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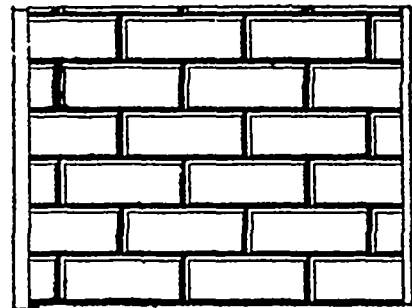
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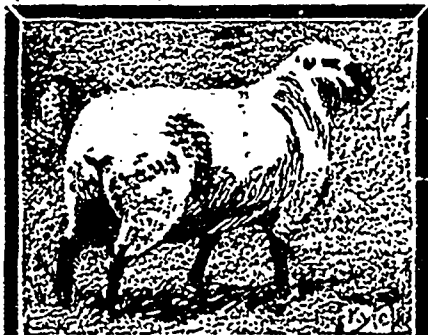
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Twenty Cows and Heifers, served by imported bull Golden Fame-29056. Prices consistent with quality. Inspection invited.

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Full stock of A.J.C.C. cows, heifers, heifer calves and bulls. Ask for what you want. A number of young Berkshires.
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Barred Plymouth Rock Eggs

at 13 for \$1.00, or 28 for \$1.50.
Prize cocks and selected hens in breeding yards.
JOHN CAMPBELL, Fairview Farm, Woodville, Ont., Can.

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FINE BANKNOTE, COURT HOUSE & DRUG STORE FITTERS.
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A. J. O. O. Jerseys
Popular St. Lambert blood. 12-year-old bull ready for service to offer, also a number of extra fine bull calves for sale. Some choice heifers 2 years old and milking for sale. Large improved Yorkshires. A large number of pigs ready to ship last of April. No better to be had.
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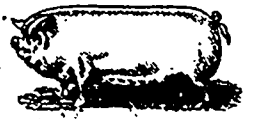
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STOCK FOR SALE of all ages, both sexes, and home breeding.
Also EGGS from choice pens of Partridge and Buff Cochins, P. Rocks, S. G. Dorkings, Cornish Indian Games, B. B. Games and Pit Games, Golden Wyandottes and White and Brown Leghorns at 13 for \$1.00; also Mammoth, Pea-in, Rouen and Aylesbury Ducks at \$1.00 for 9.

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Boars fit for service, young sows in farrow, and young stock of imported and Canadian bred boars for sale.
Write for prices.
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W. B. BOWMAN, Mount Forest, P. O., Ont.
Offers Yorkshire and Berkshire boars and sows weighing from 30 lbs. to 40 lbs. at \$3.00 each. Registered. Plymouth Rock eggs, 5 settings for \$2.00; Single setting, 75c.

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They suit the Farmer and please the Packer.
Our Stock is { Of best Breeding. No. 1 in Quality. Reasonable in Price.
Send your orders for young pairs not akin, to Maplehurst Farm, J. J. FERGUSON, Smith's Falls, Ont. Box 873.

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I have the 1st-prize boar under 12 months at Toronto for sale, and 1st. at Western Fair; also 2nd prize boar under 6 mos. at Toronto. Have 4 first-class boars fit for service; 5 and 6 mos. old. Have 3 of the sows for sale that tried for 1st of the three pigs bred from one sow, and the 2nd and 3rd prize sows under 6 mos. These winning sows are bred from Perfection; the unbeaten yearling. Have a few good sows bred for sale. Have 25 head of young pigs from 10 to 8 weeks. Am booking orders for March and April pigs.

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and Forecasts are of great service to every Farmer. They give present prices and prospective values.

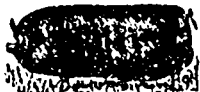
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Some grand lengthy young sows in tarrow. Prices right. Also spring pigs. All from imported stock.

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In my herd there is such blood as BARON LEE, DORSET CHIEFTAIN and WINDSOR SUPREME and other noted strains. Choice stock for sale at reasonable prices. Write for particulars.

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Some choice fall gilts, No. 1 quality. 60 head of March and April Pigs, pairs and trios not akin. Write for my prices before buying. All stock guaranteed as described.

NORMAN M. BLAIN

Goldspring Farm, St. George.

CHOICE BERKSHIRES

2 good young BOARS, 10 months old, weighing about 220 lbs. each, at \$12. Must go to make room for young pigs. 4 choice SOWS, about same age, due to farrow in April and May. Bred to a grand young boar from Imported Sire and Dam. Price \$18. Also fine lot of Boars and Sows 4 months old.

E. E. MARTIN,

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Herd
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Choice stock of either sex and all sizes, from 2 months up. Bred from the best strains known to the breeder. Write for prices.

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TAMWORTH AND CHESTER WHITE

BOARS

Fit for Service

SOWS ready to breed, and a choice lot of FALL PIGS now ready to ship, at rock-bottom prices, from the sweep-stake herd at Toronto Montreal, London and Ottawa Exhibitions, 1897. We pay express charges to your station, and guarantee safe arrival of all stock shipped. Pairs furnished not akin Drop a card before buying elsewhere.



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Crampton, Ont.

Hermanville Tamworths

PIGS

Ready to wean.

1 Pig, \$10.00

2 Pigs, \$14.00

3 Pigs, \$25.00

Express Prepaid.

Grand bacon stock.

Address HERMANVILLE FARM, P.E.I., CAN

"Parkhill Mab I.," "Parkhill Mab II.," "Parkhill Mab III.," and "Princes" are due to farrow in May and June. Their pigs you may have at these prices if your express office is east of Lake Huron. Cash to accompany orders. No after charges. Satisfaction or no pay. TAMWORTHS non-eligible, and CROSS BREDS also delivered free at two-thirds above prices.

Wm. Butler & Son

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Importers and exporters of Pure-bred Live Stock. Breeders of Guernsey cattle, Chester White and Duroc Jersey Swine. Stock delivered free in carload lots to any part of Canada. Write for circulars, calendars, etc.



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The Lengthy English Type

Largest herd of imported Yorkshires in America. Purchased from the most noted breeders in England. Also 300 Canadian-bred pigs of all ages for sale. Stock guaranteed as described. All trains met at Hamilton by appointment.

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.. HIGHEST TYPE OF BACON HOGS. .

Oak Lodge Herd of Large Yorkshires



The Largest Herd of Pure-Bred Yorkshires in America.

This herd has won the best prizes offered for the breed during the last ten years. Only one breed kept, but the choicest of its kind. Three imported stock boars and several sows that have all been winners at the largest shows in England, also winners at prominent Canadian and United States shows. Pigs of all ages for sale.

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CONFEDERATION LIFE BUILDING,
TORONTO

Stock Notes

SALE OF SHROPSHIRE.—Messrs. D. G. Hanmer & Sons last week shipped thirty Shropshire ewes to the farm of the Hon. Sydney Fisher, Knowlton, Que. A Hackney stallion was also shipped to the Newfoundland Government. This is the second sale of Messrs. Hanmer to the Newfoundland Government during the past six months. The previous sale consisted of ten Shropshire ewes.

MR. NORMAN M. BLAIN, of St. George, Ont., says: "I have on hand at the present time the largest and best lot of Tams that I ever owned, seven sows have farrowed within the last two months, averaging over ten pigs each, have three to bear from yet. Have a number of March pigs, that look like show pigs. The Toronto, London, and Ontario Fat Stock winner, Blain's Sunshine, has just farrowed a litter of ten nice, strong pigs, sired by Advance, that should be something good."

MESSRS. SILLS, SHAVER & SON, of Winchester Springs, Ont., report that they have now got quite a large number of very fine pigs of good breeding and splendid type—the real bacon Yorkshire, which are progressing satisfactorily and are ready to go to any one who desires to secure good stock—and that their herd also includes some choice breeding sows of the best type of Yorkshires. In fact, that they are somewhat overstocked at the present time and would be glad to have more room. In Jersey cattle, the pure St. Lambert blood is a special feature of their herd, which comprises a number of very choice animals, and their surplus stock includes a number of choice St. Lambert calves and a fine two-year old bull of pure St. Lambert blood, solid color, and splendid quality.

MESSRS. A. & G. RICE, of Curries, Ont., write "We have had a very great demand for Holsteins, especially bulls. As we were sold out of all old enough for service this summer (having sold sixteen), but still having much enquiry, we have just paid a visit to the celebrated and long-established herd of Chapman & Horr Bros., Ohio, as they wrote us they had a number of bulls they would like us to handle some of them. In response, we at once started, and have purchased six bulls, 10 to 14 months old, all choice and richly bred from the Materns of this great herd. We also purchased six young cows and heifers, so as to divide expenses in order that we may sell these bulls at a price within the reach of every enterprising dairyman. We have a reputation to maintain and can afford to handle only the right sort, so trust our friends will appreciate our efforts on their behalf and we hope to dispose of these bulls inside a month. There are no culls. They are the choice of twelve good ones.

SCHOOLS.

TORONTO

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Young Man! Young Woman!

to a happy and successful future, and remember that Education is a most important factor in winning success just now. Give your education a practical turn and you'll never regret it.

Lay your plans for spending a term in the

CENTRAL BUSINESS COLLEGE

of Toronto at an early date. Some of you can enter NOW. Others can't start until the fall. Get a Catalogue at any rate, and study our advantages. Write

to W. H. SHAW, Principal

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It Pays to Possess Business Brightness →

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Cheese Maker
Wanted

To go "West." College graduate with factory experience and well recommended. Single man who thoroughly understands engineering and can keep in order 25 h.p. engine, which is run 60 to 90 days per year. New plant, strictly up-to-date. Brick building—handle 1000 lbs. to 1500 lbs. milk. When engine is not run must assist in feeding and milking. Good board in family. State salary expected per year. None but first-class men need answer.

Also want three good men, good teamsters and farm hands. \$23 per month, with board and washing. Apply to

"DAIRY FARM."

Care of FARMING, Toronto.

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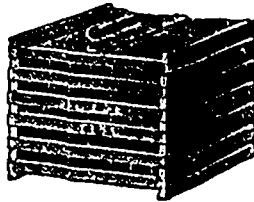
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A full line of stock, both fruit and ornamental, at very moderate prices. No agent's commission to pay.

Send for price list and catalogue. Dealers will find it to their interest to correspond at once with

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CLYDESDALE HORSES, JERSEYS and AYRSHIRE COWS from the finest milking families. Also 15 AYRSHIRE BULLS and 2 JERSEY BULLS from tested cows.

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Jas. McIntosh, 23 Essex St. Toronto.

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Also a YORKSHIRE BOAR, 10 months old bred by J. E. Brethour, Burford.

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FARMING

VOL. XVI.

MAY 9th, 1899

No 36

The Outlook for Creamery Butter

While the outlook for cheese is very much brighter than it was a year ago at this time, the creamery butter trade on the surface would not seem to have such a bright outlook in so far as the present season is concerned. While this may be in a large measure true there are good reasons for looking forward to the future of our export butter trade with a very large degree of hopefulness. And we would advise those who have made a start in the creamery butter business not to relinquish their efforts in regard to the quality or quantity of the product they are making because of any easing off in the prices at the present time.

A comparison of the prices paid for choice fresh creamery during the past week or two shows that they are about what they were a year ago. A year ago at this time new cheese was selling at from 8 to 8½c. at Montreal, which would mean from 7¾ to 8c. at the factories. And because of these low figures the somewhat low price of butter at that time was not noticed. It is because the price of cheese as compared with that of butter is much higher than it was a year ago that many dairymen are inclined to change from butter to cheese, and to think the former too low in price. While it is to the interest of dairymen to follow that line of dairying that will pay them best, yet they should carefully consider everything before making any decided change. Even at present prices for cheese and butter, if the value of the skim-milk and its advantages to the farmer in the way of raising young stock are fully considered, it will be almost a toss of the hat as to which will return the more profit.

