point to bacterial origin, and to strict cleanliness as the main remedy. In an account of the results of work conducted by the Midland Dairy Institute this discoloration is stated as due to the displacement or abstraction of the coloring matter, not only injuring the appearance of the cheese, but reducing its value, the cheese in the discolored parts being moister and showing signs of breaking down. It also appears that once the bacteria becomes established in a factory or dairy it is difficult to eradicate. While all the Scottish dairy experts concur in regard to the advantages of cleanliness, there has been no little divergence on other points; the investigations of Mr. Campbell, B.Sc., being favorable to the use of what is called a "pure culture" in order to produce a uniformly fine cheese; while Mr. R. J. Drummond, of Kilmarnock, asserts, without hesitation, that it is unnecessary to use a pure lactic culture to correct discoloration, though he admits that by using a pure culture in preparing the "starter," which he has used, a finer flavor is more likely to be obtained, and it so happened that every cheese made with it in connection with certain experiments last year was correct in color. On the other hand, Mr. Campbell had set about discovering a pure ferment that would combat the deleterious ferments found in the bad cheese, and he believes that he has succeeded. At this distance, there would seem to be a considerable element of hair-splitting controversial rivalry for public credit, and another writer on the subject, Mr. H. Johnston, a practical dairyman, we judge, declares, in the *Scottish Farmer*, that some of the experts have simply been re-stating old truths, known for twenty years past, in a new form.

In a quiet way, the above subject has been under consideration in Canada for a couple of years back, and the net result, as shown by an interesting summary of the investigations conducted under the direction of Agricultural and Dairy Commissioner Robertson, which we give in

our Dairy Department, is that the particular bacillus (*Rudensis*) causing the reddish-yellow discoloration noticed in some cheese made in a Leeds Co. (Ont.) factory had its origin in filthy gutters about the establishment, and that the trouble was stamped out by making and keeping the premises clean. The Scottish and Canadian investigations clearly re-emphasize most emphatically the virtue of cleanliness in the dairy, though it is not clear that the two discolorations are the same, the former having a dark, mottled appearance.

### Danish Dairying -- The Other Side of the Picture.

The achievements of Denmark in butter dairying during recent years have been continually held up to others as an incentive, and the British Dairy Farmers' Association recently went on their annual excursion for pleasure and information to that country. While in the aggregate their butter trade makes a great showing, the individual dairyman is probably far from being as well situated as those of Britain or Canada, particularly the latter. On this subject we note the following in the *Agricultural Gazette*, of London, Eng.:

"We have been informed that some of the Danish papers have found fault with the gentlemen in Denmark who welcomed the British dairy farmers for showing them too much of the methods under which the butter industry in that country is conducted. They may reassure themselves upon that point, for the visitors saw nothing new in the manufacture of butter, and are not at all likely to imitate the Danes in their only peculiarity of refraining from washing the granules, while they certainly are not disposed to go back to the bad old practice maintained in Denmark of making up the butter with the hands. Nor has what was learned of the returns of buttermaking realized by the well-appointed co-operative dairies in Denmark or Sweden disposed the Englishmen to follow the Danish example to any great extent. The Danes make the best of a bad business by their care in breeding and feeding their cattle, their skill in buttermaking, and their economy, by means of co-operation, in disposing of their produce; but the net results would not satisfy the great majority of British farmers, who, bad as times are, can do better with their land than use it for the production of milk at 3½d. to 4d. a gallon. Our dairy farmers can make a better return by selling milk for town use, making cheese, or selling butter by retail, and it is only those who are very unfavorably situated who can be recommended to co-operate like the Danes to carry on butter factories for the wholesale market. Few branches of farming pay well nowadays; but we doubt whether any pays worse than the production of butter to sell at about 11d. a pound. Our Danish friends, then, may rest assured that the visitors who told them that they need not fear British competition on such terms spoke the simple truth. Our farmers cannot compete with them in the wholesale market without adopting their low standard of living and their laborious method of doing nearly all their own work with the help of their wives and children, and this they will not do unless driven by circumstances even more unfavorable than those at present in existence."

### Outlets East and West for Canadian Agricultural Products.

Perhaps no material subject, barring the actual operations of the farm, is of greater importance at the present time to the Canadian farmer than that of markets for the products of our farms, our dairies, and our herds and flocks, and it is decidedly encouraging to find that outlets in different directions are opening for extended and improved markets.

The letter just received from Mr. Larke, Canada's Commercial Agent in Australia, which we give elsewhere, will be read with special interest throughout the Dominion. Judged by the prices which he quotes, there ought to be trade openings there, if transportation charges do not consume all the profits, but there are surely some remarkable fluctuations, else why the tremendous efforts the Australians have been making to land their products in England? The fact that steamers running between Australia and British Columbia have to

buy butter at ports of the former for the return trip from Vancouver, because British Columbia butter will not keep, suggests the need for an immediate dairy awakening on our Pacific Coast. What with Australia and gold mining there ought to be a boom in British Columbia in butter and egg production. We also get a hint of live-stock possibilities in the Antipodes where Mr. Larke tells us of pure-bred rams selling at over \$5,000, but on this branch he promises us further details.

Our trade with Great Britain, in certain lines, has made rapid strides in the last decade, for while in 1880 the export of Canadian cheese was 88,534,887 lbs., by 1894 it had increased by nearly fifty per cent., and in 1895 was about \$1,500,000 greater than 1894. The value of Canadian butter consigned to Great Britain in 1889 was only \$174,027, while in 1895 it had risen to \$536,797, and in 1896 showed a still further advance of over \$100,000, and as was pointed out in our last issue this year still further advances. Relatively to the vast area and pastoral resources of Canada, it is readily recognized that these figures fall far short of expressing the capabilities of our country in these lines. Canadian cheese has already made itself a permanent market in Britain, but in view of the fact that out of 340,250,064 lbs. of butter imported from abroad last year Canada sent only 9,895,984 lbs. it need not be wondered at that our people are not satisfied with their attainment in that direction, but will put forth vigorous efforts to capture as large a proportion of the butter trade and also of the dressed meat, poultry, egg, and fruit trade as we have of the cheese trade. Our exports of live cattle to Britain for the present year are already over 10,000 in advance over the corresponding period last year, and our exports in this line have increased from \$1,577,072 in 1887 to \$14,253,002 in 1895.

The Minister of Agriculture, Mr. Fisher, has made good progress and shown a commendable industry in arranging for cold storage on our railways and steamship service for the carriage, in good condition, of our dairy products, and also for dressed beef, the inaugural shipment of 100 quarters of which from Montreal has reached the British market, and Prof. Robertson, who has been such an earnest advocate of this scheme and who has rendered Canadian dairying signal service, is now in the Old Country, having gone over on the same vessel on which the trial shipment of dressed beef was despatched, so that he might observe every detail of the transportation and be in a position to correct the defects which cropped up, as well as to study the best means of putting our products on the market in the Old Land. The *FARMER'S ADVOCATE* still inclines to the belief that the Canadian Government will do well to see that every facility is retained so that our export live cattle and sheep trade with Britain is preserved in its integrity. As far as the Canadian feeder is concerned we regard that as of first importance, though if the dressed meat business is made a success as a second string to the bow, all well and good.

While the outlook in the East is thus encouraging, the possibilities of a profitable outlet to the West is daily becoming more hopeful, and efforts are being made by the Dominion Government to open up trade in food products with Japan and China, as well as with Australia and South America. We learn that Sir Richard Cartwright, Minister of Trade and Commerce, has sent a Mr. Anderson, of Toronto, to Japan to investigate the prospect for trade with that country, and there is talk of Hon. Sydney Fisher, Minister of Agriculture, going some time later in the season for the special purpose of investigating the possibilities of a market there for our food products, and to cultivate closer and friendly relations with the Government, from which, and high officials of Japan, pressing invitations for a personal visit by

## THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN  
THE DOMINION.

PUBLISHED BY  
THE WILLIAM WELD COMPANY (LIMITED),  
LONDON, ONTARIO, AND WINNIPEG, MANITOBA.

JOHN WELD, MANAGER.

1. THE FARMER'S ADVOCATE is published on the first and fifteenth of each month. It is impartial and independent of all cliques or parties, handsomely illustrated with original engravings, and furnishes the most profitable, practical, and reliable information for farmers, dairymen, gardeners, and stockmen, of any publication in Canada.
2. TERMS OF SUBSCRIPTION—\$1.00 per year in advance; \$1.25 if in arrears; sample copy free. European subscription, £s., or \$1.50. New subscriptions can commence with any month.
3. ADVERTISING RATES—Single insertion, 30 cents per line. Contract rates furnished on application.
4. DISCONTINUANCES.—Remember that the publisher must be notified by letter or post-card when a subscriber wishes his paper stopped. All arrears must be paid. Retaining your paper will not enable us to discontinue it, as we cannot find your name on our books unless your Post Office address is given.
5. THE ADVOCATE is sent to subscribers until an explicit order is received for its discontinuance. All payments of arrears must be made as required by law.
6. THE LAW IS, that all subscribers to newspapers are held responsible until all arrears are paid and their paper ordered to be discontinued.
7. REMITTANCES should be made direct to this office, either by Registered Letter or Money Order, which will be at our risk. When made otherwise we cannot be responsible.
8. ALWAYS GIVE THE NAME of the Post Office to which your paper is sent. Your name cannot be found on our books unless this is done.
9. THE DATE ON YOUR LABEL shows to what time your subscription is paid.
10. SUBSCRIBERS failing to receive their paper promptly and regularly will confer a favor by reporting the fact at once.
11. NO ANONYMOUS communications or enquiries will receive attention.
12. LETTERS intended for publication should be written on one side of the paper only.
13. ALL COMMUNICATIONS in reference to any matter connected with this paper should be addressed as below, and not to any individual connected with the paper.
14. WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. For such as we consider valuable we will pay ten cents per inch printed matter. Criticisms of Articles, Suggestions How to Improve the ADVOCATE, Descriptions of New Grains, Roots or Vegetables not generally known, Particulars of Experiments Tried, or Improved Methods of Cultivation, are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.
15. REPLIES to circulars and letters of enquiry sent from this office will not be paid for as provided above.

Address—THE FARMER'S ADVOCATE, or  
THE WILLIAM WELD CO.,  
LONDON, ONTARIO, CANADA.

the Minister have been received. In this connection, it is significant of the probabilities of a profitable outlet for a portion of the great wheat production of Manitoba and our Northwest Provinces that we learn that the Government and the prominent business men of the United States are paying special attention to the trade in wheat flour with China and Japan, and last winter four large flouring mills were erected at Seattle, Spokane and North Yakima to produce flour largely for the Oriental trade, and that nine vessels are now carrying flour from Puget Sound ports to China and Japan; that 27 new vessels will this year be added to this line, making a total of 36 ships plying in the newly-developed trade, each of which is capable of carrying 40 carloads, and of making six round trips a year. It is said that men are scattered over China and Japan introducing wheat flour into the dietary of the people, and it is reported that the Japanese are taking to it very kindly, and that even the Chinese are not unwilling to try the experiment of mixing a proportion of white bread with their regulation diet of rice and beans. If the 500,000,000 people in those countries become consumers of bread the export trade in that direction may be regarded as almost unlimited.

The reports made to the U. S. Department of Agriculture, in response to enquiries instigated by the Secretary of Agriculture, indicate that Japan and China offer the most favorable fields for the disposal of the surplus wheat crop of that country. Statistics indicate that the capacity of those countries for wheat production has not increased commensurately with the growth in population, and show increasing dependence on the wheat of other countries for their supply. It is said that in addition to the export trade in wheat there is likely to be a large demand for canned and evaporated fruits, and for this trade not only Ontario but also British Columbia might well cater, the climate and conditions in the latter Province being well adapted to fruit growing. This, together with the increasing home market which is sure to follow the opening up of our mining industries, both in Ontario and British Columbia and in the Yukon country, by the influx of population which is assured will have a very marked influence upon our markets, and will, in all probability, help largely to develop a consumptive demand for the large and increasing output of food products which is almost certain to follow the settlement of our farm lands in the Northwest, and more thorough methods in farming in the older sections.

### Our Australian Letter.

SPECIAL CORRESPONDENCE FROM CANADA'S COMMERCIAL AGENT.

To the Editor FARMER'S ADVOCATE:

SIR,—The wholesale price of best butter here, as I write, is 37 cents per lb. In Vancouver it is 22, in Ontario 20. There is plenty of margin to ship butter here, and at a better profit than sending it to England. This may occur often, and here is a trade to be pushed if Canada has the proper butter to send. This latter, however, is an important condition. After enquiring I cannot ascertain that we have butter, at least in British Columbia, that will bear transshipment. The Canadian steamers, in spite of the very much lower price in Vancouver, buy butter in Sydney for the returning as well as the Canadian going trip. Their experience is, that the Canadian butter, though excellent when fresh, won't keep. One of the pursers bought a quantity in Vancouver a little time ago and put it off at Victoria. The special qualification of the butter of this colony is that it will keep, while the pursers state Canadian will not even in a cool chamber. The Eastern creameries must have solved this problem, and those of B. C. should do so.