But there is a wider view of this creamery butter question than the present condition of the trade. There are evident signs that the English make of butter is decreasing. Many British farmers are turning their attention to supplying milk to the large cities and towns, and when we consider what an enormous trade there must be in this, there is good reason for believing that the home make of butter will be very much smaller than it has been heretofore. Large quantities of milk are shipped to England from France, and it is only within the last year or two that the English farmer has begun to realize that he might with a little effort have a large share of this trade for himself. There should certainly be a better field for him in this line than in endeavoring to compete with the foreign butter coming in from nearly all quarters of the globe.

Another feature of the situation that may serve to increase the demand for butter in Great Britain is the determined efforts which the authorities are making to put a stop to the selling of mixtures and margarine as butter. A new Food Act has been provided and it is expected that when its provisions are put into force margarine and kindred spurious products will have a harder time to find a market, while genuine butter of good quality will be less hampered by the competition of these adulterated goods. Large quantities of margarine are imported by the United Kingdom every year. For one week ending March 25th last there was imported 20,226 cwt. of margarine as compared with 18,904 cwt. for the corresponding week of 1898. If the enforcement of this law will lessen these spurious imports and create a larger market for the genuine article, we have another cause for gratification in connection with the export butter trade.

But in noting these various conditions that have to do with our butter trade it will not do to overlook the fact that we have competitors who are watching the British market as closely as ourselves and noting as carefully the changes affecting it. We cannot hope to have the field to ourselves, and whether the outlook is bright or otherwise we must count upon the keenest kind of competition. Last year Great Britain imported upwards of \$80,000,000 worth of butter. Of this amount Denmark supplied nearly one-half and France about one-seventh, while Canada supplied barely one twentieth. Then there are several countries such as Sweden, Holland, Australia and the United States whose exports are about the same as those from Canada to be considered that are making as strenuous efforts as we are to gain trade.

Our dairymen, however, need not be afraid of this competition so long as they keep on improving the quality of the product. The reports from last season's trade as to the quality of Canadian butter sent to Great Britain are very gratifying indeed, and are such as should cause a greatly increased demand for the product the present season.

In summing up the situation we may safely claim that the outlook for our export trade in creamery butter was never better than it is at the present time. What the trade requires is prime quality, regular shipments and safe transportation from the producer to the consumer and with these supplied we may look forward to a very large increase in our butter export trade during the season upon which we have just entered

Curing-Rooms in Quebec

Means Adopted for Their Improvement by the Local Government

In our issue of March 7th last we pointed out that the Quebec Government had made arrangements to make a grant of \$50 to every cheese factory that would put in a sub-earth duct to regulate the temperature in the curing-room. In a bulletin recently issued by the Quebec Department of Agriculture, a copy of which came to hand last week, the same Government is offering premiums, ranging from \$100 to \$200, according to the size of the curing-room, to cheese factories making certain improvements and complying with the conditions laid down by the Department. In order to induce the building of larger curing-rooms and better ventilated buildings no premium will be granted to any new factory to be erected that has a less curing-room floor space than 700 square feet. In old buildings the premium will be \$100 where there is a floor space of from 400 to 700 square feet. For new and old buildings of from 700 to 1,000 square feet of space the premium is \$150, and for curing-room space over 1,000 square feet it is \$200.

The conditions laid down for obtaining these premiums provide for a great improvement in the construction, ventilation and regulation of the temperature in the curing-rooms now existing and the ones to be built, and if by this plan a large proportion of the factories comply with these conditions there must result a marked advance in the quality of the cheese made in Quebec from improved curing facili-

ties. The conditions are summarized under four headings, as follows: Those relating to the construction of the factory and to that of the curing-room in particular; those relating to the ventilation of these rooms, to their cooling in summer and their warming in the spring and fall; those which concern the general laying out of the factory; and those relating to the manufacturing and to other questions.

The principal point emphasized in the first of these conditions is the location and size of the curing-room, which should be on the ground floor. The outside walls should have a double lining of boards and two layers of felt or building paper. Over the double inner lining of rough boards, one layer of felt paper should be first applied, and, on the paper, strips two inches wide and one inch thick should be nailed. On this is nailed another thickness of lumber, then two layers of paper breaking joints, and last, a double thickness of planed, tongued and grooved boards. This mode of construction will be required as well in the case of the inner walls separating the curing from the working and other rooms in the factory as well as in that of the outer walls. Special instructions are given regarding the ceiling and floor, the latter of which must be waterproof. In the construction of the curing-room no strong-smelling wood should be used.

In regard to ventilation, cooling, heating, etc. every curing-room must have a special ventilator, a description of which is given. Each room must be provided with a cooling apparatus. The plans advised are the placing at one or several points of the room, cylinders of galvanized iron which are filled with ice or a mixture of ice and salt, or the placing of these cylinders at the bottom of the ventilator shaft. Detailed description of these plans are given. In heating, if a stove is used a screen should be provided around it for distributing the heat. Where practicable it is recommended to heat the room by steam pipes fed from the boiler. For increasing the degree of humidity, there should be a steam pipe in the curing room, the end of which should be flush with the inside surface of the wall and have a small valve. In dry weather this valve should be slightly opened so as to diffuse the necessary humidity.

The conditions imposed in the construction of the factory necessitate building on high land where the drainage is good and the drainage of the factory perfect, so that all drainage waters can be carried off in an underground drain with a sufficient slope to prevent their stagnation, and altogether the plant should be sufficiently good to permit of the manufacture of first class cheese.

In regard to the manufacture and other points to obtain a subsidy it is necessary: (1) That the factory should, if possible, belong to a syndicate if there be one in the region where it is situated. If there be none, the person in charge of the factory shall submit to its being inspected whenever the Government requires; (2) It shall bind itself not to ship any cheese which has been less than a fortnight in the curing-room; (3) The manufacturer shall bind himself to wash out the whey vat every day; (4) He shall keep a record of the temperature on blank forms to be supplied him by the Department of Agriculture; (5) The water used shall be as pure as possible.

A New Dairy Season Entered Upon

The first of May witnessed the beginning of a new season in connection with the Canadian dairy trade. The season dates from the first of May, as it takes all the time from the close of the factories in the fall to that period to dispose of the previous season's make. The season just closed has been a favorable one, everything considered, for dairymen. Prices for butter and cheese have been well maintained, especially during the latter part of the season.

During the year a marked advance was made in the exports of creamery butter, and we may safely conclude that this important branch of our trade has been placed upon such a footing that, if the quality of the product is maintained and regular weekly shipments made, it is destined to grow almost in spite of itself. The value of our butter exports for the season amounts to considerably over \$4,000,000. The decrease in the cheese exports of 230,000 boxes has been a blessing in disguise, and has served to strengthen the market very much and to clear the coast for the new goods, which will begin to arrive in Great Britain very shortly. As we have frequently pointed out, any marked increase in the cheese output of any one season brings with it a corresponding sluggishness in the market and a surplus of supplies that mean low prices. For this reason these seasons of short makes are like oases in the desert in connection with the cheese trade, and are necessary, in order to maintain an equilibrium in prices and not overstock the market.

While great good may be obtained by examining the past and noting our successes and failures, the duty of the hour in connection with the season upon which we have entered as it applies to the manufacturer, the patron, the cheese and butter-maker, and everyone connected with the industry, is to look forward and endeavor to make the quality of Canadian butter and cheese much superior to what it has been in the past. This can be done if the manufacturer or company will put the buildings in shape to make and cure the product properly; if the patron will make a determined effort to supply only good pure milk, and if the maker will bring his best skill and intelligence into play in turning out a first-class quality of cheese and butter.

In this issue we devote considerable space to dairy matters, and have provided several articles upon the curing and making of cheese. The articles upon "Handling Gassy Curds" and "Curing Cheese" were read at the Cheese and Butter-Makers' Convention last February, and were prepared by practical men with a wide experience in some of our very best cheese factories. In regard to the former one there may be other methods of operating with bad flavored milk, and we would be glad to have the views of makers for publication. The means adopted to improve the curing rooms of Quebec should be of interest to dairymen in this province. While they may not be in favor of the bonusing system, yet the fact remains that there must be a vast improvement in the methods of curing cheese in many of our factories if this province wishes to maintain its place as the banner cheese district of the Dominion.

Curing Cheese

By W. A. Edgar.

In spring we want a fast curing cheese for quick shipment. To get this keep the temperature of the curing room as near as possible at about 70 Fahr. Turn the cheese at least twice a day, morning and evening; this is important, as it materially aids the process of curing.

In summer have the temperature of the curing as near as possible at 70 degrees Fahr. Turn the cheese at least once a day, and do all that is in your power to keep the temperature as regular as possible. Have all the light possible, during the process of curing, to guard against mould on cheese, and have the temperature as even as possible. Keep the curing room with about 60 degrees of moisture, or as indicated on the hydrometer at between normal and moist.

Have some ice ready for your curing room for the hot weather, or a sub-earth duct for the purpose of regulating the temperature. As there are the most difficulties to contend with in regard to curing we must avail ourselves of every possible convenience to meet those difficulties. We want a curing room with a good high ceiling. I have an

11 foot ceiling with a good air space above. Have ventilators through the ceiling with a box connecting with a ventilator on the roof of the curing room, with a slide in the flue, to open or shut as wanted, for the purpose of allowing perfect circulation and giving a cooler air to vent and expel the warmer air in the room. I cannot go into detail in my paper to describe a model curing room as my subject is on "curing cheese." But we makers must study the ventilating of our rooms more, so that we can give our cheese more pure air while in the curing room. In my experience it takes a man quite a long time and requires a good deal of study to know just how to operate a curing room to the very best advantage. We must figure on it and use our very best judgment to get the wanted results. When the outside temperature is at about the right degree open your curing room and let all the fresh air in that is possible.

In fall cure cheese at about 60 degrees, and use heat when necessary to keep the temperature right. To prevent cheese from drying too much on the sides or cracking on the ends, keep a pot of water sitting on top of the stove or furnace. Have cheese turned regularly and with great care at all seasons, and don't have the cheese bruised or corners broken. Have the curing-room swept out at least once a week and everything kept clean and tidy. Don't allow cheese to be shipped until they are properly cured. I believe at times there are a great many cheese shipped too green, or before they are properly cured, and, if the conditions are not favorable, it will result in a bad mark for that factory's cheese and cheese maker.

Salesmen and makers should work hand-in-hand together. Every maker should be an efficient judge of cheese and know the quality of his goods and be able to advise salesmen when best to sell them.

This is a very important subject, and I fear I have not been able to handle it properly and as well as it should be. But, in conclusion, I would say that, no matter how well cheese is made in the make-room, the quality can be improved or deteriorated in the curing-room.

Handling Gassy Curds

By Geo. McDonald

As this subject covers so much ground, I will not attempt to describe the many ways of handling gassy curds, under all conditions and in different factories. I can only speak of the way I handle gassy curds in my own factory.

The first place I have to deal with gassy milk is at the weigh-can. And here is the place to handle gassy milk, if we can tell it is gassy. The way I would handle this is to send it home, and also send a note home with the milk telling what is the matter with it, and that you will call around in the evening to try and help the patron find where the trouble is, and give him some instructions about caring for the milk. I think if there was more of this kind of work done we would have less gassy curds to handle, and better cheese.

If we have the milk weighed into the milk vat, the first thing to do is to heat it up to 86 degrees, and then try the milk with the rennet test. As a rule, if milk is gassy it will not develop acid as quickly as milk that is not gassy, so when I have a vat that is developing acid very slowly I begin to think it is gassy. The first thing I would do is to raise the temperature of the milk up two or three degrees. This will help the acid to develop faster. Before setting a gassy vat of milk I would ripen it down two or three seconds lower. This will give the acid a good start in the milk. I do this so that my curd will not lie too long in the whey, waiting for acid to develop. If it lies too long it will get dry and hard, and you will have a slow-working curd.

When I ripen the milk lower, I have a faster working curd, and I will work my curd accordingly. In setting, I would use a little more rennet. This will give me more time for cooking the curd, and will make the curd firmer for cutting. In cutting I would cut so as to leave the cubes

larger and to retain more moisture and help the acid to develop.

In cooking a gassy curd I would stir for fifteen minutes before turning on any steam and cook slowly up to eighty-eight degrees. Then stir well to keep all the particles of curd apart, and get them cooked evenly. After stirring for fifteen or twenty minutes I would let the curd settle and draw off some whey. Then keep well stirred and when the acid is beginning to show on the hot iron, and if the curd is soft I would raise the temperature two or three degrees. This will firm the curd for dipping. I would dip a gassy curd with one-quarter inch of acid.

In stirring a gassy curd after dipping I take into consideration the amount of acid, the firmness of the curd, and the state of the weather, and stir accordingly. The main thing I want to do is to keep the acid developing and have a nice firm curd. If I stir too dry I stop the acid and spoil all I have been working for.

In handling curd in curd sink I turn often, piling three or four deep in sink and mill when flaky and the gas well developed, and when the curd has from one and a-half to one and three-quarter inches of acid.

In handling a curd after milling there are different ways of stirring it. The way I like to have a curd stirred is to go at it as if you intended to stir it and not merely to put in stir. I think we cannot do too much stirring at the right time. That time is right after milling, not four or five



Provincial Dairy School, St. Hyacinthe, Quebec

hours after. When the curd is cold I want it stirred so that there are no two pieces sticking together, and when it is nice and silky I would pile it up for a few minutes, then pull down again and stir well, and do this until you have it feeling as fine as silk, when it is ready for salt. In salting I would use a little less salt if the curd is losing butter. Stir the salt in well and pile up and then spread it out evenly over the sink and let lay one-half hour before putting to press.

The Corn Crop

No farmer in this country who keeps cattle of any kind can afford to be without a corn crop. It will pay every farmer on a hundred acres of land to grow each year from five to ten acres of corn, the area depending upon the number of cattle kept. A ten-acre corn crop, if rightly handled, will give more good feed for stock than can be procured in any other way from the same amount of land. It has taken some of our farmers several years to find this out. There are, however, signs that farmers are giving more attention to this valuable crop, and are growing larger quantities every year.

To get the best results from the crop it should be cut up and put into a silo. But we will have more to say on this matter at another time. The point to be noted at the present time is the preparation of the land and the planting of the crop. We might say, however, that whether a

farmer has a silo or not it will pay him to grow a few acres of corn. Some of it will serve the purpose of supplementary feed for his cows during the latter part of August, when the pastures are dry and the green peas and oat crop is done.

Generally speaking corn does best on lightish soils where the drainage is good, or soils, for example, in which there is a slightly larger percentage of sand or the higher constituents than of clay. In any case corn should always be planted on land on which water will not lie after a heavy rainfall, and never on low wet ground. Some successful corn-growers follow the plan of plowing and top-dressing the land in the fall and cross-plowing in the spring. Good crops have been grown on sod plowed shallow in the fall and then worked well with the disc harrow in the spring. Whatever plan is adopted the aim should be to keep the plant food near the surface and not bury it so deep that the plant will have a hard time to find it. The surface should be well worked and the soil made as fine and as free from weeds as possible.

As to planting, there are several things to be considered. In this country, taking one year with another, on or about the 24th of May is the best time for planting corn. At any rate no corn should be planted till both the soil and the air is warm and suitable for the growth of the plant. It would be better to keep the seed in the bin rather than plant it when the soil is damp and cold. As to the mode of planting there is a difference of opinion. In this country planting in hills is generally considered to give the best returns. The field is marked in rows both ways and the corn planted where the markings cross. This plan admits of cultivating both ways and gives plenty of room for the corn to mature providing the rows are at least three feet apart. Some successful corn-growers put the corn in in rows from 3 ft. to 3 ft. 6 ins. apart with one seed every 10 or 12 inches. There are special corn drills made for this purpose, but they are not used in this country to any great extent. It is hard to regulate the ordinary grain drill so that it will sow corn sufficiently far apart in the drills. If a proper drill for the purpose is at hand the planting of the corn in rows, as described, certainly means less labor, and if the ground is clean to begin with the after-growth of weeds will not interfere much. Corn should be planted at from two to three inches deep. If the land is rolled immediately before planting perhaps two inches would be sufficient.

As to the variety of seed to plant considerable might be said. In selecting seed it is a good plan to select the varieties that have proven to be the hardiest, that will come to maturity in this country and that will give the largest bulk of ears. Farmers in the various districts will have to be governed by their own climatic conditions in making selections. A variety that would come to maturity in the southern part of this province might not do so in the northern part. In the co-operative experiments over Ontario in 1897, as published in the report of the Experimental Union for that year, the Clouds' Early Yellow Dent corn appeared to be well suited to warm soils in Southern Ontario; the Mammoth Cuban, Wisconsin, Earliest White, Dent and Evergreen Sweet to Central Ontario, and the Salzer's North Dakota and Compton's Early to Northern Ontario.

Corn cannot have too much cultivation after it is planted. A gentleman whom we met last week, and who grew corn very successfully in New Jersey for several years, stated that he always followed the plan of going over his corn ground with a light slant-tooth harrow as soon as the plant made its appearance above ground. This plan served the double purpose of preventing the growth of weeds and of conserving the moisture in the soil, and did not injure the corn plant any. A slant-tooth harrow is one in which the teeth slope toward the rear end of the harrow. We are inclined to think this good practice if the right kind of harrow can be got to do the work. The work of the cultivator, at any rate, should not be long delayed after the corn is above ground. If the land is fairly clean a form of cultivator that will merely loosen the soil will do. Someone

has said that the cultivator should be kept going continually, which is very good advice. Of course, what is meant is to have the cultivator ready, and whenever there is a spare hour keep it moving.

Growing Potatoes.

(Continued from last issue.)

MANURING FOR POTATOES.

During the four seasons, 1895 to 1898 inclusive, elaborate field experiments on the manuring of potatoes have been made at the trial grounds in connection with Reading College. The results of these experiments are of a striking character, and show in a forcible manner how systems of manuring potatoes should vary according to the soil, the climatic conditions, the kind of potato, and the previous treatment of the land.

The objects of the experiments have been to ascertain the relative effects of farmyard and artificial manures; to compare the results of applying the manures in the early winter and at the time of planting; and to discover what combination of artificial manures is best suited for the potato crop.

Mr. Sutton sums up these experiments as follows: "The experiments of the past four years show that small results were obtained by direct application of manures to the potato crop, in a district with a dry soil and limited rainfall. Potatoes are most successfully grown on land in high condition, and the results indicate that on such high-conditioned land the direct application of many artificial manures for potatoes will do harm rather than good. There is not much to choose between applying manures in the early winter and at the time of planting. It has been very striking all through the experiments that nitrate of soda has had far more effect in increasing the luxuriance of the haulm stem than the weight of the tubers. Another result of the experiments is that potash manures have not had the effect of increasing the crop to the extent anticipated when the investigations were commenced. It is also noticeable that farmyard manure has, with few exceptions, failed to give satisfactory results; this is, in all likelihood, due to this manure keeping the soil drier, and thus intensifying the effect of dry seasons, and partly also to the land having been heavily dressed with farmyard manure in previous years.

A summary of similar experiments conducted at Rothamsted is also given and the average crop per acre for the twenty years, 1876-1895, with the same manures applied annually, is as follows:

"No manure, 1 ton 11½ cwt.; 14 tons farmyard manure (with the addition of superphosphate before 1883), 5 tons 2 cwt.; where superphosphate only was used the average crop was 3 tons 2¼ cwt.; and mixed mineral manure, including superphosphate and sulphate of potash, gave on the average 4½ cwt. more than superphosphate only. Further, nitrate of soda and mixed mineral manure gave the best average for these years, viz., 6 tons 1¾ cwt.; where ammonia salts were added to mixed mineral manure instead of nitrate of soda the average result was less by 2¾ cwt. per acre.

"In two important points the Reading results agree with those at Rothamsted: (1) the addition of a potash manure to superphosphate has not materially increased the crop, (2) farmyard manure has not given as good results as a judicious application of artificial manures. It should also be noted that the nitrate of soda has given a better result than ammonia salts including sulphate of ammonia containing the same amount of nitrogen."

GROWING THE POTATO.

Potato growers in the old land pay special attention to the early market. The selecting of the seed in Jersey is described as follows: "The seed is carefully separated at the time of lifting, and 'boxed' at once. These boxes are very simply made, and are supplied at a moderate price.

They are so constructed that when filled they can be placed one upon another without injury to the tubers, and in such a manner as to allow a free current of air to pass through the stacks of boxes. The boxes hold about 14 lbs. each (when the tubers are set up for sprouting), so that the seed for planting five or ten acres occupies much space, and the large barns or sheds are generally built with great care to avoid extremes of heat and cold.

"In November the boxes are all gone over very carefully, women being employed to place each tuber on its 'stem' end. By this means the shoots from the buds or eyes are produced with great regularity, and the tubers can be more easily be planted without injury to the shoots."

The aim in all this is to get the seed as well on the way as possible before planting begins. Potatoes prepared and planted as described will be ready for lifting ten days earlier than if not so treated. Last year the crops of the Isle of Jersey yielded as high as eight to ten tons per acre.

The following system of manuring is given as being adopted by one of Jersey's successful potato growers:

"8 per cent. ammonia supplied with sulphate of ammonia.

"18 per cent. to 22 per cent. soluble phosphates supplied with mineral phosphates.

"1 per cent. to 3 per cent. potash supplied with sulphate or muriate of potash.

"Of this compound there is applied at the time of planting and, as a rule, in the row, at least 14 cwt. per acre up to 1 ton per acre. Top dressing, when the crop begins to show above ground, is not done.

"Besides the above dressing, a very liberal application of dung may be added, or, as a substitute for dung, bones (vitriolized or dissolved) are applied, after ploughing, at the rate of 12 cwt. to 1 ton per acre. Bones, as referred to, analyze 1 per cent. to 1½ per cent. ammonia and 30 per cent. to 38 per cent. soluble phosphates."

No instances are given among the many cited where potato seed is cut before planting, though some growers plant the small tubers. From a careful perusal of the treatise we gather that it is not the general practice to plant, as is so largely the case in this country, cut seed. The potatoes are planted whole, and great care is exerted to preserve the seed in good condition.

(To be continued.)

Feeding Young Chickens

An English View of the Subject

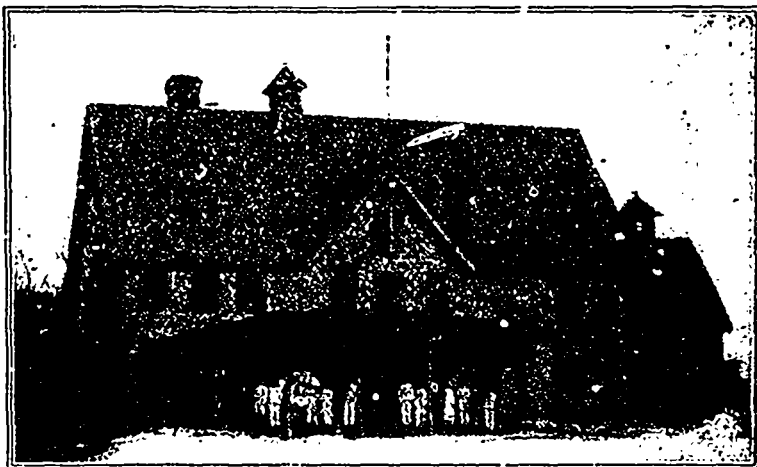
(Continued from last issue.)