**A Practical Point.**—While on this subject, to show the care that is being taken here over the conditions of production, let me say that the Government requires all producers of milk (remember that every producer who sells milk to a factory or to any person must be registered) to place concrete or other impervious floors to their cattle "bails." Where there is now a hardwood floor, tightly put together, it is permitted to remain for the present, but such floors of pine and other soft woods must be replaced. The cattle bail is not a stable, but simply a milking stall. The sort of floor on which so many of the milch cows stand night and most of the day in winter in Canada would be regarded as abominable here. This action is taken because earth or porous floors produce germs detrimental to good butter production.

**Trade Possibilities.**—Eggs are quoted wholesale at 30 to 33 cents per dozen, about twice the price at which they can be bought at Vancouver, but no quantity sufficient for shipment can be bought there just now. Here are some other quotations: Prime Cape barley, 81 cents per bushel; oats, 60 cents per bushel of forty lbs.; blue peas, \$1.12 to \$1.37 per bushel. Compare these with the prices in the Northwest and in the Province of Ontario, and it will be seen that there is a good margin. I advised produce dealers last October that there was likely to be a rise in prices that would warrant shipments here, but had not a reply from a single person. It is probable that it would have been difficult to have got space on the steamers, as the rush of Canadian wheat and flour has not only filled these steamers, but more than they bring is now coming here via China and New York. These figures indicate the possibilities of future trade with these colonies and how absurd were the ideas that the result of the line would be to swamp the farmers of Canada by the importation of cheap Australian produce. Some day or other there will be a large exchange of food products, but up to the present, with the exception of wool, and that has not been very much, the ships have brought more Canadian produce in one voyage than they have carried back in forty.

I occasionally get letters from Canadian farmers asking for information and sometimes making comments. One or two of the latter expressed opposition to any scheme for subsidizing steamships for any other purpose than carrying farmers' produce to the English market, holding that manufacturers should be compelled to take care of their own business. As there may be a number of Canadian farmers holding the same view, you may perhaps give publicity to a note or two of my replies. Aside from the rather narrow view of the case, it is a very mistaken one in regard to the farmer's own interest. The export of Canadian manufactures is simply the export of Canadian farm products in another form. At least three-fifths of the value of any Canadian article at the port of embarkation goes into the pockets of the Canadian farmer. The value of the article is made up of wages, raw material, cost of management, interest on capital, etc. Of the wages two-fifths go for food, one-fifth for house rent, one-fifth for clothing, and one-fifth to sundries. Of the two-fifths nearly all is expended for articles of Canadian growth and produce. The rent is largely payment for cost of constructing a house, which resolves itself again largely into food as before. The item of clothing in similar manner is composed of part of cost of wool bought from the farmer, and wages, etc., in spinning, weaving, etc. The raw materials are the manufactured product of other and in the end largely food. So it is with cost of management, interests, taxes and freight, and to a large extent the fuel is the product of the farm. Without following this up it will be seen that three-fifths of the value at the Canadian port of embarkation for Australia, and that is considerably more than the manufacturers' price, goes to the Canadian farmer. If a shipment, say of twenty-five hundred dollars' worth of machinery, is reduced to its elements, it would be found to consist of something like this: Wheat, 192½ bushels; oat and other meals, 2,000 lbs.; meat, 5,000 lbs.; potatoes, 350 bush.; other vegetables, 40 bush.; butter and cheese, 700 lbs.; eggs, 100 doz.; milk, 700 gals.; apples, 70 bush.; wood, 30 cords; some hay and oats, etc.; in all, farmer's products to the value of about fifteen hundred dollars. When an

intelligent farmer thinks this out there will come to him several reflections. He will conclude that the export of his products in the shape of manufactured goods enables him to send abroad some articles which he could not do in any other way. For instance, the Ontario farmer cannot well export hay, cordwood, early fruit or vegetables in any other form. That it enables him to ship some products to countries to which he could not otherwise ship them. It would seem absurd to think of sending Ontario mutton, beef or butter to a New South Wales farmer. Yet any plow or binder sold here is in reality a sale of some Canadian mutton, beef and butter. That it enables him to ship his products economically. The weight of the manufactured goods would be about one-eighth of the weight of the farm products represented in them. Thus freight is paid on one pound instead of eight.

He will probably conclude that he is as much interested in the development of the export of Canadian manufactures as the mechanic or the manufacturer. Perhaps more so than the latter. The manufacturer will not infrequently do business abroad without much profit, but the farmer is likely to get the regular market price for the share he has contributed in the shape of food and other products.

**Pure-bred Live Stock.**—I anticipated sending you by this mail an account of the sales of thoroughbred sheep now in progress in this city, but they are not yet concluded. The highest price paid was \$5,110 for a Merino ram of Vermont strain. One was withdrawn because the same amount was not offered. Several have brought from five hundred to a thousand dollars each. In the sales yesterday one flock of sixteen averaged \$500 each, one of nine \$200 each, one of seventeen \$195 each, another of nine \$325 each, one of five \$250, one of six \$535 each, and one of eight \$745 each. These were all Merinos. The long-wools, chiefly Lincoln, do not bring anything like these high figures. I hope to ask your readers in a later letter whether Canadian breeders cannot share in this trade. I have some hopes that the head of the largest firm engaged in these sales may yet be induced to visit the Canadian September exhibitions and judge whether Canada has the thoroughbreds for this market. When I last saw him he was much inclined to do so, but he has since been ill. Should he see his way to go over, I will write you, as his visit would be a useful one to Canadian breeders.

J. S. LARKE.

### Why Britain Should Buy Canadian Food Products.

A representative of the London (Eng.) *Daily News*, by all odds one of the most widely circulated and influential journals published in the English language, has been interviewing Prof. Jas. W. Robertson, Canada's Agricultural and Dairy Commissioner, on the subject of Anglo-Canadian trade, and a few points which we reproduce from the article in the *News* will be of interest to our readers:

"Now, Professor Robertson," said the *News* representative, "putting sentiment on one side, and looking at the matter from a hard commercial standpoint, why should English people buy Canadian dairy produce?"

"Because Canada can supply them with articles superior to the best foreign imports. The nature of our climate enables us to produce food of the very highest quality. The further north things are grown the better their keeping qualities, richer their flavor, and the higher their percentage of nourishing properties. Take the leading food products consumed in England. First come wheat and grain. Well, our Manitoban Number One Hard is admittedly the best in the world, as any one acquainted with the grain market will, I think, admit. It took the first prize at the Chicago Exhibition, with American judges, against all comers. Next come animals: we are in the home of the buffalo, its natural ground. With cheese, the fact that we supply you with so large a quantity and the price our supply secures speaks for itself. Our bacon has risen in estimation till certain brands of it now rank above the finest Irish. Our butter has so grown in favor that in one year the trade in it with you has increased three-fold; our eggs surpass in quality and size the best French. So, I might go on through other articles. There are two or three things in our favor. First comes, as I have already said, our climate. Next is the fact that our farmers, coming as they do from good English and French stocks, are naturally clean in habit and person. No matter how good your methods of production or your food stuffs may be, if the farmers as a class are dirty their produce must, to a certain extent, suffer. A third thing in our favor is that our farmers are educated and intelligent. Russia can perhaps equal us in climate, but it will take three hundred years for the Russian moujik to be sufficiently developed to trust each other and work together with sufficient intelligence to carry on co-operative creameries, as our Canadian farmers are now doing. The purity of our goods is strictly maintained, and such articles as margarine and stuffed cheese are not allowed to be made or offered for sale in Canada."

In reply to another enquiry Prof. Robertson described at length the educational work conducted by the Dominion Agricultural Department and the cold storage arrangements made.

"In what articles do you hope for most development?" he was asked.  
 "We think that our poultry trade should become considerable. It is impossible to send dead birds across the ocean, outside of a cold chamber, without their quality suffering; but with cold chambers they can reach here in prime condition. It is expected that there will be a good trade in turkeys and young fowls. Our farmers will be satisfied if

**Sheep Ranching in the Northwest.**

From the pen of Mr. John I. Hobson we gave in our last issue an able review of the agricultural situation in Western Canada, which was particularly optimistic from the standpoint of those engaged in live stock rearing, for which large portions of the country are so specially well adapted. Mr. Hobson has since given in the

between Medicine Hat and Maple Creek. Mr. Grant puts the whole cost of a large number of sheep—say 8,000 or 10,000 head—at 40 cents per head per year, or, putting it another way, that the fleece will a good deal more than pay for the whole cost. The fat sheep are now bringing about 3½ cents per lb. An abundant supply of hay is provided for winter. If the weather is severe considerable is required, if not it is carried over for next winter's use. During the whole winter the sheep are housed at night, and as in the summer in lots of 2,000 each in one corral 225 feet square, covered in, with large yard attached.

We enjoyed to the fullest extent the drives we had during the day, always within the confines of this ranch—now up on the high ground, where in this clear atmosphere one can readily see twenty or thirty miles—again away down into a deep dell rank with luxuriant growth of tree and bush, across streams the banks of which were lined with berry-bearing bushes laden at this time with ripe fruit. As we drove along we crossed many old buffalo trails deeply sunk in the ground. These were from divergent ways, but all meeting near one point where strong springs gave an abundant supply in summer and open water in winter.

In the evening sixteen sat down to dinner, a happy crowd. As we chatted away until nearly midnight we felt that an air of comfort, and, we may add, refinement, permeated this home on the ranch. Here were to be seen in this plain home the best magazines and reviews of the day; not much style, but much that tends to refine and build up strong character.

**Points in Horse Breeding and Care.**

Prof. I. P. Roberts, in a talk to the agricultural students in Cornell University, recently, said:

"In breeding horses, don't try to breed the largest—their limbs give out and they go all wrong. Exceptions, draft horses, and in smallest ponies. A 2,000-pound draft horse will bring twice as much as one of 1,300 pounds; but they are very hard to breed. Never get overstocked with horses

—twenty to forty, when eight to ten are enough for your land. Remember that half the success of farming lies in the business part of it. If you lack in business sense you will probably be a financial failure. Have a plan in your breeding. There is as much in having the right kind of a horse in the right place as in the hired man. If you love horses, breed coach horses. If not, breed draft horses, which are easy to break and train. Roadsters come from the trotting class of horses. The hackney naturally belongs to the truck farm, and every farmer ought in a way to be a trucker. Low horses, and

even ponies, are good for orchard cultivation. It is quite possible, by scientific feeding, to make horses grow large and tall, or the reverse. One successful horse-raiser I know feeds plenty of bone meal to give his horses fine, bony structure. Then land has much to do with their quality. The little city of Lexington, Ky., sells annually in her streets \$2,000,000 worth of horses. The blue-grass country produces horses because of the phosphates in the soil. In caring for horses remember that the farm horse doesn't want his skin made too sensitive by over-carrying. He perspires freely. What he does need is to have his feet and legs taken care of. Put your chief care upon him at night, after his day's work is done. Clean out his feet thoroughly, leaving no mud to dry in. He gets rheumatism



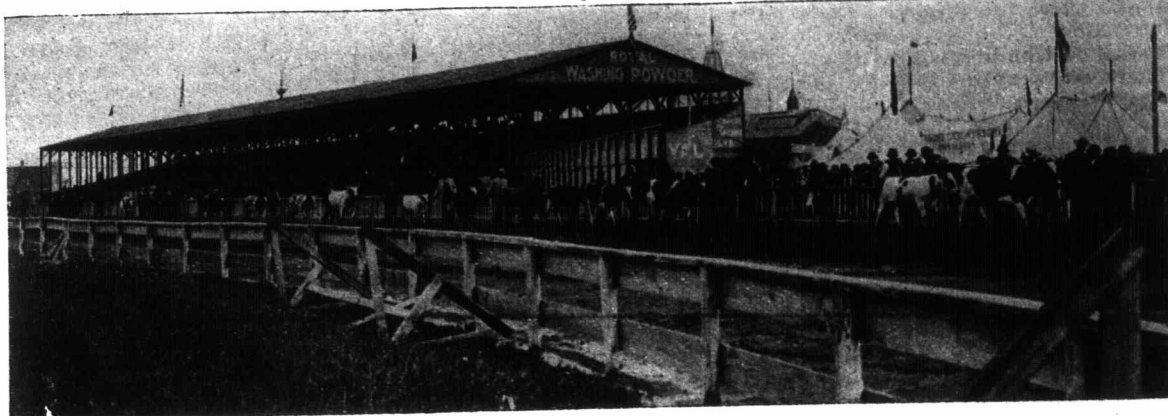
LIVE STOCK PARADE, WINNIPEG INDUSTRIAL EXHIBITION.

their turkeys fetch sixpence a pound wholesale on the London market. That means they will get about five pence a pound for them. Then our Government is making special trial shipments of grapes, pears, peaches, and tomatoes. We mean to see if it is practicable to develop a profitable trade in these with Great Britain."