The times of feeding may be briefly as follows: When the chicks are less than a fortnight old they should be fed every two hours; for the next fortnight every three hours; and after that time until they are fully grown, say, when four or five months old, four times a day. There are those breeders who always keep food before the birds, and this plan saves a great deal of trouble, but we have never adopted it. Only grain can be fed in this way, as soft food would go sour if left to stand. We think it better for all animals to have regular times of feeding, for picking is one of the worst things for children or chickens. And the plan we have recommended so frequently, namely, to cease giving the food when the appetite is satisfied, is especially necessary in the case of chickens. We always like to see birds ready for their meal when it is ready for them. This is a good sign of health.

Reference has already been made to the importance of insect and grub life for fowls. Where this kind of food is absent it must be artificially supplied. In the winter season there is nothing better than the prepared crissel, sold by Spratt's Patent, but at other seasons of the year it can be naturally supplied. Dead fowls or other forms of flesh meat can be used for this purpose, and may either be buried under the ground or hung up. In this manner this most important element in the feeding of fowls can be provided

for. It is only desirable to state that under no circumstances should a diseased fowl be used in this way, as that would be the means of propagating disease; and it is also desirable that the supply of this kind of food be not excessive. When fowls are in a state of nature they have much more exercise than when in confinement, and this must always be taken into account when making comparisons between the food obtained under the two conditions.

No mention has yet been made as to the importance of green food for the young chickens, but it must not be lost sight of. The sweet juices of young grasses or vegetables have a wonderful effect on the economy of the birds, and though we do not say that chickens cannot be reared without one or the other, we do not think that they can be so reared with the same amount of success. Wherever a good grass run can be given it is desirable that the birds shall have the benefit thereof, but it cannot be regarded as essential where tender vegetables, especially lettuces, can be provided. Where fowls have been kept on ground for several years without its being renewed, the grass may be positively injurious instead of beneficial, but with lettuces this will not be so. The poultry breeder will do well to grow as many of these succulent vegetables as he can, and give them freely to the chickens. Other kinds of vegetables can be used, and in winter time the roots are of great benefit, the latter being given mixed with soft food. There are poultry breeders who never give water to their chickens,



Maritime Dairy School, Sussex, N.B.

and their experience shows that this is not essential if sufficient moisture is given in the soft food. They say that water encourages gapes, but this must depend upon the water. We have never found it to do so, and our chickens have always been supplied with water without any harm resulting therefrom.

Keep the Whey Tanks Clean

One of the conditions stipulated as being necessary to secure the premium offered by the Quebec Government, an outline of which is given elsewhere, is that the maker shall bind himself to wash out the whey tank every day. We wonder how many makers in Ontario would care to undertake a task of this kind. The Quebec authorities, however, are wise in making this one of the necessary conditions, and if some means could be adopted whereby every maker in this province would be compelled to clean the whey tank at his factory every other day at least it would help to improve the quality of the product very much.

In the much-needed agitation for new and better facilities for curing the cheese after it is made it will not do to neglect other conditions affecting the making of the product. One of the eyesores, or perhaps it would be better to say "nose" sores, in connection with many of our cheese factories is the neglected and filthy condition of the whey tanks. Many of them go for weeks at a time without being

touched, when some hot water and a little scrubbing applied regularly would keep them clean and free from all filth and pollution. While it may be difficult to clean a tank that has been neglected for a time, it is a comparatively easy matter to keep one clean and pure if it is attended to regularly every day. If, say, fifteen or twenty minutes is devoted to this purpose as soon as the previous day's whey has been taken out by the milk haulers, the task of keeping the whey tank and its surroundings pure and clean should not be a difficult one.

That there is great need of more attention being given to the sanitary condition of our cheese factories and creameries cannot be doubted. We often wonder how many of these escape the eye of the public health officer. There is no doubt a marked improvement in this respect in many factories but there is still a goodly number behind the times and very much in need of better sanitary arrangements. It is foolish for the company or maker to expect the patrons to observe strict cleanliness in caring for the milk, if they allow the factory and its surroundings to become filthy and dirty because of improper and insufficient sanitary arrangements. A maker who keeps himself and his factory and surroundings as clean and tidy as possible becomes a valuable object lesson to his patrons, who will be more ready to accept his advice in regard to the proper care of the milk. Above all things a cheese or buttermaker should practise what he preaches. If he does not do so, he cannot hope to become a shining light in the community in the way of educating his patrons to better and more cleanly methods of dairying.

Sugar Beets for Feed

A writer of New York State, in a recent issue of the *Stockman and Farmer*, gives the following experience in regard to growing sugar beets for feed:

"I grew a half-acre last season of the sugar beet, and have fed them to hens, hogs, and cows in milk. They are eaten greedily, and the brood sows which received but little else (a quart of wheat middlings and water once per day) are getting too fat. All the animals begin to be restless as soon as the root-cutter starts. The sugar beet is harder and firmer than the mangel, and stock cannot eat them without cutting. My beets analyzed from 14 to 17 per cent. sugar, while mangels on same field were 8 per cent. While some folks do not give sugar in food much value, Prof. Stone places the beets in the ratio of 14 to 21 in favor of the sugar beet, making them considerably better. These are very sweet to the taste, and are good cooked for table use. Ours did not require any more care or fertilizer than the mangels. The sugar beets gave a yield of fourteen tons trimmed beets ready for the factory. The mangels gave thirty tons, and are liked by the stock. I doubt from the difference in yield whether it will pay to grow the smaller sugar beet for stock feeding. The work was done economically and on time. It cost \$37 per acre, a little less than \$5 per ton of trimmed beets, and would have paid me \$1 per day for labor, \$2 for use of horses, and \$2 per ton profit, or \$28 profit per acre. It was only an average season, and one-half received neither manure nor fertilizer, which reduced the yield. Figured in the same way, no other crop would equal it for profit last year.

Fish Culture

There has been a little interest shown of late in the culture of fish on the farm. A reader wrote us recently for information as to the kind of fish to raise, how to go about their culture, and whether it would be better to make a pond or to make use of a creek for the purpose? We referred the question to Mr. W. E. H. Massey, of this city, proprietor of the Dentonia Park Farm, situated a few miles out of Toronto. On his farm, which is fitted up with all modern conveniences, Mr. Massey has several fish ponds, which

are giving good returns. He believes that fish culture could be successfully carried on by many Eastern farmers, and writes us as follows:

"I am quite satisfied that fish culture could be carried on successfully on many of our farms where there is a suitable water supply, and fortunately our farms in Eastern Canada are for the most part abundantly provided with good water, very many of them having spring creeks very suitable for fish culture.

"It is much better to utilize ponds for this purpose than creeks, as it is necessary to make provision against freshets and floods.

"It is scarcely wise to advise farmers generally to undertake fish culture from the beginning, as the taking of spawn, watching the eggs and caring for the newly-hatched fry require a good deal of attention, and can only be successfully done by one who has had considerable experience. The stocking of ponds with fry after they have passed the delicate stage, however, is an easy matter, and the fish for that purpose are easily cared for, and require but little attention, and will bring a good return for the trouble and cost.

"Any of your readers desiring to look into fish culture are welcome to visit Dentonia Park Farm any day except Sunday, where they can learn more in an hour's observation than by reading many books."

The Boar and His Feed

A few years ago Theodore Louis, of Wisconsin, visited the Western Dairymen's Convention, then in session at Woodstock, and gave a couple of very valuable talks on the breeding, feeding and rearing of swine, which were very much appreciated by those who had the privilege of hearing them. He is considered to be one of the best authorities on the subject of swine on this continent, and Canadian breeders will appreciate the following from his pen on the feed and care of the boar:

"The best feed for the boar could be summed up in a few words, but the foundation for his ruin may have been laid long ere this. He may have been fed for a show pig, or pampered with a fattening food in a small pen, his owner believing that he was doing him a favor in petting him and fattening him. And notwithstanding Prof. Henry's elaborate work on "Feeds and Feeding," showing the proper foods and requirements to the great upbuilding of an animal for breeding purposes, these valuable facts have gone unheeded. There is as much advantage in knowing what not to do as what to do. I care not how carefully the boar is fed, exercise must go hand in hand with feeding, and neither farmer nor breeder will ever meet with full success unless he has a roomy yard or pasture for his boar, with proper shelter connected therewith. Too often he is in a small enclosure with a neglected pen, when a half hour's work with rake and shovel each week would clean out and put in good healthy shape his surroundings, and aid in building up a strong, healthy, vigorous animal. He is entitled to this attention as he is one-half the herd. Too often, again, he never sees a handful of green stuff from garden or field, or a pumpkin or squash in the fall, or mangel or sugar beet in the winter, or mixture of fine cut clover with food the year round. His bedding will run from November to April without being disturbed until it is a fruitful source of disease, preventing healthy evaporation of the pores. Yes, feed is only one-half the battle for healthy development. No matter how well bred the young sire comes to our hands, we should be careful to retain his qualifications and build and improve them from the beginning.

Considering then that he had all the above care, and has been liberally fed on a mixed ration to this time, when his service is to be expected, the aim should be, first, to see that his bowels are regular and that his droppings are not deep black and hard, but yellow of a mush consistency. Roots, as above indicated, will furnish bulk of feed so

essential to correct this evil and better than resorting to drugs. If the main ration has consisted of flesh formers, such as circumstances would permit, milk, shorts, ground oats, peas, whole or ground as meal, oil meal and barley. When cold weather approaches we aim to give a liberal feed of corn in the ear on his floor, and why should he not have a floor to eat from? We never found it a good plan to feed him immediately after service, nor feed him a full meal just before service when knowing this to take place. Of all the hogs on the farm he should be strictly provided with charcoal, ashes and salt, as his yard offers little or nothing in line to keep digestion in natural order. And, if his feed is of more solid mixture, it is a great mistake to withhold water entirely, for fear of it freezing.

Wool—A By-Product

In many of the great sheep-raising countries during late years wool has become a kind of a by-product. In Australia, for example, some years ago the wool product was the chief incentive to sheep-farming, and because fine wools were in demand the sheep raiser bred Merinos. But a wonderful change has come over the business through the establishment of the frozen mutton trade, and to-day the Australian sheep-farmer is breeding cross-bred sheep in order to supply this trade, and the consequence is that there is an extra supply of coarse wools on the market. All the Australian wool of this kind, and which is looked upon more and more as a by-product by the producer and not as the main object of his sheep-raising, is put upon the British market with the result that there is a glut of that quality. Sheep-raisers are following along the same lines in other countries, and thus increasing the production of what are known as the cross-bred wools. To a certain extent the same thing is true of Canada. Wool dealers complain of the over-supply of coarse wools in the country, for which it is difficult to find a market.

"Big Head"

The disease in horses known as "big head" was first encountered near New York and New Jersey. It is a most insidious disease, and has baffled the most eminent practitioners to discover its origin and treatment. There is no pain or serious inconvenience to the sufferer beyond a dullness and loss of appetite. The chief symptoms are an enormous increase in size and swelling between the muzzle and eyes on the top of the face, and this is accompanied by constant scouring. The disease has the effect of rendering the bones of the animals both porous and brittle, and cases have been known in which the cannon bones have snapped when the animals have been made to move fast. Though the disease is probably contagious, the most commonly accepted theory for its prevalence is that some pollution of the land exists. Various treatments of the land have been experimented with in the hope of checking the disease, and some of these are believed to have been successful, as cases of big head have become less frequent. The epidemic is, however, still of a mysterious nature, and has baffled experts who have studied it.

Bone-Chewing Cows

The *Sydney (Australia) Stock and Station Journal* of 20th January, 1899, in its leading editorial says: "When one of our readers sent along a query some time ago as to why cows chewed bones, the question seemed quite a simple, unimportant one; but when the publication of a brief inquiry drew letters from all over the country, we began to appreciate the greatness of the question. . . . We asked Dr. Guthrie, the Government chemist, to analyse the soil from different bone chewing farms, and after having examined numerous samples of these soils, he has decided that the trouble is due to the absence of phosphate."

This matter has been explained through the columns of *FARMING* by Mr. Wallace as due to the same cause. The trouble is more prevalent among dairy cows than other stock, because such a large bulk of the saline properties of cows' milk consists of phosphate. Dr. Guthrie gives the same receipt for immediate relief as Mr. Wallace does, viz, bone ash (phosphate) and salt mixed with the cows' food, but the salt will not avail without the phosphate, as it only makes the bone stuff more digestible. The only permanent and proper manner of correcting the evil is to phosphate the land for the crops to be fed to the cattle. To prove this—phosphate a piece of grass, and note how the cattle will work on that part of the pasture.

CORRESPONDENCE

Shorthorn Importations.

To the Editor of *FARMING*:

I notice in the last issue of *FARMING* an article headed British Shorthorn Importations, based upon Thornton's circular. That circular is a long way astray in regard to the number of Shorthorns imported into Canada. It claims that there were none imported into Canada for some years until last season, and also that there were only 27 head imported to Canada in 1898, and they were brought out by H. Cargill & Son and Arthur Johnston, Greenwood. In December, 1897, I imported 14 head and also in the fall of 1898 I imported 30 head, all Shorthorns. Mr. Cochrane, of Compton, Que., also imported 10 head and Mr. Crerar 3 or 4 in 1898. I have now 23 head in quarantine at Quebec at the present time.

JOHN ISAAC.

Markham, April 29th, 1899.

NOTE.—Mr. Isaac is evidently laboring under a misapprehension in regard to the article in question. The figures given there and which were taken from the circular referred to were only for the three months ending December 31st last, and not for the whole year of 1898. No doubt if Thornton's circulars for the other quarters of the year were examined the importations Mr. Isaac refers to would be mentioned. We are glad, however, to have his letter in regard to the matter, which gives additional evidence as to the increased importations of Shorthorns into Canada.—EDITOR.



Cheese and Butter Factory at Bright, Ont.

The Farm Home

Domestic Science in Rural Schools

To the Editor of FARMING.

The teaching of domestic science is a subject so near my heart I cannot help letting you know how pleased I am with what I have just read in today's (April 25) FARMING. I have long been an admirer of the German system of schools, and what is just mentioned comes so near a reform in our schools. I may say for every busy farmer's wife in our land hasten the day for such teaching, and would be almost selfish enough to say country first and then city. Do you not think the country suffers most from lack of domestic science? Plain food properly cooked should constitute the main living of the farmer, but in how many homes one finds poorly baked, sour bread, and that one item alone is food for that plague of our land—consumption.

We are all delighted with FARMING. This week's number is worth \$1.00 to any farmer, the suggestions on gardening and other valuable hints for spring work are invaluable. Please correct mistakes, and believe me your constant admirer,

OLD SUBSCRIBER.

Powassan, April 27th, 1899.

[NOTE.—We would be pleased if "Old Subscriber" would send us an outline of the German system for publication in this department.—ED.]

Education in the Home.

Family Alliances Should be Formed
Against Ignorance of the Three
R's.

"When one finishes school or college one is only beginning to learn, and what better post-graduate courses could one have than the practical application of ideas through the medium of friends and family?" inquires Frances Evans in the *May Ladies' Home Journal*. "As far as education is concerned the best family friend is the dictionary. When you see some one in a family consulting the dictionary whenever a doubtful word or phrase comes up in the course of conversation you will find the members intelligent people as far as facts can educate. We may not be able to aid each other in the 'higher education' of philosophy, science and ethics, but one thing is certain: we can form family alliances against ignorance of the three R's as well as geography, spelling and good English. Slang has its uses, no doubt, but if American parents do not give some heed to the English talked by their children at home, Americans a hundred years hence will have absolutely forgotten their mother tongue."

Flowers on the Farm.

Farm life may often be made more attractive by the use of taste in growing flowers and shrubs around the house.

Nothing adds more to the beauty of a lawn in summer than a few growing plants. They do not require a great deal of time, but they return tenfold for all labor expended upon them. They speak volumes for the taste and goodness of heart of those who rear them. We have all passed by many places where the only ornament about the house was a long row of weeds or unsightly bushes along the dooryard fence, sure refuge for worms and insects of various kinds. Why not cut these out and put in their stead a few flowers. We must learn to do all we can to make the home attractive if we would keep our boys and girls on the farm, and flowers will go a good ways towards doing this. For the money and time expended upon them, nothing will return a greater reward than flowers.

Everyday Recipes.

JUNKET.—To one quart of lukewarm sweet milk add sugar to taste and flavor with lemon, vanilla or nutmeg; dissolve one of Hansen's Junket tablets or some rennet in a tablespoonful of cold water and stir it in the milk quickly. Let it stand in a warm room for half an hour until it is firm, then set in a cool place until served. The result is a wholesome and easily prepared dessert. The Junket tablets can be bought for a mere trifle, or a like result can be obtained by using a piece of rennet.

THICKENED MILK.—Take one pint of milk, one tablespoon flour stirred smooth in a little cold milk, add salt and teaspoon sugar, pour into the milk when it boils. A piece of stick cinnamon boiled in with the milk improves the flavor for those who like it.

FARINA BLANC MANGE.—Mix five tablespoons of farina in a little cold water, add a pinch of salt, and stir it into one quart of boiling milk; boil ten to fifteen minutes, and turn into a wet mold.

RICE PUDDING.—Soak one-half cup of rice in milk till soft, then add four cups milk, a pinch of salt, and two tablespoons sugar; put in the oven and bake very slowly for two hours; it should be of the consistency of jelly when done. The secret of success with this pudding is to bake very slowly, and bake a long time. A cup of seeded raisins is a great improvement if added when it is put in the oven. Thick sweet cream is the best sauce for it, or sugar and cream mixed. Sago and tapioca puddings made in the same way, but without raisins, are delicious.

HAM SALAD.—Take the lean part of six pounds of cold, boiled ham, chop fine, cut up two bunches of celery; mix up one cup of olive oil, half a pint of vinegar, the yolks of nine hard-boiled eggs, one gill of mustard, one teaspoonful each of pepper, salt and white sugar; pour over the ham just before serving.

CABBAGE PUDDING.—Boil a head of cabbage until tender, chop, add four eggs, one cup of bread crumbs, one teacup of melted butter, and milk to thin; season with pepper and salt; bake in a deep dish.

SPICED CORN BEEF.—After using corned beef for dinner, while warm chop the fat and lean together, not very fine, but so they may be well mixed; then stir in enough made mustard or French mustard to spice sufficiently, and place it in an open pan that will take in an inverted plate on the top. It may be sliced when cold.

MEAT BALLS WITH TOMATO DRESSING.—Two pounds of the upper part of the round chopped fine, half a pint of salt pork chopped. Mix with tomato catsup and make into balls and fry slowly in butter. When browned on both sides add a sauce made of one-half can tomatoes and a tablespoonful of flour mixed smooth in water, and salt to taste. Simmer the meat in the sauce until done.

Mrs. Wilson's Celebrated Cake.

A celebrated cake maker, Mrs. Wilson, of Nashville, Tenn., who has sent bride's cakes and Christmas cakes to London and Paris, as well as all over the United States, gives some valuable suggestions on the art of cake making: "First, I always use the best of everything. I buy my eggs direct from the farmer; my butter is fresh and carefully washed and kept on ice until I want it, and flour, sugar, nuts, flavoring, whatever I use in fact, has to be as good as can be found. I find a dash of brandy, just as the cake goes to the oven, helps to make it light and also to bake more evenly. My cakes are mixed in various ways according to the sort I am making. The eggs are always very cold when broken and whipped light in a cool place. I sift my flour two or three times until it is like light snow. My idea of cake and icing is that they should never be sticky or clammy, yet always soft enough to be eaten with a spoon."

In cake making one should give as much attention to baking as mixing. After you place the cake in the oven do not open the door for at least fifteen minutes, and then do so very cautiously; a slam has caused the fall of many a promising cake. Then, too, never let a cake stand after it is mixed; the oven should always be ready for baking before mixing the cake.

Keep the Kitchen Clean.

Here is a recipe that should be cut out and pasted in one corner of the kitchen, where it can be seen, for it will save many dollars' worth of time and strength. Shave five cakes of good, hard soap into just enough boiling water to dissolve them nicely. Stir constantly until the soap is dissolved, then add two tablespoons of powdered borax, and a scant teacup of kerosene. Remove the mixture from the stove before adding the kerosene. Stir it well, then pour it into a covered stone jar, and use it whenever anything very dirty, either cloth, tinware, woodwork, or iron utensils, is to be cleaned. Apply a little to the outside of your teakettle, while it is hot, using a flannel cloth for the purpose, and see how quickly you can clean it, and how bright it will be. Use a little, also, when cleaning your windows, and you will never again regard that task as something to be put off as long as possible. For cleaning sinks, wash-basins, and slop-jars there is nothing that can equal it, and by its use the dish towels can be kept nice and white without rubbing. Put them into a pan of cold water, add enough of the compound to form a good suds, and let them come slowly to a boil. Let them boil until they are sufficiently clean, then rinse them and hang them out. Such work will almost do itself, while one is attending to other duties, and the task of keeping clean is thus robbed of more than one-half its terrors.

How to Choose Beef.

The grain of ox beef is loose, the meat red, and the fat inclining to yellow. Cow beef, on the contrary, has a looser grain, a whiter fat, and meat scarcely as red as that of ox beef. Inferior beef, which is meat obtained from ill-fed animals or from those which have become too old for food, may be known by a hard, skinny fat, a dark-red lean, and, in old animals, a line of horny texture running through the most of the ribs. When meat pressed by the finger rises up quickly, it may be considered that of an animal in its prime; on the other hand, if the dent returns slowly, or remains visible, the animal has passed its prime, and the meat consequently must be of inferior quality. Veal should be delicately white, though it is often juicy and well-flavored when rather dark in color.

A Harmless Shoe Varnish.

Nearly all, if not all, varnishes used on shoes harden the leather. To remedy this, rub the leather with sweet oil, or any good, suitable oil. An excellent home-made shoe polish is made as follows: Mix three ounces of ivory-black, two ounces of treacle, one ounce of sulphuric acid, and one ounce of gum arabic; dissolve it in a little water, just enough to make it a liquid. Add a tablespoonful of sweet oil and a pint of vinegar. This makes a liquid polish. Half a pint of vinegar makes a paste. Put the blacking or

liquid in a wide-mouthed bottle, and apply it with a piece of sponge stuck on the end of a heavy wire attached to the cork. Oil shoes well in winter to prevent dampness penetrating the leather. Calfskin made with the outside of the leather on the outside of the shoes, if kept well oiled, is nearly as damp-proof as india-rubber. Such shoes, however, should not be worn over carpets, as they wear them out, and leave behind the tracks of mud.

The Way to Fold a Coat.

To fold a man's coat, lay it out perfectly flat with the wrong side down; the sleeve should be spread out smoothly, and then folded back to the elbow until each end of the sleeve is even with the collar. Fold the revers back and then double the coat over, folding it directly in the centre seam and smoothing it out carefully so that there may be no wrinkles. The coat is then ready to place in the trunk or on the closet shelf. Unless space is limited, do not turn up the tails when folding a coat.

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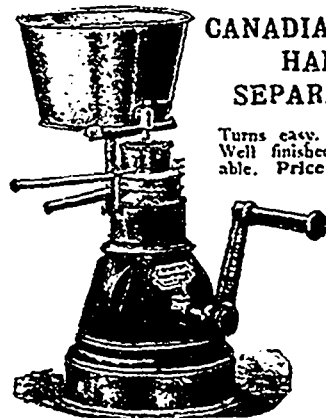


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Brushing Improves the Hair.

The very best brushes should always be chosen, and at the very least one hundred strokes a day should be vigorously administered. The bristles of the brush should not be so hard as to drag the hair out in case of a tangle obstructing their course. Nor should they be yielding. It is useless to brush the hair unless the skin of the head be brushed as well. The friction stimulates it and makes the hair grow. Brushing the hair with slow and languid strokes is simply useless. Vigor and intention are necessary to produce a really good effect and induce the bright, healthy gloss that hair should have.