"And now, how are you going to get your things on the English market?"

"Through the regular trade agencies. There will be one or two agents of our department always here learning all they can about the changing needs of the British markets, the mistakes made in catering for you, and anything that will help. This information will be circulated among our farmers. We want our Canadian exports to be

known as Canadian, not palmed off on British consumers as English, as we have them branded as Canadian. We are convinced that they have sufficient merits to win their way if they are given a fair trial; if they have not, they must perish. Our Government does not propose to bolster up trade by means of bonuses or the like. Looking at the matter from a political point of view, it is of the highest importance that Great Britain should patronize her colonies rather than foreign lands. Our market with the United States has now been closed; the Dingley tariff has killed it. We want to develop mutual trade with England to the benefit of both, for every pound England spends on Canadian produce brings her a large return in the return trade for your manufactures."



PARADE OF CATTLE BEFORE THE GRAND STAND, WINNIPEG INDUSTRIAL EXHIBITION.

known as Canadian, not palmed off on British consumers as English, as we have them branded as Canadian. We are convinced that they have sufficient merits to win their way if they are given a fair trial; if they have not, they must perish. Our Government does not propose to bolster up trade by means of bonuses or the like. Looking at the matter from a political point of view, it is of the highest importance that Great Britain should patronize her colonies rather than foreign lands. Our market with the United States has now been closed; the Dingley tariff has killed it. We want to develop mutual trade with England to the benefit of both, for every pound England spends on Canadian produce brings her a large return in the return trade for your manufactures."

**STOCK.**

**Summer Care of the Flock.**

If the lambs have not been weaned by the 1st of August it is high time they were separated from their dams, as the lambs will do much better on a bit of fresh clover, and the ewes will have a chance to pick up in condition on the oat stubbles, free from the drain upon them of nursing big lambs. Presuming that the lambs were docked at the proper time, when they were about two weeks old, they should be trimmed—that is, their tails squared off neatly and straightly—when taken from the ewes, water being supplied them and a shady place to lie in during the hot days. If clover is plentiful they will do very well on it alone till the rape is large enough to turn on, when they will make a fresh start and go forward gaining flesh and weight rapidly till the snow falls. There is no stock more easily provided for than sheep, and none which pays better for the amount of labor bestowed on them, which is indeed very little, and they need but little. Still, it pays to look them over every day to see if any need a little attention, such as the paring of a lame foot, which, if attended to in the early stage, may prevent a troublesome lameness. We have found it profitable to keep a little phial of powdered bluestone on hand for such cases, and a single application generally gives permanent relief. Keep the ewes improving by giving them a change from one field to another every week or two if possible, as they will come in season earlier and bring a larger number of twin lambs if in fresh condition when coupled with the ram. The stock ram should be separated from the ewe flock until the breeding season comes round, and may run with the lambs or with a few old cull ewes which are to be sold to the butcher. Later on, when there is danger of the ewe lambs coming in season, of course they should be separated from the ram lambs, and both will do better for being kept quiet.

enthusiasts in this work. They seem to have reduced their business down to a very fine point—not the slightest matter of detail but is apparently carefully attended to. General principles are not enough—close attention to details or otherwise, as Mr. Grant puts it, leads up to success or failure as the case may be.

The land occupied is very extensive. We had driven six miles through his land when driving from the station on the north side, and the most of his sheep were pasturing on land fifteen miles beyond the buildings on the south, leaving all the grass on the nearer stretches for winter feed. The sheep are all divided up into bands of 2,000 each. Each band is attended to by one man, who watches over them and is responsible for their good man-



A FEW OF THE SHORTHORN HERDS IN THE JUDGING RING, WINNIPEG INDUSTRIAL EXHIBITION.

agement. The shearing is done by the Mormons under contract. The price paid is usually about 6½ cents per head. The average number clipped per man per day is seventy-five, taking weather wet and dry. Good shearers, however, will often do their hundred and over in a day. This sheep ranching under proper management in very profitable in the country, speaking in a general way, lying

from it. You only need simple tools to work with; first an old broom, and finish off with a wisp of straw, rubbing legs and feet well, hard and quick. Cut off the fetlock if you like; the feet, without it, dry off more quickly. To keep him clean and free from dust, a light blanket of cotton or jute cost's less than the time for cleaning. Then, too, the blanket keeps the hair straight, and helps to keep

it from growing. Never blanket a horse in the stable, while he is warm, unless you give him a dry blanket shortly after. The driving horse must not be fat, but lean and hard, be well curried, sensitive in mouth and skin. . . . The first great mistake in caring for horses is feeding too much hay; the second, is not feeding often enough. A horse should be fed four times daily, and half the day's feed should come after 6 o'clock at night. More horses are hurt by overfeeding of hay than grain. A horse should not work over five hours without feed, and different horses require different food. Some horses do better on straw than hay."

#### Have Foals Come in the Fall.

To the man who is breeding only one or two mares, and who wishes to work them a part of the year, having them foal in the spring is a real inconvenience. To such the advice given by a writer in the *National Stockman* will be of interest. It is as follows: "We hear much of the decrease in the number of sheep during the last few years, and it has been great. I am certain that within the limit of my acquaintance there has been a greater decrease in the number of colts raised. Business cannot be carried on without horses. It seems certain that before 1900 there will be a scarcity of horses in this country. The newer countries compete with us in the production of meats and wool, but horse breeding seems never to have reached great proportions in the countries where these products can be grown so cheaply. The dangers and expense of shipping afford reasons why they will not. The American horse market will remain for the American farmer to supply. I do not believe in the cry of a general over-supply as the cause of the present depression in business, but there is no doubt that the comparatively high prices of horses a few years ago stimulated the business of breeding so that an increased number of horses were thrown upon the market at a time when business was contracting. These two influences working together have forced prices away below the line of profit. A reaction will come in this business as it does in every industry. The scarcity of horses will force prices up again. With the almost universal lowering of values, it is not necessary that prices should return to their former high level to make horse breeding profitable.

"It has been an almost universal custom to have colts foaled in the spring. There are very many considerations that make fall a more favorable time, especially with mares required for farm work. In the late fall, where a warm box stall can be provided a foal may be dropped with the least possible risk or trouble. The mare need not stop work during the spring or summer, when she is needed, and she has no youngling to worry her or her driver. Under the very best management there is a good deal of risk and annoyance in working a mare with a young foal. The mare cannot do so much work, she must have extra care and feed, and it is not possible for the colt to grow as well as though its mother were not worked. When contrasted with the advantages of raising fall colts there seems no explanation for the common practice of having them in the spring only that it is the custom. During the winter season farm teams, as a rule, do very little work. A mare can raise a colt at this time with the least possible interference with her work. She is not heavy enough in the spring to endanger her, and her colt may be weaned the following spring by the time she is needed. The first of November is the most favorable time for foaling. Mare and foal should then be placed in a box stall for the winter. If reasonably warm the colt will grow faster than it would during the extreme heat and annoyance from flies of summer. Another advantage is that the colt can be weaned upon young grass. Hence, no change in its growth need follow this change in its life. The objection is sometimes made that the mare is thus weakened for spring work, but I do not think it need be so. With the same care I am sure she will be in better condition for work than if carrying a heavy foal or with a young one at her side."

#### Inoculation for Rinderpest a Failure.

Mention was made in the *FARMER'S ADVOCATE* recently of the employment of Dr. Koch, the German expert, by the British authorities to attempt to discover a remedy for rinderpest in South Africa. His method of inoculation is now reported to be an utter failure. From Cape Town the news comes that it has become almost impossible to bury the cattle as they die. In such a state of things, farmers have now no alternative but to allow the disease to take its course, which means the early extermination of cattle throughout a great part of South Africa, the absolute ruin of a large and important industry, and a disastrous revolution in the food supply of the Colony.

#### Why Not Get the Best?

A reliable agricultural paper is now an indispensable adjunct for the farmer. True to its name, the *FARMER'S ADVOCATE*, published at London, Ont., Canada, and edited by practical men, fills the bill in many respects. An examination of its pages will show that it overlooks no department of farming, giving probably double the serviceable, up-to-date reading matter of any other paper of the class at so reasonable a price. We do not wonder at its increasing popularity and immense circulation. Write for a sample copy.—*Reliable Poultry Journal*, Quincy, Ill.

## FARM.

### Winter Wheat Experiments at the Ontario Agricultural College.

To the Editor *FARMER'S ADVOCATE*:

SIR,—One hundred and eighty-nine plots have been devoted this season to winter wheat experiments at the Ontario Agricultural College. Owing to the late harvest and the exceedingly wet season no "Winter Wheat Bulletin" can be issued this year in time to be of service before the winter wheat seeding is reached.

In an experiment with ninety-three varieties of winter wheat, grown under similar conditions in 1897, it is found that the seven varieties which stand highest in yield of grain per acre are the same seven which have given the largest yield of grain per acre among eighty-six varieties grown on the experimental plots for four years in succession. These seven varieties have yielded at the following rates per acre in the average of four years' experiments: 1, Dawson's Golden Chaff, 51.4 bushels; 2, Early Red Clawson, 50.6 bushels; 3, Egyptian, 50.2 bushels; 4, Early Genesee Giant, 50.1 bushels; 5, Reliable, 49.2 bushels; 6, Golden Drop, 49.0 bushels; and 7, Imperial Amber, 48.8 bushels. It is earnestly hoped that the interested reader will carefully consider the large amount of valuable information embodied in the two preceding sentences written in italics.

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

Set 1—Dawson's Golden Chaff, Early Genesee Giant, Early Red Clawson. Set 2—Dawson's Golden Chaff, Pride of Genesee, Poole. Set 3—Dawson's Golden Chaff, New Columbia, Imperial Amber.

Each person wishing one of these sets should write to the Experimentalist, Ontario Agricultural College, Guelph, mentioning which set he wishes, and the grain, with instructions and blank forms on which to report, will be forwarded free of cost to his address until the supply of grain for distribution is exhausted.

C. A. ZAVITZ,  
Experimentalist.

Ontario Agricultural College, Guelph, Aug. 11th, '07.

#### Wheat on Sod or Stubble.

Where wheat is to be sown on sod the plowing should be done, if possible, about six weeks before seeding time, and the plowing followed by the roller and harrows within a day or two—the sooner the better, as the work of fining the soil and solidifying it will be much more effectual than if delayed beyond a day or two after plowing. Then after every shower of rain let the harrowing be repeated to break up the crust and conserve the moisture in the soil. In a long experience we have found that such timely tillage greatly increases the wheat crop, and many times repays the cost of the work. If the plowing has been delayed till near seeding the same cultivation should be followed as far as practicable.

Wheat after oats is not to be recommended as a rule, yet on land that is in good heart we have seen very good crops of wheat in this rotation, but to make it a success the tillage must be thorough. The ground should be plowed as soon as the oats are removed, the roller and the harrow following the plow immediately, or not later than the following day. Having it all plowed, cultivation should follow every few days, and especially after every shower of rain or rainy spell as soon as the land is dry enough to work right. No crust should be permitted to remain on the surface, and this cultivation will effectually kill all weed growth and also the growth of oats from seed shelled out in harvesting, and which, if allowed to grow, will rob the wheat of just so much moisture and plant food as they take up. The disk harrow or the spring-tooth cultivator may be used to good advantage in such tillage, or, if thistles are showing, a cultivator with broad feet may be used to advantage, but should be followed by the harrow to level the ridges made by the former implement. Of course, much will depend upon the weather, or the amount of rainfall, whether such land can be got into fit condition for wheat. If plowing has been delayed till late in August there will be little time for the preparation outlined, and unless rain comes to moisten the soil to the depth of the plowing before the wheat is sowed the outlook for a successful crop will not be very encouraging, but even if the plowing cannot be accomplished till near seeding time, if rains come and the land is thoroughly worked and a good seed bed prepared there may be reasonable grounds to look for a fair crop. Wheat may well follow barley if the land is rich enough to reasonably expect a paying crop, and the preparation will be entirely similar to that outlined for oat stubble, but the plowing and cultivation should be commenced as early as possible after the removal of the crop, and if possible available it is better to be applied to the soil and worked into the soil by use of a roller and harrows.

### A Trip Through Manitoba.

(EDITORIAL CORRESPONDENCE.)