When a Woman Faints.

To care for a person who has fainted, lay the person down, keep the head low, loosen the clothing, give plenty of fresh air and dash cold water in the face. Smelling salts and stimulants should only be used when consciousness has returned.

English Household Donts.

Don't put border on carpets for small rooms.

Don't be chary of rich, warm tints in northern rooms.

Don't hang chandeliers or lamps in low-ceiled rooms.

Don't buy what suits the fancy, regardless of the combined effects.

Don't select anything because it is fashionable, but because it is good.

Don't have any apparent, much less any regular, arrangement of furniture.

Don't believe for a minute that expensiveness is essential to beautiful effects.

Don't make the table a pivotal point from which the rest of the furniture radiates.

Don't make a narrow door narrower with a heavy drapery. We drape too much.

Don't have any fanciful, fixed arrangement of window draperies in rooms in daily use.

Don't use decided patterns for upholstery if you have done so for wall and floor coverings.

Culture is Best Acquired at Home.

There is a mistaken idea of culture prevalent. Culture does not mean merely committing to memory a great number of facts out of text books, but it does mean a careful and thoughtful assimilation of every bit of knowledge that comes our way for the purpose of making ourselves more intelligent, more noble, more helpful human beings, and where can be found a better school for the development of these attributes than in a wisely and properly conducted home? — *May Ladies' Home Journal.*

PUREBRED POULTRY

FREE
TO FARMING READERS

There is money for every farmer and farmer's son in raising purebred poultry. Every condition requisite to the successful breeding, feeding, selection and fitting of the fowl is present on the farm. Utility breeds are all right and are best for the farmer for all general purposes. But there is a rich profit in raising the fancy breeds as well, and who is so well equipped for this business as the farmer? Sales of poultry have been made this year which have netted the breeders larger profits than have been made on any other kind or variety of stock. Mr. J. W. Shaw, of Brooklyn, Mass., sold in one shipment nine birds for \$400, and Mr. A. C. Hawkins, of Lancaster, in the same State, has reported the sale of eleven Wyandottes for the same figure. The possibilities are great if a start is made in the right way with the right kind of stock. We offer anyone willing to devote a few hours each week to securing subscriptions for FARMING—an opportunity which should not be neglected. This applies to the youths and young men particularly. There will be no difficulty in getting the required number of subscribers. Write at once and secure an outfit. When it is received select the varieties of poultry you think will prove most profitable and go to work with a determination to succeed. Your friends and acquaintances will help you. An outfit will be furnished entirely free to any FARMING subscriber. The following is a list of our premiums:

PAIRS FROM PRIZE-WINNING STRAINS.

For five new yearly subscriptions at \$1 each we will send, carriage paid, to any railway station in Ontario, a choice of one pair from either of the following varieties:

One Pair of Brown Leghorns—regular price...	\$5 00
One Pair of B. Langshans	5 00
“ “ Barred Plymouth Rocks.....	6 00
One Pair of S. L. Wyandottes.....	5 00
One Pair of Blk. Minorcas	5 00
“ “ S. G. Dorkings	5 00

PEKIN AND ROUEN DUCKS

For two new yearly subscriptions, as above, we will send one setting of eleven eggs.

EGGS FOR HATCHING

For two new yearly subscriptions at \$1 each we will send free, carriage or express paid, one setting of thirteen eggs from any one of the following varieties of purebred prize-winning stock; regular price \$2 per setting: S. G. Dorkings, B. Langshans, S. L. Wyandottes, Black Minorcas, Barred and Snow White Plymouth Rocks, Buff Leghorns, Single or Rose Comb White or Brown Leghorns, B. Cochins, Cornish, Black, Red or Pit Games, S. Spangled and Golden Pencilled Hamburgs, or Silver, Golden, and W. C. B. Polands.

BRONZE TURKEYS

For six new yearly subscriptions, as above, we will send one setting of nine eggs.

THESE ARE ALL FROM THE BEST STOCK OBTAINABLE
AND ARE GUARANTEED BY THE BREEDERS
TO GIVE GOOD SATISFACTION

For Outfit and Complete Instructions address

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Questions and Answers.

Rations for Growing Pigs.

To the Editor of FARMING:

Please answer the following: The price of bran and shorts being very high and low grade flour comparatively cheap, would cut clover hay scalded and mixed with flour be a good mixture to bring pigs up to 100 or 125 lb. on? Would oat hulls or oat dust make a better mixture than clover? D.

As to the value of cut clover hay for growing pigs there can be little doubt. In last week's issue Frank Wallis, a competent English authority on feeding problems, states that growing pigs of from three to five months old should have a ration with a nutritive ratio of one to five and from five to six months old one with a nutritive ratio of 1 to 5.5. Prof. Henry, in "Feeds and Feeding", gives the nutritive ratio of red clover hay as 1 to 5.8, which would be about what would be required for growing pigs. Low grade flour has a nutritive ratio of nearly 1 to 8, so that the adding of the low-grade flour to the clover would give a "wider" ration than that required. If a little bran or oil meal were added a mixture of red clover hay and low-grade flour should give fairly good results when fed to growing pigs.

If dark feeding flour could be secured, and, which has a nutritive ratio of about 1 to 5, a mixture of this with the cut clover would form a good ration without anything added, and would be superior to the low grade flour. The dark feeding flour is the lowest grade of flour and usually contains the germs of the wheat grain, and because of this is rich in protein and fat. This flour fed alone has a high feeding value for growing pigs.

Oat hulls have not much feeding value, but oat dust would do very well to mix with the clover, as it has about the same nutritive ratio.

How Long Should a Bull be Kept?

The famous Jersey bull, Ike Felch, was kept until he was thirteen years old. The editor of this paper bought one of his last daughters, Queen Felch, when a calf five months old. She proved to be the finest cow, in many respects, we ever owned. Her descendants all partake of the wonderful potency of the old bull. We have no such horror of inbreeding as many evince. In a registered herd we would keep a bull until he had shown in his daughters his quality or potentiality of breeding. Then if he proved what we wanted we would breed him to all of his daughters that showed strength of constitution. When his granddaughters came to breeding age we would select a sire for them of the same family as their father, but removed a generation or two, thus keeping our breeding in line. We would still retain the original bull as long as he proved useful, breeding him to his

Lump Jaw

If once gains a foothold in your herd will in all probability carry off from ten to twelve per cent.

MITCHELL'S ANTI-LUMP JAW

has proved by its effective work that a bottle of it should be in every cattle raiser's hands.

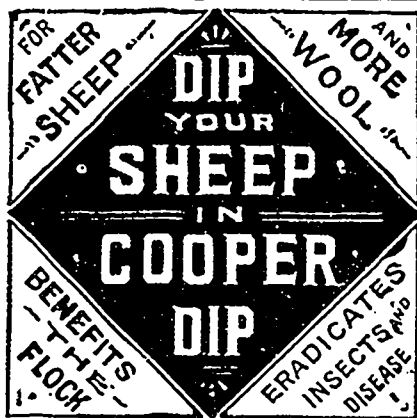
WE ABSOLUTELY GUARANTEE TO CURE ALL CASES.

If it fails we return your money. Endorsed by Canada's leading cattle exporters, Gordon, Ironside & Fares, Montreal and Winnipeg.

Price \$2.00, Postpaid to any address.

FREE—Treatise on Lump Jaw and booklet of Testimonials sent on request.

W. J. Mitchell & Co.,
CHEMISTS,
Prince Albert, N.W.T.
Winnipeg, Man.



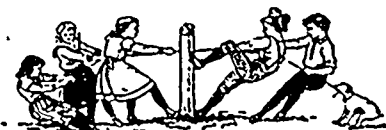
Used and endorsed by Hon. John Dryden, Minister of Agriculture, Toronto, and leading breeders everywhere.

SUPERIOR TO ALL LIQUID DIPS

25-Gal. Packet, 50c.; 100-Gal., \$2.00
If druggists cannot supply, send \$1.75 for 100-gallon packet to Evans & Sons, Montreal Toronto.

Book premiums on application to COOPER DIP, Galveston, Texas.

Testing the Farmers' Company's Make of Pure Manila Twine



The Farmers' Binder Twine Co., LIMITED

OF BRANTFORD, sold you last year their entire mill's output at about half what others were charging. See their agents before buying for the harvest of 1899. d-6-20

The Finch Wood Preservative and Paint Company

34 to 36 Atlantic Ave., Toronto, Ont.

MANUFACTURERS OF THE

CHEAPEST PAINT ON EARTH

For farmers' use—for Barns, Shingle Roofs (old or new) where cheapness and durability are desirable. Used and highly recommended by the Councils of Toronto and Montreal, Toronto Board of Education, the Industrial Exhibition and the Ontario Government. Write for Circulars. Agents wanted. d-5-23

D. G. HANMER & SONS MOUNT VERNON, ONT.

Importers and Breeders of PURE-BRED.....

Shropshire Sheep

Offer for sale 60 head choice Shearling Rams; also 15 Shearling Ewes and 20 Shearling Rams, which are now being fitted for coming fairs. Expect to leave for England last week in May to select ewes and stock rams to increase present flock. Orders for all kinds of stock will be executed for intending purchasers at a moderate commission. Will attend the Royal Show

Address—

D. G. HANMER & SONS

16-5 MOUNT VERNON, ONT.

BINDER TWINE

FARMERS'

PURE MANILA, 650 FT. TO LB.
SPECIAL MANILLA,
TIGER, STANDARD.

Farmers! Don't be taken in. There is none "just as good." These twines will not bunch at the knotter, and a Binder will run all day without stoppage, thus saving time, annoyance and a "lot o' cussin'."

We pack our twine in bags of the size of ordinary grain bags, and we are not ashamed to put our name upon it. Don't take any other.

CONSUMERS' CORDAGE CO. LIMITED, MONTREAL.

daughters as before stated, but not to his granddaughters. The final effect of such a policy is to intensify and increase in the females the power and potency of the blood of the sire. Then when it comes to unite with that of another bull in the same line we have, as a rule, a stronger answer in dairy quality, and no loss in dairy constitution and power.

In a business herd of natives, with a registered sire at the head, we would by all means pursue the same plan. In this way we greatly increase the percentage of heifer calves that make good, profitable cows.

A three-fourths inbred heifer, carrying in her a double portion of the blood of her sire, will respond in type and form and performance, when bred to a sire of the same breed, nearly as close as a registered heifer.

We should understand that in dairy qualities, as in speed qualities in race-horses, there is a constant need of concentration. The natural trend is variation and diffusion. This we must guard against.

One thing is absolutely essential, use no sire in the way we have indicated that has not proved himself the getter of cows of high dairy power.—*Hoard's Dairyman.*

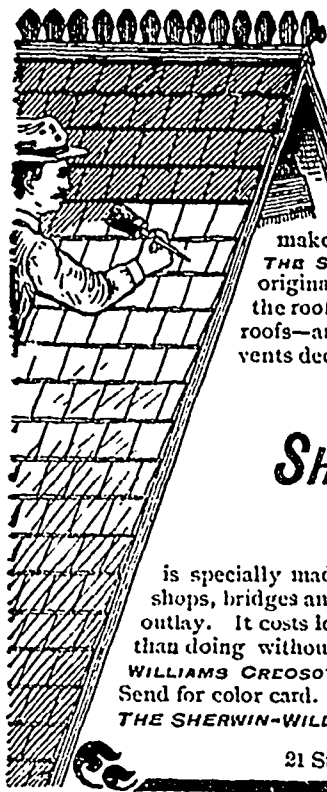
"Will you have some of the sugared ham?" asked the landlady, "What was it cured of?" asked the new boarder suspiciously.

"How do you pronounce the last syllable of that word butterine?" asked the customer. "The last syllable is silent," stiffly replied the tradesman.

Potato Culture.