Leaving Winnipeg the trip to Portage la Prairie occupies some two hours, most of the way through flat, heavy land, with here and there many natural hay meadows. The crop this season is light, and will not produce more than about a ton per acre. Approaching High Bluff, some six miles east of Portage, the first extensive wheat fields come into view. This is the border of the long-settled and rich Portage Plains, occupying about 300 square miles of good wheat land. These were driven over and carefully observed. Very few farmers here have less than half-sections (320 acres), while there are many whole-section farms, nearly all fenced with barbed wire and furnished with comfortable but smallish dwellings, stables, granaries, and, in many cases, good-sized stock barns. These are usually neatly painted with reddish-brown, trimmed with white, while a number of the houses are painted white and bear a general evidence of thrift and prosperity. True, there are many slovenly farmers, who have as a reward poorer crops and less comforts, but these are the exception on the Portage Plains. This must have been a bleak district a few years ago, but now in every direction are to be seen quite strong-growing bluffs planted on the north and west sides of the houses and out-buildings. Those making the best growth are planted in rows 12 to 15 deep, some six feet apart each way, and cultivated between for the first few years. Owners of some of the best bluffs say that good protection can be secured from blocks of Manitoba maples, five to six years planted. It was indeed refreshing to talk to such hopeful, well-to-do men as many of the young "Portage" farmers are. A number of our old acquaintances declared they would not return to Ontario to farm except they owned a good block of well-equipped land in a favored locality. Most of them complain of the long winters and lack of social advantages, but the ease with which a home can be secured more than offsets these drawbacks. Perhaps we visited them at a specially favorable time, as they were soon to commence a very good harvest of wheat, which is generally heavy, with some exceptions on poorly-cultivated farms. The oat crop is generally light and dirty owing to the late spring frosts. We found capital gardens on many of the farms. Potatoes, onions, peas, beans, beets, cabbages, cauliflowers, etc., were generally looking fine, while the small fruit crop was good, except in a few exceptional cases.

Carberry was our next stopping place, some 50 miles west. There is considerable waste land between these points, including huge sandhills, on which very little grows. Carberry, however, is another elevator center much like the Portage Plains, but newer. The crops here are a little lighter because of less rainfall. A day was spent at the summer exhibition, which reminded one of a well-to-do Ontario county fair. While there was considerable well-fitted stock competing that had been shown at the Winnipeg Industrial, also, especially among the horses, some well-brought-out local exhibits. The large proportion of intelligent and hopeful young people of the rural population is worthy of remark. There were also strong evidences of a rapidly-increasing population, as large families of robust children were notably numerous.

Some 28 miles further on Brandon, the "Wheat City," is situated. It is picturesquely placed on the southern bank of the extremely crooked and swiftly-flowing Assiniboine River. It was a great treat to find here some respectable hills to break the monotony of the stretches of almost level prairie land passed farther east. Brandon is a prosperous looking city of some 5,000 inhabitants. Its business blocks and public buildings are magnificent structures; in fact, the Central School is as good as any we have seen on the continent. The soil here is very light in the immediate vicinity southward. This condition does not extend far north, as just across the river, some two miles away, the Manitoba Experimental Farm is situated. A pleasant and profitable half day was spent here, where a great deal of valuable work is being done. The numerous grain and grass plots were in evidence of this. Here, as on every farm we saw in Manitoba, there are evidences of the late spring frosts in weedy crops. These pests commence to grow as soon as the seed is sown, while the grain has to wait for more congenial conditions. In this way they got the start. Much attention is being given by Mr. Bedford to arboriculture, the lessons from which should be of great value to Western farmers.

The Brandon Summer Fair was in progress at this time. It is the exhibition of greatest importance west of Winnipeg. There was much of the Industrial prize-winning stock here, as well as some good exhibits from the surrounding locality, which will very soon be able to export some capital horses. The show was well patronized, there being some 10,000 admission tickets sold during the second day. There must be nearly 100 acres in the grounds, which, while very good, are unnecessarily extensive. Most of the visitors gave the impression of their being a thrifty, prosperous class. Many drove in with good horses and covered buggies, while large numbers came in by rail.

From here we ran down to Souris, some 25 miles south. We drove over this road, and regretted seeing generally light crops. The rainfall since the show went off has been nothing to speak of, perhaps not two inches during the entire season.

Some wheat and oats were being plowed up, but the crop may safely be estimated at 12 to 20 bushels per acre. South of Souris showers have been fairly regular, and the crops are good.

Oak Lake was our next stop. It is some 32 miles west of Brandon, and is surrounded by good wheat land. High hills were crossed on the banks of the Assiniboine River in a drive some 14 miles north. This is quite a new district, and bears excellent wheat crops this season. Among the good lands here are alkali flats, which are not broken but left for pasture. We found many old Ontario acquaintances here who are all "built up" in Manitoba. The land is somewhat rolling, and among a range of shale hills are situated some productive hay flats, besides occasional wet sloughs which are year by year drying up. Our visit to this district was cheered by a swim in Salt Lake, which is strongly alkali. It occupies some 90 acres, and on its bosom swam a large number of wild ducks. It is said that no animal life exists in its water. From here we proceeded to Virden, and visited its first summer fair. It may be compared to an Ontario township fair in point of exhibits and attendance. The stock was, as a rule, thin and rough, with the exception of a few well-brought-out Shorthorns and Barkshires, and two or three horses. This is a sandy district, but within a short distance north and east good rich soil and good crops are the rule.

We are about to take the train through the Territories and into the ranching district near the foot of the Rockies, of which you will hear later.

J. B. S.

## DAIRY.

### Discoloration of Cheese Investigation.

As far back as 1893, Mr. J. A. Ruddick, now Supt. of the Kingston (Ont.) Dairy School, observed reddish-yellow spots or streaks in white cheese in a Huntingdon Co. factory, P. Q., and discolored samples of cheese were received by Dairy Commissioner Robertson in 1894 from Mr. H. J. Foster, Knowlton, P. Q., and A. A. Ayer & Co., Montreal, but the cause of the discoloration was not discovered, owing to deficiencies in apparatus at the Central Experimental Farm laboratory. Subsequently a report of discolored cheese was received at the Department from the Escott factory, in Leeds Co., Ont. At this time Mr. W. T. Connell, M. D., M. R. C. S., pathologist and bacteriologist at Queen's University, Kingston, was delivering a few lectures at the Dairy School, and, in conjunction with Mr. Ruddick, was requested by the Commissioner to conduct a thorough investigation and make a report thereon. This has been done, and the following is a summary:

1st. An outbreak of discoloration (reddish-yellow) in cheese occurred in Escott factory, in May and June, 1896. In the discolored areas, a bacillus, which has been termed the bacillus Rudensis, was constantly present and has been isolated in pure culture.

2nd. This bacillus Rudensis was found in vast amounts in the gutter leading from the factory, and all the evidence points to the fact that the discoloration arose from the milk being seeded by these bacilli during manufacture within the factory itself.

3rd. Bacillus Rudensis has been experimentally proven capable of producing the typical discoloration of cheese as noted in Escott factory.

4th. Making and keeping the factory thoroughly clean has stamped out the discoloration by destruction or removal of the cause, viz., Bacillus Rudensis.

Dr. Connell was not able to identify the micro-organism with any described species, hence he named it *Bacillus Rudensis* (after Mr. Ruddick). It is found as short, straight rods, though at times somewhat curved. The ends are rounded, occasionally somewhat pointed; may be joined in twos, but do not grow out into long filaments. Experiments with several small animals proved that the bacillus did not produce any disease processes in them, and it is regarded as highly probable—in fact, practically certain—that it would produce no inflammatory disturbance in man.

By experiments it was most clearly and positively shown that bacillus Rudensis, obtained from cheese in Escott factory in June last, grown in the laboratory for over five months, and then reintroduced into milk during its process of manufacture into cheese, could produce in such cheese discolored areas corresponding in all particulars with those noted in the Escott cheese. This definitely establishes the casual relationship between bacillus Rudensis and this reddish-yellow discoloration of cheese.

The following treatment was adopted in the Escott factory and was followed by disappearance of the discoloration in the cheese:

1st. The slime was removed from the sides of the gutter. The gutter and the earth immediately surrounding it were then disinfected with boiling water to which one pound crude carbolic acid to ten gallons of water was added. Copperas, one half pound to one pound to ten gallons water, might be

used. This disinfection of the drain and surrounding parts was continued for several days.

2nd. The defective wooden drain was taken up and replaced by an iron one, communicating directly with the gutter in the factory floor. Orders were given to flush this drain daily with several gallons of boiling water.

3rd. The floors, presses, vats and other utensils were disinfected by washing with water to which one pound carbolic acid to ten gallons water had been added. This washing was followed by washing with boiling water, and this last was ordered to be repeated daily.

4th. The walls were thoroughly brushed down. A coating of whitewash was ordered to be applied to the walls.

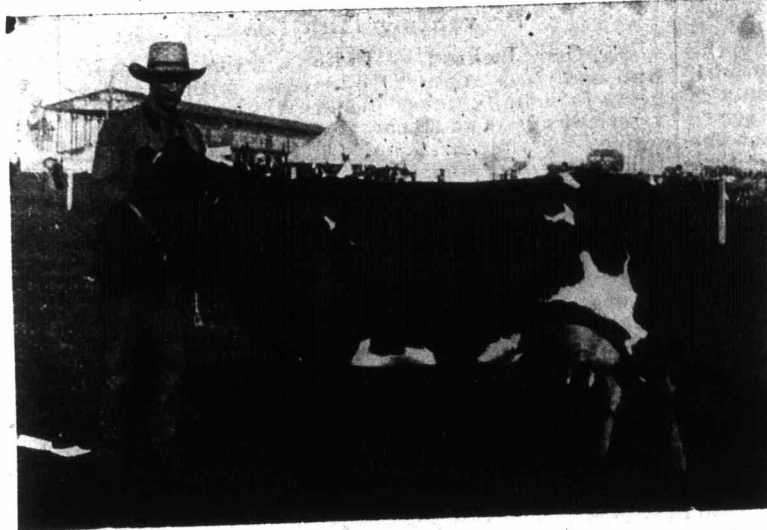
As will be seen by these details, the treatment consisted entirely in making and keeping the factory and surroundings CLEAN. Cleanliness meant in this case the removal and the prevention of further formation of the vast amounts of bacterial life hitherto flourishing unchecked except by the amount of food supplied. Thus by cleanliness the discoloration in the cheese has in the factory been completely stamped out. There can be but little doubt that by cleanliness many other "evil" conditions in cheese (bacterial or fermentative in nature) could also be eradicated. Cleanliness should be as essential to the proper making of cheese as it is to the proper making of bread, and more so, for in the former we have complicated fermentative processes to control.

### Co-operative Creameries.

BY J. F., PERTH CO., ONT.

When we consider the great attention that has been given to the dairy industry in this country during the past decade it is no surprise that our dairy products have reached their present standard of excellence; but a visit to the towns and cities on market day will lead any person to believe that

### A Prize-Winning Ayrshire Cow.



MAUD, OWNED BY JAS. S. COCHRANE, CRYSTAL CITY, MAN.

The handsome Ayrshire cow, Maud, portrayed above, is the property of Jas. S. Cochrane, Crystal City, Man. She was bred by Mr. Jos. Yuill, Carleton Place, Ont., and was winner of first prize in the Ayrshire class for aged cows and the sweepstakes prize of \$25.00 for the best milk cow of any breed at the Winnipeg Industrial Exhibition, 1897.

considerable improvement can still be made in the way of producing an article that will find ready sale. The time-worn custom of each farmer manufacturing the surplus milk from his herd into butter and trading it at the grocery stores for household provisions, or spending half a day every week in going to the nearest market town with from ten to twenty pounds of butter, must very soon sink into oblivion.

Now, I would not discourage private dairying where it can be carried on profitably, but, as a matter of fact, private dairying has been carried so far that it has ceased to return a good profit to those who are engaged in it. In order to produce an article that is fit for export we require a uniform grade. It makes very little difference how much care has been given to the milk, what pains are taken to raise the cream, what attention is given to have it at a proper temperature for churning, or what trouble is taken in preparing it for market, unless we produce a sufficient quantity of a uniform grade for shipment to the large markets the highest price cannot be obtained. Then, again, the cost of manufacturing must be taken into the consideration. In the average farm dairy the system has been to raise the cream either by deep-setting or shallow pans. This plan is becoming unpopular on account of the loss of fat in the skim milk unless great care is taken to keep the temperature right. The hand separator has been introduced in a few dairies, but it is doubtful if it will prove a success, as it is tiresome work to operate this machine. Of course, it may be attached to a tread power or windmill, but where only ten or twelve cows are kept it must raise the cost of

production so high that very little profit is left for the dairyman.

If we, as Canadians, hope to have as good a name for our butter in foreign markets as is now held by the cheese manufactured in this country it will be necessary to resort to the same method of co-operation, at least for the bulk of the butter. In a number of cheese factories throughout the country appliances for the manufacture of butter have been placed, and it would be well to adopt this plan wherever it is practicable. Butter can be manufactured cheaper by this system of co-operation than by the individual farmer providing himself with his own appliances. The work would be done by practical men who make a specialty of the business and a superior product manufactured. Farmers coming in contact with those engaged in the export trade would become more interested in the business, especially where factories are owned by joint stock companies, and we may add that with few exceptions these companies are in a flourishing condition.

In dairying, as in other industries, method is one of the chief features essential to success, and as there never was a time in our history when competition was so keen as at present, it necessitates the Canadian people to use every possible means to secure a reputation for their products in the markets of the world.

### A Fault of the Udder.

The most common fault of the cow's udder, as commonly seen, is its inferior development in front. Often the hind part is well rounded out and carried well up behind, while the fore quarters are small and poorly developed, and instead of being carried forward a distance along the line of a circle, the front line is carried up to the belly quite vertically, as it were. While quite generally the fore teats hang on a little higher line than those behind, when the fore quarters are inferior in character, sometimes these teats are so much higher than the hind ones that the udder seems to terminate with the front line of the teats.

In order to obtain some specific information as to the relation of the yield of milk to the conformation of the udder, sixty-five different cows, representing several types of udders, were milked under supervision, and the general yield from the hind parts was found to be 10½ per cent. greater than from the fore parts. With thirteen cows having defective fore udders the difference was about 57 per cent., whereas with nine cows having well-developed fore udders the difference was only about 4 per cent. Commenting on these figures the experimenter says:

The practical bearing of this matter lies here. The average cow has an inferior udder, and notably in its fore part. If now a judicious selection is practised in breeding, may not a material gain in milk flow be secured by developing the fore part of the udder? It will be safe to say that there will be. The greater the development of the fore udder, the more perfect will the entire organ be likely to be, and the larger the relative amount of milk it will yield.—*Farmer and Stock Breeder.*

### That Kicking Cow.

Commenting on a letter from "W. O. D.," published recently in the FARMER'S ADVOCATE, *Hoard's Dairyman* says: "This is the way we do: Before beginning to milk put a strong rope or strap around the cow just up tight when she is standing naturally. Have this rope or strap close in front of the udder, passing over the back just back of the points of the hips. Remember, back of the hip points, not in front, for it would do very little good there. Now go to milking gently. She may try to kick, but she positively cannot. The rope is around her tight, it comes down her flank just in front of the stifle joint. The moment she raises her foot this joint pushes forward under the rope. It is like driving a wedge under it, making it so fearfully tight she can't stand the pressure and she will put her foot down before she has had it high enough to kick. She may now hop up with both feet at once, but she cannot get either foot forward. She will not try to kick but once or twice, because she punishes herself severely every time she does. Now be gentle with her and milk as carefully as possible, and the cow will be broken of kicking by the use of skill and strategy instead of brute strength."

### Objects to Putting Milk Down the Well.

A reader takes issue with advice given on the subject of home dairying in a short article contributed by Mrs. Stanlake in our July 1st issue. "Reader" claims it is both filthy and dangerous to put milk cans in a well that is not used, as the water is sure to become tainted and would affect the milk. He considers it much better to have a vat or box made on purpose to hold the cans, and then have the water changed frequently. He also thinks that the lady would do much better if instead of putting sugar into her butter, where it is perfectly useless, she would put it in her cup of tea.

## THE HELPING HAND.

## Plow Cleaner.

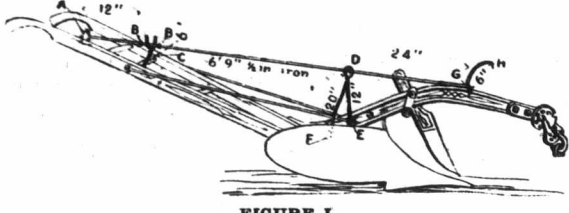


FIGURE I.

The accompanying engravings illustrate a plow cleaner in use on the Central Experimental Farm, Ottawa, and which the farm foreman, Mr. John Fixter, to whom we are indebted for the photos and description, says the plowmen would not be without, especially in plowing long stubble or straw manure. It is also very handy for knocking a stone from between the plowpoint and the point of the colter. The long arm is made of  $\frac{1}{2}$ -inch round iron and the one described is 6 ft. 9 in. from A to G, and moves freely within the circle at D, which is supported by two iron braces, one (12 inches high) fastened to the plow beam at E, and the other (20 inches high) fastened to the inside of moldboard at F. From G a semicircular shaped prong extends

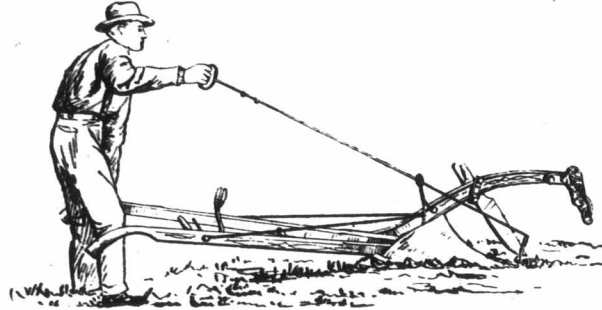


FIGURE II.

some 6 inches to H. From D to G is 24 inches. C is an upright iron about 6 inches high, split, spur-like at top, and in which the long arm of the cleaner rests. The two round knobs B B,  $3\frac{1}{2}$  inches apart, are to prevent it slipping backward or forward. A is the circular handle, grasped by the hand of the plowman. Fig. 1 shows the plow with cleaner lying on it at rest, and fig. 2 in the act of knocking out a stone, for which the horses have to stop and the plow is raised at the front; but the man does not need to go from between the handles. A bunch of stubble or straw is shoved out similarly, but can be done without stopping the plow.

## POULTRY.

## Sunlight and White Plumage.

Exhibitors of white fowls should bear in mind the effect of sunlight upon white plumage. Such birds as are designed for the autumn and winter exhibitions should be cooped or penned where they are shielded from the strong glare of the midday sun, and where they cannot wallow in any clayey soil. A clean dust bath of sand and ashes is best for health and looks. The penning should begin with the growth of the feathers after moulting. The yellowish tinge given by a strong light will be found almost impossible to remove after once appearing; and there is no time when the plumage is more susceptible to change of color than in the early stages of growth, while the feather is yet soft. The difficulty of cleansing soiled plumage is well known; and with a very little ordinary care and precaution the necessity of this measure may be spared.—*Poultry.*

Shade is one of the requisites too often overlooked in farm poultry yards. Especially is it needful in the hot glare of summer sunshine. Plenty of low bushes and trees should be provided for the birds. We were very much struck with this feature about the yards of Wm. McNeil, a poultryman of continental fame in the showings, on the occasion of a recent call at his place in London, Ont.

## Fattening Turkeys.

Successful Rhode Island growers as a rule feed their turkeys from start to finish on northern white flint corn, which they grow themselves. They take great pains to use nothing but well-seasoned old corn, because they have found that new corn causes bowel trouble, which is more to be feared in a turkey than any other fowl, and is liable to be fatal. Diarrhoea seems to be more prevalent among turkeys than any other disease, and a bird that gets sick is very apt to die. Foraging in a field of green oats may give them diarrhoea and cause much loss.

Turkeys not only like northern flint corn best and fatten best on it, but it makes their flesh more tender, juicy and delicious. That given the little ones is coarsely ground and mixed with sweet or sour milk, or made into bread that is moistened with milk. This is gradually mixed with cracked corn, which, when they are about eight weeks old, is fed clear or mixed with sour milk. In the fall whole corn is given.

Turkeys which can be given full liberty from the first on a dry pasture lot, and after a few weeks allowed to roam and roost wherever they

choose, thrive the best if they escape accident or enemies. Two turkey-hen mothers and their broods will then generally join forces apparently for mutual protection from hawks and other enemies. Where they cannot be given full liberty they should be given fresh grass pasturage daily, and milk curd, corn gluten and wheat, as well as corn, to take the place of insects. Great pains should be taken that they are not overfed, and that they are given as much liberty for exercise as is possible. The brood may be prevented from leaving a certain field by shingling the mother turkey, so she cannot fly over the wall or fence. This, however, places her at the mercy of dogs.

After June 1st those at full liberty are usually fed but twice daily. They are hunted up and fed in the fields, that they may stay away from the farmyard and outbuildings. Many give the turkeys no food from August 1st until cool weather; they get their own living until they come up from the fields in September or October. We know of cases where those not fed in either August, September or October, but fed well in November, have been larger and plumper at Thanksgiving time than lots fed the season through. The principle seems all right. Doubtless those to be marketed in August and September, if fed corn right along will be plumper and mature earlier, while those allowed to get their own living during the three months will exercise more and secure more nitrogenous or growing food, and grow larger frames. Much depends, however, upon the range, the quantity of insects, and the number of turkeys that run on it. Some fields will support more turkeys than others. The number of turkeys may be so large as to almost exterminate in two or three seasons the insects upon which they feed.

Turkeys that have been fattened soon grow thin if not killed when "fit," and do not fatten readily for some time. The grower must use some judgment as to whether he should feed them grain all through the summer and fall months.—*S. Cushman in Farm Poultry.*

## VETERINARY.

## Preventing Milk Fever.

Mr. Geo. Jackson, of Indiana, a Jersey breeder who had lost some 20 odd cows within a few years from milk fever despite the best available veterinary skill and the most careful nursing, describes in the *Breeders' Gazette* the treatment which "at once and forever" checked the disease, for in the herd of 50 breeding cows not another case appeared in the six or seven years before closing out the business. His treatment is as follows:

"A pound of Epsom salts, an ounce of ground ginger, a pint of black molasses, all dissolved in about three pints of warm water, given the cow as a drench, beginning ten days or two weeks before expected parturition and repeated as often as required to produce and prolong a gentle but decided purge, did it for me when all else had failed, and thenceforth no veterinary advice was ever needed or sought for milk fever, as there has since been no case of milk fever to treat. The old saw that "an ounce of prevention is worth a pound of cure" never applied with greater force than it does to this very subject; it was the bridge that carried me safely over, and I have nothing but praise to say of it.

"A number of post-mortem examinations made by the surgeons in attendance developed conclusively that a great deal of the trouble was traceable to the failure of the third stomach, or "manifold," to work properly. This organ was impacted with hard, dry material in a partially digested condition, as brown and devoid of moisture as though baked in an oven; no passage through it, either natural or mechanical, was within the possibility. It was too late for the purge to be effective and it became only a matter of how long the animal would continue to live and suffer, for death within a short time was certain. The other serious development was a badly-congested brain, which if not checked or relieved ended in apoplexy. To counteract this, however, always proved to be easier than to restore the impacted stomach to its natural functions. A loose condition of the bowels at such a time is all-important; and if this is brought about solely by the food in quantities necessary to produce the effect, too much blood will accumulate in the system, overtaxing and clogging the circulatory machinery, that will end in paralysis of the brain, which is equivalent to total collapse and ends all hope; hence the necessity of artificial purging.

"I have known cows due to calve come in from the pasture with paunches filled with grass, their bowels literally as loose and free as water, which within thirty-six hours, parturition having occurred, were dead with milk fever in spite of all that could be done for them. A violent reaction in the shape of costiveness had set in, causing fever and inflammation of the bowels and of the manifold. Injections and drenches were then of no avail; it was too late; no passage through the bowels could possibly be brought about, and death was the inevitable issue.

"It will be seen, therefore, that a lax condition of the bowels of itself is not sufficient in every case to insure safety; for if it is the result of the food supply, the difficulty is not overcome but rather aggravated, for the reasons stated; and while

to a certain extent it is possible to control the condition of the bowels and the system generally by the food, it is not to be relied upon solely as a safeguard against milk fever. Careful and judicious feeding a few weeks before calving and a week after is a powerful aid in the right direction, but it all failed of its end for me unless supplemented by mild purgation produced by the salts. This thins the blood, cools the system, and prevents a tendency to fever and inflammation.

"I have found this course the only absolutely safe one to follow, and have noticed that when the bowels were working freely at the time of calving, as a consequence of the purgative, no case of milk fever ever followed; while on the other hand those that were attacked with it and died before the preparatory system was introduced, all without exception gave unmistakable evidence of severe costiveness, which it is fair to presume could have been overcome and corrected had proper measures, afterwards used, been employed in time.

"Free evacuations from the bowels, a low laxative diet, comfortable surroundings, and freedom from excitement, and if all the dangers of an attack of milk fever are not entirely removed they are infinitely lessened. The treatment will save the lives of more cows at the time of calving than all the combined skill of the best veterinarians and the most approved remedies known if the case is left unattended until the symptoms of the malady have become apparent. In a large proportion of instances no warning of the approach is noticeable, and when it comes very little relief can be given.

"For some reason or other young cows with first and second calves seem to be exempt from the disease and it is very rare that an attack comes to a cow before she is five or six years old; after that the dangers increase each year."

## GARDEN AND ORCHARD.

## Modern Fertilizing of Orchards.

BY E. E. FAVILLE, DIRECTOR OF THE NOVA SCOTIA SCHOOL OF HORTICULTURE.

(Continued from page 341.)

The source of our fertilizers comes in two general ways, known to us as natural and artificial fertilizers. In the former are the solid and liquid excrements of animals, refuse vegetable matter, composts, muck, peat, marl, and green crops when intended for turning under. As to exact proportions of plant food these natural fertilizers may contain is unreliable, for barn manures vary greatly, depending upon the kind of animals, their age, food and litter used, fermentation and exposure to rain causing loss in drainage, thus producing an unbalanced food ration, apt to be too high in nitrogen, causing an abnormal wood growth liable to injury by extreme cold in winter, making poor fruit food for shipping, with bad keeping qualities. Weeds are also disseminated largely through farm manures. Extravagant application is liable to result in using two loads of manure where one would suffice. Although the value of stable manure is an uncertain quantity, yet where strong barnyard manure may be obtained cheaply and applied judiciously, followed by thorough cultivation, it adds humus from the litter and tends to give lightness and warmth to cold, clayey soils.