The Cornell Experiment Station made some studies on potato culture last season, and a recent bulletin says: To explain the uniformly high yield we must then make a study of the treatment which all plats have received. It is probable that frequent and deep plowing has done much to bring and keep the land productive. The land has been turned from two to three times each year, and the pulverizing which has resulted therefrom has liberated sufficient plant food to mature large crops. In addition to the plowing the land has been frequently harrowed and cultivated and the intensive culture which has been given has liberated all the plant food that could be used by the growing crops with the amount of moisture that was present. Seeds should not be cut for any considerable time before planting. If it becomes necessary to delay planting for some considerable time after potatoes are cut the cut pieces should be dusted with plaster and spread out in a moderately moist, cool place. At least they should not be allowed to become dry.

If planting is done very early in the spring the ridges may be permitted to remain ten days or two weeks before



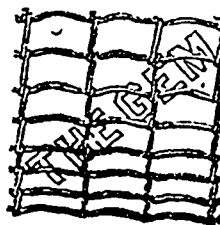
Before the Roof Leaks

make it water-proof and save it from decay with **THE SHERWIN-WILLIAMS CREOSOTE PAINT**, the original creosote paint. It will cost less than to let the roof go and repair the leaks. Use it on shingle roofs—any kind of wooden roofs. Creosote prevents decay.

THE SHERWIN-WILLIAMS CREOSOTE PAINTS

is specially made for use on roofs, barns, out-buildings, shops, bridges and fences. It preserves them at the smallest outlay. It costs less than ordinary paints. It is far cheaper than doing without any paint. Be sure it's **THE SHERWIN-WILLIAMS CREOSOTE PAINT**. The label is your safeguard. Send for color card.

THE SHERWIN-WILLIAMS CO., PAINT AND COLOR MAKERS,
Canadian Dept.,
21 St. Antoine Street, Montreal



FENCE MACHINE

Still at the front!
Not only the cheapest, but fastest and best.
Price \$5 00.

Highest grade WIRE

Coiled and other for sale. Write for particulars. Agents Wanted
McGregor, Banwell & Co., Windsor, Ont

1-31

BIG MONEY FOR AGENTS

THE STAR RIVETER



For MENDING HARNESS, BELTING, etc. Indispensable to Farmers, Livestock men and Threshermen. **STAR RIVETER** complete with 50 rivets \$1.00. Best selling article ever introduced. Agents write for special prices and territory.

ENTERPRISE MAN'G CO., - TORONTO, ONT.

To Dairymen of Manitoba and N. W. T. Districts:

We beg to call your attention to our having opened a Branch of our business at Winnipeg, where we will carry a complete line of all articles required in the manufacturing of Butter and Cheese, for either Creamery or Dairy, and at such prices as will enable you to save money.

Heading lists of goods stands the full line of "De Laval," "Alpha" Power and Hand Separators, which are to-day conceded by our leading Experiment Stations and Dairy Schools, as well as advanced Creamery and Dairymen, to be the best cream separators on the market to-day, and other goods of the same standard of merit, which will appeal to all dairymen as worthy of their consideration before purchasing elsewhere.

Our object in opening this branch is to be near the dairymen of Manitoba and the N.W.T., so as to better serve those who have favored us with their patronage in the past, either direct or through local agents, and to acquaint ourselves with new customers. All of which will result to our mutual interest.

The users of any style of "De Laval" separators, who are not fully posted on operating same to best advantage, or those desiring any more information on the Separator question, we shall be pleased to hear from, assuring them that such enquiries will have prompt and satisfactory attention. Any who contemplate the purchase of a cream separator this spring, we should be pleased to hear from, so as to send them reading matter that will prove of much interest and benefit, giving experience of dairy authorities on cream separators, showing first cost is not the only consideration in a separator purchase. If what facts we produce are not convincing enough to any intending buyer that the "De Laval" "Alpha" Separators are the best, we will be pleased to place one of such separators in any dairy on a 15 or 30 days' trial, against any cheap infringing separator, to prove by practical results that the "DE LAVAL" is not only the Best but also the Cheapest. Let us hear from those in any way interested.

For further information or particulars, address

THE CANADIAN DAIRY SUPPLY CO.,
236 King St., Winnipeg, Man.

We want local agents in every Dairy District.

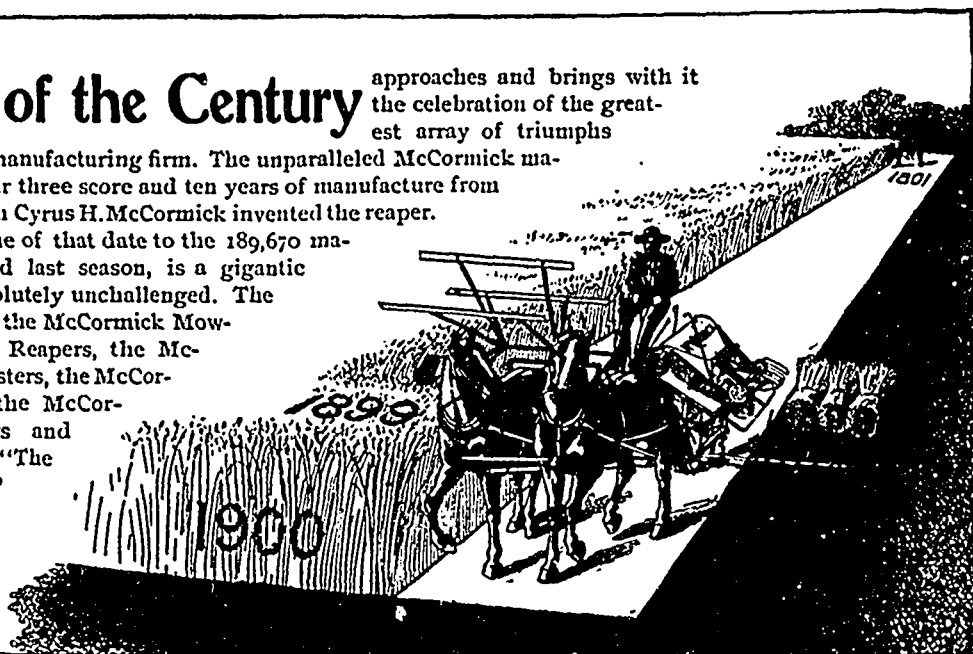
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The End of the Century

ever credited to one manufacturing firm. The unparalleled McCormick machines will reach their three score and ten years of manufacture from 1831, the year in which Cyrus H. McCormick invented the reaper.

From the one machine of that date to the 189,670 machines built and sold last season, is a gigantic growth of output absolutely unchallenged. The McCormick Binders, the McCormick Mowers, the McCormick Reapers, the McCormick Corn Harvesters, the McCormick Hay Rakes, the McCormick Corn Huskers and Fodder Shredders are "The Best in The World."

**McCormick
Harvesting Machine
Company,
Chicago.**



approaches and brings with it the celebration of the greatest array of triumphs

harrowing down. If planting is done somewhat late the ridges should be harrowed within a week after planting. In the case of early planting there is usually enough moisture present so that the ridging may temporarily prove a benefit by enabling the soil to become warm. In the case of late planting all the moisture should be conserved, and this is best done by leveling the ridges. Where the soil is naturally too wet the ridges may be beneficial in that they hasten evaporation and the consequent drying of the soil.

Feeding for Wool.

If wool of good quality and large quantity is always to be obtained, it will not do any better to feed sheep improperly than horses, cows, swine, or other farm animals. Indeed, any irregularity in this line is noticeable in the wool most speedily. If anyone doubts this statement let him view a flock of sheep, in winter, which are well fed with hay, grain, beans and oilcake, and then again in spring, when these supplementary foods have been too quickly taken away, as alas! they often are. He will see a decided "falling off" in the wool, its length seeming to "retrograde" instead of making any forward progress, and every "hair" being as "limpsy as a rag." The fact is, if a sheep's ration is cut down much, if any, or if the food given is not sufficiently nutritive, the wool may preserve its fineness, acquire a certain length, and all that, but its resistance will fail and it will be deprived of grease, thereby rendering it weak, harsh to the touch, and dry as flax.

The feeder must learn not to overstep in any way the bounds of propriety set aside for him by dame nature. For example, too much and too rich food should not be urged onto "the plate" of short-wooled sheep; in that it will make the wool too long; on the other hand, however, this inconvenience is rarely if ever to be

BUTTER WRAPPERS,

GENUINE VEGETABLE PARCHMENT, made to our order in Germany, especially for the Canadian market, and its purity and sanitary qualities are guaranteed. It is very strong, has a nice, silky finish, fine fibre, and will not taint the butter like cheap imitations. Highest testimonials from dairymen all over Canada. We sell these butter wrappers, 7½ x 11 inches, cheaper than any house in Canada, and large dealers who have wrappers printed should get our samples and quotations. Free Samples sent anywhere. Address,

THE SENTINEL-REVIEW
WOODSTOCK, ONT.

imports Genuine VEGETABLE PARCHMENT for butter wrappers. It is the largest house in Canada selling and printing butter wrappers. This paper is not an imitation. It is the

SENTINEL-REVIEW,
WOODSTOCK, ONT.

To the Farmers of this Canada of Ours....

WE heartily thank you for the liberal and increased patronage which has made the past year a record-breaker in our business. Remember, we do not class our

Queenston Cement

with the Water-Limes and Hydraulic Cements now on the market, but guarantee it equal to the Imported or Domestic Portlands for all farm structures, such as Basement Walls for Stables, House or Cellar Walls, Cisterns, Hog Pens, Poultry Houses, and for all kinds of Stabling.

Kindly investigate our System of Ventilation. This system is fully covered by letters patent, but to our patrons we make no charge.

Write for our New Pamphlet for 1899, containing valuable information, prices, etc.

Isaac Usher & Son, Queenston, Ont.

feared in the long-wooled varieties. It is a point well worthy of remembrance that all foods which promote perspiration produce a finer wool; in other words, foods which include the largest amount of nutritive matter in the smallest compass are generally the ones to be sought after most.

An excellent demonstration of the effect of different foods may be obtained in the following manner: Take two sheep of the same breed and covered with the same wool; feed one for fattening and the other for wool and breeding purposes, giving each equal chances in the lines intended, and marked indeed will be the variation in the variety of the wool from the first shearings. That from the fattened sheep will be longer than the other, but otherwise not near so good; it will be coarser and its elasticity less because the unfattened sheep will have preserved all the original qualities of its fleece. At the second, third and fourth shearings these points will be more and more noticeable. Consequently, if this difference in the diet be continued up, say, to the third generation, no one short of an expert can tell—and even he might be puzzled—that the offspring had come from the same stock. Such, at least, were the results where these experiments were conducted.—*Fred O. Sibley, in Ohio Farmer.*

Provincial Spraying Experiments.

The experiments in spraying for this season, conducted by W. M. Orr, Fruitland, Ont., superintendent, began on April 25th for the Eastern division and on April 26th for the Western division. This is the first application for 1899.

MESSRS. GEO. BENNETT & PARDO, of Charing Cross, Ont., have recently erected a modern hog pen, some particulars of which will be of interest. The pen is 30 x 50 feet, the walls being of solid concrete twelve inches in thickness, eight feet in height, with six feet of a frame on top for storing feed and crating hogs for shipping. This building has been a great source of satisfaction during the winter. Sows have farrowed in it when the thermometer indicated a temperature of 17° below zero without being affected in the slightest degree by the cold. The hogs have grown better and taken less feed than ever before, and as many as seventy can be comfortably housed in the pen. We hope to give an illustration of the building in a subsequent issue.

Publishers' Desk.

The disowning of lambs after dipping is a serious drawback to dips of a strong smelling nature. The Cooper Sheep Dip is not open to this objection because it is odorless. It is the same color as the wool and therefore preserves its natural appearance.

Prosperity.—Greater prosperity among the farmers is the mission of the McCormick. Speed at harvest time is all important. Prompt saving of crops means money in the farmer's pocket. Delay means loss, speed means profit. Buy the McCormick and you will get your full money's worth. McCormick sets the standard in binders, mowers, reapers, corn harvesters, rakes and shredders.