The analysis of domestic manures by chemists and experiment stations shows a wide range of fertility in a ton of yard manure, ranging from 8 to 15 lbs. of nitrogen, 6 to 10 lbs. of potash, 4 to 8 lbs. of phosphoric acid in well-prepared yard manure.

In all orchards where manures from different animals are used the greatest care should be exercised in not overfeeding the plants. A very unique method is employed in the large fruit sections of Germany in the utilizing of both liquid and solid manures, which are deposited in tanks, and at different periods of the season carted on to the soil and placed in holes one foot deep, three to a tree, about five feet from the trunk. Of the green crops grown for manures, the clovers, peas, and buckwheat are chiefly employed. The first two are highly recommended, and should be sown after cultivation ceases in the spring, turning them under in the fall. These plants are the so-called "nitrogen collectors," which if sown occasionally add sufficient quantities of nitrogen and humus. The chief value of buckwheat sown in the same manner as the nitrogenous plants or legumes is to break up the fertilizing ingredients and furnish additional humus to the soil. Every orchard should have a compost heap for the reception of refuse material, where all rubbish from the orchard may be dumped throughout the season.

The artificial fertilizers are either complete, containing the three elements, nitrogen, potash, and phosphoric acid, in large or small quantities, or incomplete, containing one or two of the three constituents. As a commercial ingredient, nitrogen comes chiefly from nitrate of soda, and should be applied as a top dressing after the spring rains have ceased, harrowing it into the ground. In young orchards and in treating nursery stock this product may be used for forcing growth or where no other nitrogen feeder is applied. An application of from 100 to 150 lbs. per acre is a liberal dressing and suitable in most cases. Among small fruits this compound is often of great value where trees and plants are liable to drop their foliage; a

light sowing of nitrate of soda is beneficial and adds to the general health and strength of the plant.

**POTASH.**

Potash, which is of the greatest importance in orchards of bearing age, comes chiefly commercially from unleached wood ashes, which contain from five to eight per cent. of potash. Aside from the fertilizing element it contains it adds a certain mechanical property to the soil. Forty to fifty bushels of wood ashes per acre are recommended, being about one bushel per tree, worked into the soil in the late autumn.

Muriate of potash contains about eighty per cent. of muriate of potash or about fifty per cent. of actual potash. This is the most reliable source of securing potash at the present time. About 250 to 300 lbs. per acre—a portion applied in late fall, the remainder in early spring, cultivating thoroughly into the soil—is the usual amount applied. Kanite is an impure form of potash, being one of the reformed potash salts, bearing from 12 to 14 per cent. of potash. The value of all potash salts is determined by the potash these salts may contain.

**PHOSPHORIC ACID.**

The phosphoric acid of our commercial fertilizers as used in fruit growing comes principally in the forms of phosphates, superphosphates, and in bone compounds. The former are obtained from mineral phosphate rocks, which are ground, and contain from 20 to 30 per cent. phosphoric acid. Only a part is available as plant food at once. In superphosphate we have an immediately available food, which should be applied in the spring at the rate of 250 lbs. per acre, working it into the soil.

Bone meal or ground bone is the form of phosphoric acid found in general use. The finer the product is ground the better, consisting of from 20 to 23 per cent. of phosphoric acid, with 2 to 3 per cent. of nitrogen. This compound should be applied in the late fall, as it is made up of available and unavailable parts, requiring a certain amount of decomposition to make the whole available. From 500 to 800 lbs. per acre usually proves a satisfactory ration.

Thomas' phosphate powder is a waste product of steel factories, comprising a basic slag now coming into use as a substitute for bone meal and the superphosphates, and is meeting with approval and good results. Used as a fertilizer on nursery grounds and lawns at the Wolfville Fruit Station, it has taken the lead in competition with other brands of phosphate fertilizers in a series of plot tests. This fertilizer contains from 20 to 22 per cent. phosphoric acid, readily available and well suited for clayey and heavy loams. The ration used in common practice is from 300 to 500 lbs.

The fertilizers just described are those most common in use to-day, all of which are subject to Government inspection and sworn guarantees, excepting wood ashes.

Whatever substance is used to fertilize the orchard, the readily available form is best. From experience covering a period of three years, a number of fertilizing experiments have been carried on in Nova Scotia orchards in different stages of growth, where commercial fertilizers only have been used, bringing orchards into a most thriving and productive condition. The following formula applied yearly has proved effectual in most cases:

- 150 lbs. nitrate of soda.
- 250 " muriate of potash.
- 800 " bone meal.

These orchards are planted on the intensive plan, with large and small fruits growing together, utilizing every available foot of land.

In orchards where the extensive method has been followed a less food ration has been used, as follows:

- 100 lbs. nitrate of soda.
- 200 " muriate of potash.
- 550 " bone meal.

Where the growing of nitrogen-feeding crops has been substituted as a source of nitrogen, the following ration is meeting with good results where the Thomas' phosphate powder has been used:

- 200 lbs. muriate of potash.
- 450 " Thomas' phosphate powder.

These formulas have been modified but slightly, covering a large range of soils, returning most satisfactory crops, by far exceeding in yield similar orchards where yard manures were used.

In conclusion, then, in soil fertilizing of all orchards the converting of raw material into plant food requires thought, judgment, experience, and skill in the utilizing of the principles revealed pertaining to soils—their necessary drainage, tilth, and fertility, which forms the basis for the production of satisfactory crops, giving nature an opportunity to put into effect her vast powers.

**The Use of Onions.**

A well-known medical authority on nervous diseases says: "Onions make a nerve tonic not to be despised. No other vegetable will so quickly relieve and tone up a worn-out system, and they should be eaten freely, particularly by brain workers and those suffering from blood or nervous diseases." The strong flavor of onions that is so objectionable to many is removed if they are soaked for a short time in warm salt water before being cooked. It is claimed that if, after eating uncooked onions, one eats a sprig of parsley dipped in strong vinegar, no unpleasant tell-tale odor will annoy.

**QUESTIONS AND ANSWERS.**

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

**REMEMBER THE ADDRESS.**

Notwithstanding the constant intimation at the head of this department requiring the names and post office addresses of enquirers, letters frequently reach us in which this is overlooked. We do not insist upon this in order to publish them, but as an evidence of bona fides. In writing this office the name and address should always be given. A nom de plume will be used in publishing when desired. We have now before us an enquiry about irrigation, and another about diseased fowl. If the enquirers will send in their names we will cheerfully answer these questions to the best of our ability.

Recently "W. C., Simcoe Co.," wrote asking what treatment should be prescribed for a weed, an incomplete specimen of which was sent in, but of which we particularly desired a whole plant, including root. Without the address we could not write for it. "W. C." and others to whom this applies will therefore understand how it is their queries have not been dealt with. We spare neither trouble nor expense to obtain and give our readers trustworthy information; but in order to do so we desire full particulars in the statement of the questions, on whatever subject.

**Legal.**

**BUILDING PATENT FENCE.**

P. G. IRELAND, Northumberland Co., Ont.:—"Can a man legally build a patented fence on his own farm without paying the man who holds the patent for the privilege?"

[Assuming that there is a bona fide patent, no.]

**CHATTEL MORTGAGE—AGISTMENT.**

K., York Co., Ont.:—"In August, 1895, A left with B a colt to be pastured and kept by B at a fixed price. B has kept the colt ever since. A has now gone away to the States to remain. In the spring of 1896 C came to A and said he had an interest in the colt, but did not say what interest, but in fall of 1896 he told A he had a chattel mortgage on the colt. A now has kept the colt for two years, and has not received anything for it in any way, and has never worked the colt, but has relied on getting his money by retaining or selling the colt. O now threatens to close his chattel mortgage and to take the colt from A. What are the legal rights of the parties?"

[Unfortunately for B he is not entitled to a lien for the keep, and C can take the colt. B of course has a valid claim against A for the money due to him, but this remedy is probably worthless since A is out of the country; but C would probably be held liable to B for reasonable charges of A for the keeping of the colt since that time when C found out that A was keeping it and did not disclose his exact position. B should have the chattel mortgage examined by a lawyer, and see that it really includes the colt, and that it has been properly renewed, and is a bona fide transaction.]

**BULL BREAKING INTO FIELD.**

G., Oxford Co., Ont.:—"In October, 1896, my neighbor's scrub bull got over the line fence and served two pure-bred cows of mine. I then sent the bull home, and my neighbor promised to keep him tied up. In November the bull broke through again and served two pure-bred heifers, and it has caused me considerable damage. My line fence is a good and lawful one. Have I any remedy?"

[Yes, you have a good action, and should recover all damages sustained, at all events subsequently to the first trouble in October.]

**NOXIOUS WEEDS.**

G., Middlesex Co., Ont.:—"A has a farm on which there are noxious weeds, and he is doing all he can to destroy them. B on the adjoining farm allows the weeds to go to seed, and he pulls them and throws them over the fence on the farm of A. What remedy has A?"

[By statute the owners of farms are required to cut and destroy certain noxious weeds. If the weed in question is one of those named, A can proceed against B under the statute, but in any event it is a trespass by B to throw his weeds on A. And for that A can recover damages, and have B restrained from doing it by injunction, and B would be ordered to pay all costs.]

**STALLION AT LARGE.**

M., Algoma, Ont.:—"1. A stallion followed my horses from an Indian Reserve to my gate. I left the horse on the road, and he went to a neighbor's and got into his field. My neighbor then tried to shoot the horse, but failed. If he had injured the horse would anyone be liable for damages, and who? 2. Are hogs allowed to run at large in an unorganized district?"

[1. Your neighbor, no matter how much aggravated, had no right to shoot and injure the horse, and he would have been liable. 2. Yes. Unless there is some restraining by-law or provision having local effect in the district referred to.]

**Miscellaneous.**

**MILKWEED — PRIMROSE — CINQUEFOIL.**

P. G. ROBSON, Northumberland Co., Ont.:—"I enclose you herewith three plants for identification."

[The plant with the bright orange flower is one of the milkweed family, *Asclepias tuberosa* or butterfly weed; grown on dry spots in Canada and the United States. Not troublesome so far as we know.]

The plant with the yellow flower is *Eriogonum biennis* or common evening primrose; common in fields and waste places in Canada and the U. S.

The third plant is *Potentilla norvegica* or cinquefoil. A larger specimen of the same weed was sent in by another reader, Mr. Wm. T. Gibbons. See reply to his enquiry.]

**WANTS TO KNOW ABOUT CROSS-BREEDING CATTLE.**

ENQUIRER, Icelandic River, writes:—"1. I should like to hear the opinion of any who have tried crossing Holstein bulls on common cattle, as to the results, and whether such a cross is an advisable one to make? 2. Has any one tried crossing the Shorthorn with the Holstein? Should also like to hear the result of such cross."

**SWEEPSTAKES HOGS AT ONTARIO FAT STOCK SHOW.**

T. B. MONCK CO., Ont.:—"Will you kindly answer through the ADVOCATE which breeds of swine have won the sweepstakes over all breeds in the show and barrow classes at the Guelph Fat Stock Show for the last six or eight years?"

[We can only find the records for the last five years. In some of these years some breeds were not represented, and in some the sweepstakes prizes were not open to pure-bred animals, but were for the best grade hog. In 1892 the sweepstakes for best barrow was won by a Yorkshire shown by Mr. Pike, and for sow by a Chester White owned by Mr. Harding. In 1893 the sweepstakes for best barrow was won by J. G. Snell with a Berkshire, and that for best grade hog by Mr. Austin, breeding not stated. In 1894 the sweepstakes for best grade hog, any age, went to J. G. Snell for a Berkshire grade. In 1895 the sweepstakes for best grade hog was won by Mr. Agnew for a Berkshire and Yorkshire cross. In 1896 the sweepstakes for best pure-bred barrow, any age, was won by H. Deddels, Kossuth, with a Yorkshire, and that for best pure-bred sow, any breed, by J. G. Snell, Snelgrove, for a Berkshire.]

**POTENTILLA NORVEGICA — SPECIMEN PLANT REQUIRED — WILD MUSTARD.**

WM. T. GIBBONS, Renfrew Co., Ont.:—"1. Will you kindly identify enclosed weed and advise as to its destruction? 2. Give life habits and method of destroying wild tares. 3. Do charlock and wild mustard belong to the same family?"

[1. *Potentilla norvegica*, or cinquefoil, found in old fields and thickets. Deep cultivation in dry weather and increased fertilization recommended. Should not prove troublesome.]

2. As there are several plants of the genus *Vicia*, differing very greatly, yet commonly called "tares," to attempt to answer this question without having a specimen of the plant to which Mr. Gibbons refers before us would be largely guess work. Would he oblige by sending us one at an early date?

3. Charlock, wild or yellow mustard (*Brassica Sinapistrum*) are one and the same.]

**YELLOW CLOVER.**

J. W. H., Peterborough Co., Ont.:—"Find enclosed a weed which I find growing on my farm. Be kind enough to let me know in your next issue of the FARMER'S ADVOCATE what it is—if a bad weed or hard to get rid of?"

[The plant received is *Trifolium procumbens* (yellow clover), usually found in dry soil. It is not considered troublesome, and ordinary cultivation should remove it.]

**Veterinary.**

**ARTHRITIS.**

AN OLD SUBSCRIBER:—"I have a Standard-bred colt which was foaled ten days before time and was apparently all right. About three weeks ago it started swelling at gambles and stifles, and can only get up by being helped. Has always been stabled at night, and never had any showers on it. Have kept it stabled this last ten days. Please advise me through your paper what to do for it."

[Your colt is suffering from a form of arthritis, caused by pyæmic or septic infection. The germs of the disease are supposed to enter the system through the unhealed navel. It is a disease quite common among colts, and is usually fatal. The treatment consists in the administration of antiseptics and tonics, such as hyposulphite of soda and quinine, with the application of an anodyne liniment to the affected joints. Proper attention to the navel at birth would to a great extent prevent this malady; i. e., cleanliness should be scrupulously observed, and a strong solution of carbolic acid, say one part acid to three or four parts of water, applied two or three times to the raw parts. W. A. DUNBAR, V. S., Winnipeg.]

**MARE WITH COUGH—COW LOSING SALIVA—PARTIAL PARALYSIS IN CALVES.**

SUBSCRIBER, Wentworth Co., Ont.:—"1. I have a four-year-old mare that has had a bad cough for this month past; is on pasture when idle and at night."

"2. A cow seemingly in good health, but chewing the cud makes the saliva run from her mouth,

sometimes nearly one-quarter of a pailful. Can anything be done for it, or is it caused from the effects of eating a weed of some kind.

"3. I have a yearling steer calf; was altered last spring, but the cut was long in healing and flies troubled him; so to make the sore heal and keep flies off, I kept the sore clean and washed it with soft water and a few drops of carbolic acid. Was that advisable, or would the acid produce proud flesh or be injurious to the nervous system? During last summer his hind legs turned stiff, especially when turning sharp. I fed him well all summer on ground oil cake (scalded) and a little new milk and skim altogether twice a day. Still he did not thrive. During winter he was well cared for; plenty of turnips, a little chop and straw; still stayed about the same, long, thin, naked hind legs and a poor body. He has grown well on grass, but no fatter. His dam is one-half Jersey, his sire Durham. The same cow had a good heifer this spring from the same bull, so I undertook to raise it; gave it all the new milk it could drink for about six weeks, then introduced a little oil cake; by and by gave less milk and more cake. But I notice lately it is showing signs in the hind quarters of being afflicted the same as its brother. Instead of being active on its hind legs it inclines to rather pull or drag them along."

[1. If the mare is in good health and condition the cough may be only temporary and may pass away without treatment. If the trouble seems to be in the throat, a mustard blister may help it. Take say 1/2 lb. mustard, mix with vinegar enough to make a paste, and rub it freely into the hair over the part affected. If the mare is strong and in good condition, give the following mixture: Fleming's tincture of aconite, 5 to 8 drops; laudanum, 2 tablespoonfuls; sweet spirits nitre, 2 tablespoonfuls. Mix in a pint of cold water and give as a drench twice a day for three or four days.

2. A broken or a diseased tooth may be the cause. A balling iron may be used to keep the jaws apart while an examination is made with the hand. In a case of caries or ulceration of the tooth the animal will be unable to masticate with that side of the mouth, and if an advanced stage has been reached the affected tooth will have an offensive smell. In such case the diseased or fractured tooth should be removed with tooth forceps. Any excessive growth or unevenness of the teeth may be removed by the tooth shears or rasp. Where an examination reveals nothing beyond an excessive secretion of saliva, that may be checked by taking a tablespoonful of powdered alum, mixing it with a quart of water, and syringing about half a teacupful of this solution into the mouth three times a day. It is possible the trouble may be caused by some irritant plant in the pasture; or the trouble may originate in the stomach, which would seem probable, as the salivation occurs when she is chewing the cud. For the latter a physic twice a week would be advisable.

3. If, as we understand it, the stiffness in the legs or loins of the steer occurred previous to castration, it would appear that the trouble was congenital or hereditary, since both calves showed it at about the same age, and it appears to affect the spinal chord. If the affliction in the case of the steer occurred after castration the operation may have had something to do with it. The application of a weak solution of carbolic acid would be helpful rather than injurious in such case. If the operation was unskillfully performed and the opening not made well down to the bottom of sack to allow free drainage, the accumulation of pus would be liable to cause derangement of the system. It is difficult to suggest a remedy on such meager information in either case. It would be well to bring the case before the personal attention of a competent veterinary. Oil cake should be fed very sparingly to such young animals. We would prefer bran and oats fed dry, and a moderate amount of milk fed warm.]

ORGAN OUT OF PLACE.

OLD SUBSCRIBER, P. E. I.: "I have a very superior young boar, five months old, with but one testicle in sight. Would he be condemned in a prize ring? If so, is there any means of bringing the other into its proper place?"

[Since a boar with this defect will generally prove a stock getter, we do not see why he should be condemned in the showing, but if the competition was very close probably most judges would rule in favor of the animal fully balanced in this respect. We do not think there is any means of bringing the other down to its proper place, and we would not advise breeding from an animal with this defect, as it is liable to be transmitted to his offspring, and such pigs are a nuisance, since they cannot be castrated and the meat from such a pig is as strong as that from a boar pig; besides this, a partially castrated pig is generally a restless and unthrifty one.]

Montreal Markets.

Export Cattle dropped 1 cent, highest price paid 41c. No choice offerings. Butchers' Cattle.—For best, 31c. Export Sheep.—Trade slow, 3c. top price; butchers', \$2.50 to \$3.50 per head. Calves.—Each \$1.50 to \$6.50. Live Hogs.—For choice, \$5.90; mixed lots, \$5.75 to \$5.85. Stock Shipments.—Totals to date:—Cattle, 59,939; sheep, 23,500; horses, 5,220. British Markets show an advance at Liverpool in cattle 1c. to 1c. per lb., bringing choice Canadians up to 11c. and U. S. steers 11c. Sheep also advanced 1c. to 1 1/2c., making 11c. for Canadians, Argentines 12c.

SHOWS AND SHOWING.

American Notes on the English Royal.

Mr. F. S. Peer, of Mt. Morris, N. Y., in the course of a letter to the Country Gentleman, says:

"The Royal Show is in every respect a most creditable one, as are also the Bath and West and Royal Counties, which in most respects are quite equal to the Royal. The only fair in America that can be compared to the Royal is the Toronto Industrial, of Toronto, Can., which, to my mind, is hardly second to it from an agricultural point of view, while in point of attendance the Royal must take second place. This is probably accounted for from the fact that the Toronto Exposition furnishes great attractions not purely agricultural. The average attendance at the Royal has been in round numbers about 27,000 daily for the past five years. The Toronto Exposition has averaged more than double that number.

"The Royal is a show divided into classes—five-shilling day, first class; two-and-a-half-shilling day, second class; one-shilling day, third class. You can see as much on the third day as the second. Of course, the great difference in the receipts at the gate on the shilling-day is not all there is to say in favor of the cheaper admission, where dollars and cents are the prime factor. There are sixty times as many people in the enclosure on the shilling-day as on the five-shilling day. There are that many more people to patronize the grand stand; the privileges and licenses are worth sixty times as much on the shilling-day as on the five-shilling day—so that the increased profits of the one-shilling day are only partially apparent in the gate receipts. At the Royal the great interest centers in the exhibition of live stock. The judging is all done on the first day in an immense ring about 700 feet long and 250 wide, with a grand stand the entire length of one side of the ring, capable of seating eight or ten thousand. The ring itself is divided into numerous smaller rings where the horses and cattle are judged simultaneously. Each day (after the first) all the animals are brought out on parade in this enclosure. The grand stand is well filled, besides a crowd ten or twelve feet deep standing all around the railing.

"I mention this as showing the great interest taken by the general public in the awards, and not so much in the awards perhaps as in the stock generally. It is rather the animal-loving instinct of the Britisher that keeps him there for hours watching the live stock parade as well as the judging. It is in the breed of the people. No Englishman is contented without some domestic animals about him. It does not matter much whether it is dogs or cats, rabbits or race horses, he must have them. It is a rare home in England that has not some variety of domestic animals that are being bred with care and attention. In the humbler homes it is usually rabbits or dogs. As a class, the English and Scotch as well as natural-born breeders of domestic animals. In this respect they outrank the combined nations of the world. I need only point to the great families of cattle, horses, sheep, swine, poultry, pigeons, dogs and cats that have originated in England and Scotland to establish the fact."

Canada's Great Jubilee Fair.

Famous the world over for the excellence of its live stock exhibition, Canada's Great Victorian Era Exposition and Industrial Fair, to be held from August 30th to September 11th, promises to more than sustain the reputation earned by previous fairs. We are advised that several large breeders in the United States intend to be represented in the Holstein, Jersey, Ayrshire and Guernsey classes, while it is more than probable that a noted horse breeder in New York State will be represented. Word has been received that a number of buyers will be present, including probably some experts from England, at the auction sale of live stock that will be introduced for the first time.

Up to date the entry both for sale and exhibit is more than usually satisfactory, while the demand for space in the main building and the annex, although entries of manufactures, as well as live stock, do not close until Saturday, August 7th, is now almost equal to the supply.

Yearly it is said that the exhibition then approaching will be superior to those that have gone before, and yearly does the statement prove true, for there is always some wonder that appeals exceptionally vividly to the imagination and sense of appreciation. Last year there were the elephants and the cinematograph. This year there will be, if negotiations conducted by Manager Hill, in New York, are successful, at least two novelties that will exceed those in cause for astonishment. There will be no ballet, but there will be a spectacle that will be unapproachable in beauty, splendor and magnitude. It is hardly necessary to say that reference is here made to the proposed reproduction of that brilliant pageant, the London Diamond Jubilee procession.

Mr. Penson, who is acting as purchasing agent for the Fair in England, has again been heard from. He is most enthusiastic over the prospects, saying that in travels all over the world he has never seen such beautiful scenery as Mr. Leolyn Hart has painted, while the costumes are exact in their gorgeousness and glitter. Every arm of the Empire's military and naval services will be represented, while there will be a full company of princes from India, and to all intents and purposes an exact repetition of the scenes outside St. Paul's Cathedral and Buckingham Palace, in addition to a long series of tableaux illustrative of the leading incidents in Britain's domestic history. It is even likely that eight cream-colored horses will be secured to draw the gorgeous State carriage, in which will be seated a lady who is as nearly as possible an exact likeness of the Queen in face and figure. Her escort will be as brilliant as imitation can make it, while the colonial premiers, of whom so much has been written, will not be overlooked. Altogether, it appears justifiable to predict that when the Toronto Exhibition of 1897 has to be reckoned with the eighteen that have preceded, the unanimous verdict will be that it was worthy of the times in being the grandest and best on record.

Montreal's Jubilee Exhibition.

Everything points to this year's Exhibition, Aug. 19th to 28th, being one of the best yet held. In the industrial department there are a number of new entries, and some of our prominent industries will be again represented for the first time for years, including the large white and colored cotton and woollen mills. In the agricultural, live stock, dairy and poultry departments there will be a show that cannot fail to be interesting and instructive to all. The working dairy is always watched with great interest. The much-talked-of motorcycle, or horseless carriage, will be in full operation for the first time in Canada, and cannot fail to interest everyone, as an object of curiosity, though it will never displace the carriage horse.

While the management are not losing sight of the educational and instructive benefits of the Exhibition, they find that some amusement is expected also, and they have provided a very interesting and novel programme, including balloon races for the championship of the world, a lady riding a bicycle to the clouds, the Royal Canadian Dragons, the Cinematograph representation of the Queen's Jubilee, a yoke of oxen weighing 7,300 lbs., and the smallest horse in the world. There are also horse and pony races and high-jumping contests. Those intending to exhibit should lose no time in making their entries so as not to be crowded out.

Mr. Joseph Ladue, the Klondyke millionaire and owner of Dawson City, who is now at his former home near Plattsburg, will visit the Montreal Exhibition and show some of the nuggets that are found on the Klondyke.

One of the necessary and important parts of an agricultural exhibition is to have competent and impartial judges. Great care is always given to this point at the Montreal Exhibitions, and among those secured for this year's fair are the following well-known gentlemen: L. G. Jarvis, of the Agricultural College, Guelph; Rich'd Gibsen, Delaware, Ont.; F. A. Lovelock, Lynchburg, Va.; J. M. Hurley, M. P., Belleville, Ont.; Dr. Grenside, Mount Morris, N. Y.; Robert Ness, Howick, Que.; John Brennan, Sand Point, Ont.; Jacob Erratt, ex-Mayor of Ottawa; Dr. Couture, Que.; Robert Beith, M. P., Bowmanville; F. S. Peer, New York.

The Western Fair—Everything in Order.

The Directors of the Western Fair made an official visit to the grounds on Saturday, Aug. 7th, and inspected the buildings and improvements that have been made by the Grounds and Buildings Committee. The most important feature is the new swine building, which is situated on the south-west corner of the grounds. This building has been finished after the plan which appeared in the FARMER'S ADVOCATE for July 1st, and is really a model swine building, everything being provided that is required to make the animals and exhibitors comfortable. The space formerly occupied by the swine has been divided between the cattle and sheep. The feed and sleeping bunks have been lowered and ladders placed at every third stall so that it is quite easy of access. The feed boxes have been greatly improved. Ventilators for each stall have been cut. The gates for the sheep pens are swung on hinges, and everywhere the aim has been to make things convenient. The building will be whitewashed throughout for the express purpose of disinfection, although some objections have been made by exhibitors in the past to whitewashing on account of it marking the black animals. Still, lime, and plenty of it, is a useful application from a sanitary standpoint, which is well as elsewhere. Accommodation is provided for preparing cattle food in one compartment of a building adjoining, to be known as the "Stockmen's Pavilion." In this building also a large room is provided with seats, where meetings can be held or where breeders can confer with each other; an apartment for the storekeeper who supplies feed, etc.; the office of the Fair Superintendent, so that every necessity is as handy as it can be made. Some of the principal objects for this outlay on the part of the Association is to prevent smoking and the use of fire in any form in the stock buildings.

The machinery building is reported as more than filled again this year, and nearly every portion of available space on the grounds in its neighborhood has been allotted to the implement men and other manufacturers. The carriage building will be full to overflowing, and it was practically decided that next year additions would be built to the machinery and carriage buildings of considerable proportions, in order to accommodate every one of the exhibits under cover. The horse barn, next in order, was visited, and everything pronounced satisfactory. The Secretary explains that he never had so many horses entered at so early a date as he has for the coming Fair, and the prospects are simply immense.

The grand stand was inspected on the rounds, and one very necessary convenience has been added to it in the shape of a pair of additional entrance gates, also a stairway down to the paddock on the south end, and the lowering of the front rail of the upper deck that in a measure obstructed the view last year. A closet two stories high has also been erected at the south end of the stands, and connected thereto by a landing and promenade entrance for ladies to the upper flat and the ground floor for men.

A large amusement platform has been built about 120 feet long, with eight dressing-rooms underneath for the accommodation of the performers, which are easy of access for them but fenced off from the outside world. It will be readily seen from the foregoing improvements that the management are desirous of having everything of the best, and in this they are to be commended.

The Western, besides enjoying pre-eminence as a live stock and agricultural show, holds its own in the amusement line, and this year will only be an exception in that the special features provided will be appreciated more than ever. Such, at least, is the expectation of the management. Hassan Ben Ali, the Arab Prince, brings a very large aggregation with him, all being selected artists—his Zoug Zoug arabs; Achille Philion, the spiral globe artist; the Bessw Midget Acrobats; the wonderful Rube Bicyclist,







**The Swallow.**

A marked characteristic of the swallow is its attachment to man. In the unsettled parts of the country it builds its nest in overhanging cliffs and rocks, but so surely as a house is built in the neighborhood it leaves the old nesting places and builds under the roofs or eaves of the dwelling, to which this nest makes a picturesque addition.

As a rule swallows are very sociable birds, two or three pairs being generally found together. Some species build their nests in huge colonies, and it is quite an uncommon thing to find them in single pairs. Their food consists chiefly of small insects caught on the wing, such as mosquitoes, flying ants, and small beetles. Most of them are either injurious or irritating, and were it not for the prodigious numbers consumed by the swallows, the annoyance we should suffer from these myriads of insects which swarm in the air would be considerable.

So untiring and indefatigable are they in their efforts that one rarely sees a swallow at rest, except at the time they are ready to migrate, when they throng on roofs of buildings and telegraph wires, seeming to deliberate on the route they will take to their Southern home.

**The Sparrow.**

There are over 40 different species of the sparrow to be found in Canada, though one seldom finds more than six varieties in the same locality. Of these the snowbird and the tree sparrow are the most numerous. They are all more or less migratory in their habits, and that part of the country where the sparrow does not thrive has yet to be found. They are noted seed-eaters, but are not on that account injurious to the grain crops, as grass and weed seeds are preferred by them to all others; and of these they consume an immense quantity.

If we average ten sparrows to a square mile, each bird consuming one-fourth of an ounce of seed daily, and remaining in their winter quarters for six months, they would have eaten at the end of that time more than 850 tons of weed seeds—a very large quantity for one season.

As sparrows are very hardy little birds, there are vast numbers of these seed-consumers working diligently throughout the cold weather, thus considerably lessening the number of injurious weeds and useless plant, which would otherwise cumber the ground the ensuing season. We are accustomed to estimate the value of birds by the number of insects they destroy, but when their importance

**THE CHILDREN'S CORNER.**

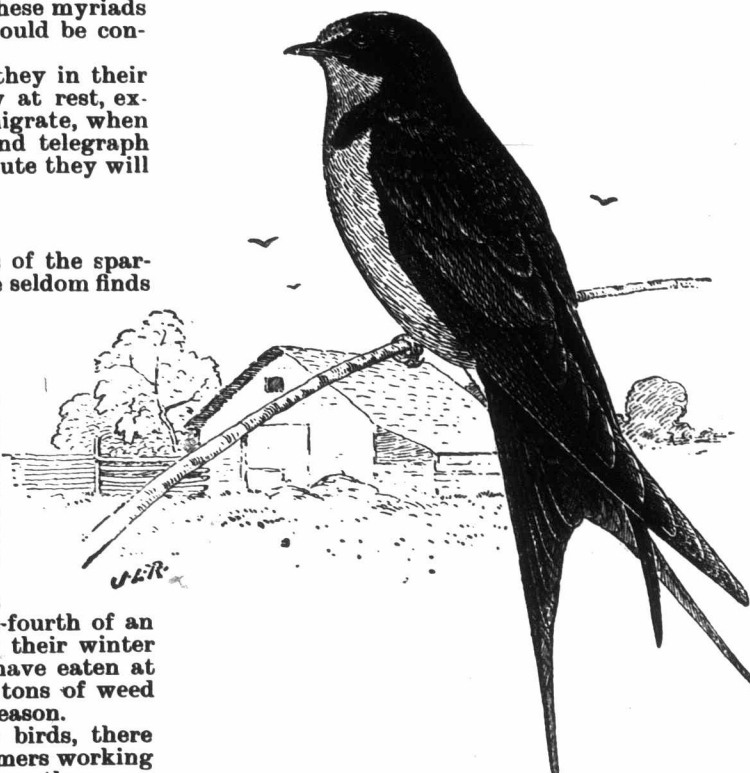
**In the Tub.**

The wind came fresh across the sand  
And tossed the leaves and flowers,  
It blew the storm clouds up the sky  
And promised heavy showers.

"Come Willie! Willie, where are you?"  
Cried mother at the door,  
"Dear me, how black the sky has got,  
I know it's going to pour."

But Willie, hidden in the tub,  
His bread and butter ate,  
And said, "I know if I stay here  
I shan't get very wet."

Both loud and long the mother called,  
But Willie made no sound,



**THE SWALLOW.**

From Farmers' Bulletin, No. 54, by F. E. L. Beal, B. S., Assistant Ornithologist, U. S. Dept. of Agriculture, Washington.

**Why Minnie Could Not Sleep.**

She sat up in bed. The curtain was drawn up, and she saw the moon, and it looked as if it were laughing at her.

"You needn't look at me, moon," she said, "you don't know about it; you can't see in the daytime; besides, I am going to sleep."

She laid down and tried to go to sleep. Her clock on the mantel went "tick-tock, tick-tock."

She generally liked to hear it, but to-night it sounded just as if it said, "I know, I know, I know."

"You don't know, either," said Minnie, opening her eyes wide, "You weren't there, you old thing! You were up-stairs."

Her loud voice awoke the parrot. He took his head from under his wing, and cried out, "Polly did!"

"That's a wicked story, you naughty bird," said Minnie. "You were in Grandma's room, so now!"

Then Minnie tried to go to sleep again. She lay down and counted white sheep, just as grandma said she did when she couldn't sleep. But there was a big lump in her throat. "Oh, I wish I hadn't."

Pretty soon there came a soft pattering of four little feet, and her pussy jumped upon the bed, kissed Minnie's cheek, then began to purr-r-r. It was very queer; but that too sounded as if pussy said, "I know, I know, I know."

"Yes, you do know, kitty," said Minnie; and then she threw her arms around kitty's neck and cried bitterly, "And— I—guess—I—want—to—see—my—mamma!"

Mamma opened her arms when she saw the little weeping girl coming, and then Minnie told her miserable story:

"I was awful naughty, mamma, but I did want the custard pie so bad, and so I ate it up, 'most a whole pie, and then, I—I—oh! I don't want to tell, but s'pect I must; I shut kitty in the pantry to make you think she did it. But I'm truly sorry, mamma." Then mamma told Minnie that she had known all about it, but she had hoped that her little daughter would be brave enough to tell her all about it herself.

"But, mamma," she asked, "how did you know it wasn't kitty?"

"Because kitty would never have left a spoon in the pie," replied mamma smiling.

**Sorrows of an Ex-King.**

He wore a crown of golden curls, this little ex-King, with so pitiful a face. I saw him lying under a tree on grass too dew-wet for health, and coaxed him to me. Then I saw that his face and general attire bespoke unusual neglect at home. Little by little, as his heart and body grew warmer, he divulged his grief, often choked by sobs, poor little misunderstood, miserable King. "Dere's a new



**THE SPARROW.**

From Farmers' Bulletin, No. 54, by F. E. L. Beal, B. S., Assistant Ornithologist, U. S. Dept. of Agriculture, Washington.



**THE GOLDEN ORIOLE.**

From Farmers' Bulletin, No. 54, by F. E. L. Beal, B. S., Assistant Ornithologist, U. S. Dept. of Agriculture, Washington.

as weed exterminators is more widely known their presence around the farm and garden will be considered an incalculable benefit.

**The Golden Oriole.**

A great contrast to the sparrow is the oriole, whose beautiful plumage and sweet song make it a most welcome addition to our feathered favorites. It seems to make its appearance just about the time the apple trees are in blossom, where it will be seen diligently searching for caterpillars, which constitute its principal food. It also consumes beetles, grasshoppers, wasps, spiders, and bark and plant lice—the latter, being very small, are seldom noticed by the other birds, so it is fortunate for us that they do not escape the bright eyes of the oriole, as they are most injurious to our flowers and foliage.

Its nest is almost inaccessible, as it hangs from the outermost point of the highest branch of an elm, or some other tall tree, to which it is so firmly fastened that it is safe from the most violent storms, or even from that more constant danger, the thievish fingers of the small boy who delights in robbing the nests of our blithe little birds.

"If I go in she'll make me work,  
And drag that baby round.

"It's nicer far here in the tub,  
And here I mean to stay  
Until the rain is over quite,  
And then I'll go and play."

So Willie stayed, and when at length  
He sought his mother's side,  
"Where have you been? I called and called,  
But called in vain," she cried,

"For uncle Thomas wanted you  
To go with him to town  
And see the show of elephants  
And bears, black, white and brown,

"The monkeys with their funny tricks,  
The dog that fires a gun,  
The camels with their ugly humps,  
And every sort of fun.

"But as we couldn't make you hear,  
He's taken Fan instead;  
They won't be back till late, so you  
Had better go to bed."

And Willie, as he crept away  
With sober face felt sure  
When mother called him in he'd hide  
Oh never, never more.

baby ov-a dere—an'an' my mamma do-ntie love  
me any more—cause papa told me so. Papa showed  
me the baby an' mamma said, Rexie, you must love  
baby, an'an' she kissed baby, but she didn't kiss  
her Rexie. Rexie don't love that nasty red-baby;  
it's cross, ky-baby; tain't pretty, neiser."

**True Love.**

Here is part of an old Scotch tradesman's address to his old wife after forty-two years' marriage, expressing to the full the feelings that often live on to the golden wedding.

"A wedding heat o' strong young love  
Will last through winters many;  
The frosts of years but tend to prove  
The links that bind to Nannie.  
Though teeth are fled and locks grown gray,  
She's yet sae kind and cannie,  
Love that outlasts young life's heyday  
Is the love I bear my Nannie.

"Mid a' the thoughts that trouble me,  
The saddest thought o' any  
Is wha may close each other's e'e,  
May it be me or Nannie.  
The aye that's left will sairly feel  
The aye that's left will sairly feel  
Amid a ward uncannie;  
I'd rather face auld age mysel  
Than lanely leave my Nannie."