THE FARMER'S BEST FRIENDS

Good Horses and Good Fences.

Any sound horse is a good horse, but there is only one absolutely satisfactory fence—

THE AMERICAN FIELD FENCE.

Made of large, strong wires, absolutely immovable, thoroughly galvanized and nicely woven.

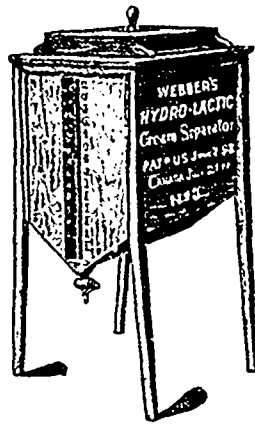
A Genuine Money Saving Fence.

Sold by dealers everywhere. If you can't find it, write direct to us for catalogue.

AMERICAN STEEL AND WIRE CO.,
CHICAGO and NEW YORK.



Webber's Hydro-Lactic Cream Separator



Combines

SIMPLICITY OF OPERATION
ECONOMY OF TIME AND LABOR
THOROUGHNESS OF WORK
DURABILITY AND CHEAPNESS

It is the happy medium between the old-fashioned methods of cream-raising and the modern expensive centrifugal separator.

Every farmer with two or more cows should have one.

PRICES, \$7.00 to \$14.00

(According to size)

Above Prices not applicable to Manitoba and the N. W. Territories.

Write for descriptive circulars. Agents wanted

J. F. GILL & CO.

NIAGARA FALLS, ONT.

Agents Wanted

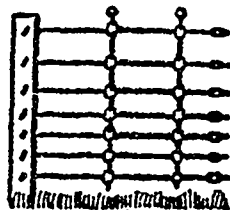
We want a special representative in every township. Write for terms and full information to

FARMING

CONFEDERATION LIFE BUILDING, TORONTO.

Fence Machine Free

With 100 Rods. Gold Stem-Wind Watch Free.



To introduce Diamond Grip Fences in new localities. Don't have to wind wires around each other (like old woven fences), as cross wires are gripped and protected from weather; can never slip or break; 5 times as strong and lasts 10 times as long, as any woven wire fence made; can use coiled spring, plain, twisted or barb wire. Cheapest Fence in end that was ever invented. Agents wanted; write quick to



CANADA FENCE CO., London, Ont.

Binder Twine

Agents Wanted. Ontario Binder Twine Co., 124 Front St. West, Toronto, Ont.

SALT

WE ARE GOING TO HAVE A LATE SPRING

This means a press of work and backward crops. Nothing brings on any crop quicker, causing plump, full, early-ripening grain, with the straw strong and bright, than a liberal dressing of salt. Sow 300 to 400 lbs. per acre as a top dressing. Try it and be convinced. Send for prices.

R. & J. RANSFORD

CLINTON, ONT.

The Ontario Agricultural Gazette

The Official Bulletin of the Dominion Cattle, Sheep, and Swine Breeders' Associations, and of the Farmers' Institute System of the Province of Ontario. No. 30.

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

Annual Membership Fees:—Cattle Breeders' \$1; Sheep Breeders', \$1; Swine Breeders', \$1.

BENEFITS OF MEMBERSHIP.

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

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

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

The name and address of each member, and the stock he has for sale, are published once a month. Over 5,000 copies of this directory are mailed monthly. Copies are sent to each Agricultural College and each Experiment Station in Canada and the United States, also to prominent breeders and probable buyers resident in Canada, the United States and elsewhere.

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

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

F. W. HODSON, Secretary,
Parliament Buildings, Toronto, Ont.

The next list of stock for sale will be published in THE ONTARIO AGRICULTURAL GAZETTE on May 16th. In order to ensure insertion lists should be received by the secretary not later than May 9th.

are very much pleased with the way in which they were looked after. They looked as if they had only left their own stable instead of landing from a trip of some 2,000 miles.

(Sgd.) JAMES SHARP.

Association Cars of Live Stock.

The following are copies of some letters received from buyers in Manitoba and the Northwest, who had stock included in the last carload of thoroughbred stock shipped under the auspices of the Live Stock Associations:

Rosser, Man., April 22nd, 1899.

F. W. HODSON,
Toronto.

DEAR SIR,—I am obliged to you for yours of the 8th inst., informing me of the shipment of two hogs for me from J. E. Brethour, and I am glad to inform you that same arrived in good order on the 14th, at Rosser. They must have had good care on the journey as the sow farrowed yesterday and the pigs are strong and healthy. Thanking you for the trouble you have taken in this matter.

(Sgd.) WM. G. STYLES.

Priddis, Alberta, April 21st, 1899.

F. W. HODSON,
Toronto.

DEAR SIR,—The stock shipped to me arrived on the 17th all safe and in good condition. They all looked as if they had stood the journey well and had been well-cared for.

(Sgd.) JOHN RAMSAY.

Drumrossie Ranch, Lacombe, Alta.,
April 21st, 1899

F. W. HODSON,
Toronto.

DEAR SIR,—Our stock arrived here in good time and in good shape. We

Another carload will leave on May 10th. Sufficient space has been arranged to fill half a carload in the next car, which is also expected to leave some time in May. Parties wishing to include stock in this shipment should write immediately to F. W. Hodson, Secretary of the Live Stock Associations, Parliament Buildings, Toronto.

Alphabetical List of Institutes and the Membership of Each.

Addington	66
Algoma Centre	142
Algoma East	123
Amherst Island	55
Brant North	168
Brant South	90
Brockville	149
Bruce Centre	88
Bruce North	110
Bruce South	113
Bruce West	179
Carleton	171
Cornwall	104
Dufferin	172
Dundas	250
Durham East	135
Durham West	149
Elgin East	174
Elgin West	143
Essex North	43
Essex South	212
Frontenac	92
Glengarry	220
Grenville South	103
Grey Centre	180
Grey North	244
Grey South	167
Haldimand	244
Halton	401
Hastings East	156
Hastings North	417
Hastings West	115
Huron East	277
Huron South	161
Huron West	195
Kent East	232

Kent West	100
Lambton East	181
Lambton West	278
Lanark North	359
Lanark South	105
Leeds N. & Grenville North	92
Leeds South	227
Lennox	27
Lincoln	170
Manitoulin East	44
Manitoulin West	88
Middlesex East	185
Middlesex North	353
Middlesex West	137
Monck	151
Muskoka Centre	58
Muskoka North	173
Muskoka South	58
Norfolk North	266
Norfolk South	232
Northumberland East	129
Northumberland West	82
Ontario North	233
Ontario South	233
Oxford North	134
Oxford South	211
Parry Sound East	76
Parry Sound West	91
Peel	385
Perth North	236
Perth South	191
Peterborough East	149
Peterborough West	132
Port Carling & Bala	59
Prescott	78
Prince Edward	315
Renfrew North	63
Renfrew South	110
Russell	82
St. Joseph Island	88
Simcoe Centre	92
Simcoe East	195
Simcoe South	133
Simcoe West	85
Stormont	198
Victoria East	146
Victoria West	120
Waterloo North	157
Waterloo South	448
Welland	223
Wellington Centre	103
Wellington East	183
Wellington South	169
Wellington West	112
Union	52
Wentworth North	168
Wentworth South	251
York East	126
York North	103
York West	162

15,627

Institute Meetings

The following is the average attendance at meetings, reports of which have been received since the last list published:

Ontario, North	64
Simcoe, East	53

The following is a list of the names received since the last list published:

Algoma Centre	7
Bruce South	2
Bruce West	1
Dundas	1
Elgin West	5
Grey West	6
Grey North	5
Haldimand	4

GAZETTE—Continued.

Huron East.....	2
Huron South.....	1
Manark North.....	1
Lincoln.....	1
Manitoulin West.....	10
Northumberland East.....	2
Oxford South.....	1
Ontario North.....	19
Ontario South.....	26
Peterboro' East.....	1
Simcoe South.....	2
Wentworth North.....	2
Wellington Centre.....	3
York West.....	3

SECRETARY'S REPORT.

(Continued from April 11.)

AGREEMENT WITH THE GOVERNMENT OF THE NORTHWEST TERRITORIES.

After a lengthy correspondence had passed between myself and the Government of the Northwest Territories regarding the transportation of pure-bred stock to that district at a reduced rate, it was concluded that suitable arrangements could not be made at such a distance. So great a time elapsed between writing a letter and receiving a reply that it was decided that it would either be necessary to drop the matter altogether or arrangements be made by means of personal interviews. As I was unable to go to Regina at the time the Legislature of the Northwest was in session, my assistant, Mr. Westervelt, was sent in my place; as a result the following arrangements were made.

A thoroughbred bull will be delivered from any point in Ontario to any point in the Northwest Territories for the sum of five dollars, upon the conditions hereafter named being complied with.

(1) The bull must be thoroughbred and for a *bona fide* settler in the Northwest Territories.

(2) A declaration from the breeder or seller must be signed and filed with the Deputy-Commissioner of Agriculture at Regina; this declaration must state to whom the bull was sold and give the name of the bull, and the name and number of the sire and dam.

(3) A declaration from the purchaser must be signed and filed with the Deputy Commissioner of Agriculture at Regina; this declaration must state that the buyer is a *bona fide* settler of the Northwest Territories, engaged in the business of stock breeding and the owner of or an interest in a number of breeding cows; also that the bull is for service in the herd and neither directly nor indirectly for immediate barter or sale.

(4) The sum of five dollars must be deposited with the Deputy Commissioner of Agriculture at Regina.

(5) One shipment of stock will be made up the last of April or early in May. Only stock included in this shipment will be entitled to the reduced rate.

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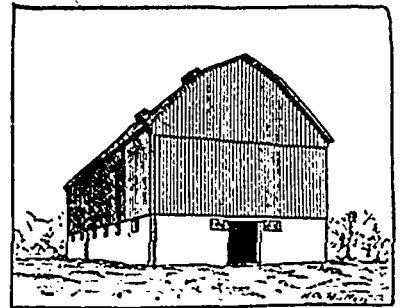
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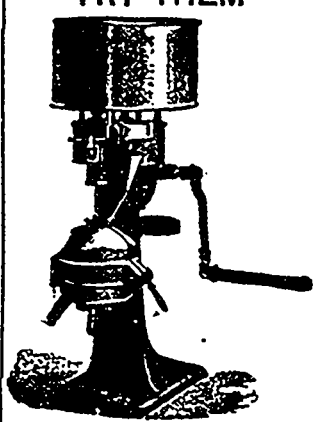
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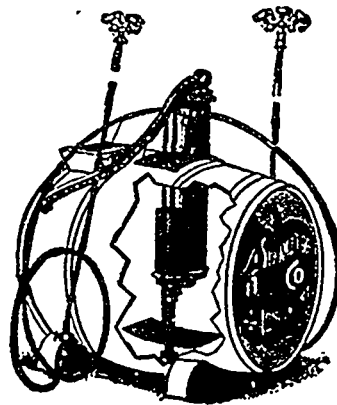
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Sixty-eight outfits are in use by the Ontario and Dominion Governments for experimental work. Adopted by six American and European Governments.

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THIS IS TO CERTIFY that at the Contest of Spraying Apparatus held at Grimsby, under the auspices of the Board of Control of the fruit experimental stations of Ontario, in which there were eleven contestants, the Spramotor, made by the Spramotor Co. of London, Ont., was awarded First Place.

Agents Wanted. H. L. HURT, H. PATTIS, Judges.

SPRAMOTOR CO., 357 Richmond St., LONDON, ONT.

Market Review and Forecast.

Office of FARMING.
Confederation Life Building,
Toronto, May 8th, 1899.

The general condition of trade has improved during the week, and there has been more business done. The warmer weather has created a larger demand for summer goods in wholesale circles, and there has been a marked improvement in country remittances, which is a good sign that more cash is circulating in the country.

Wheat.

The wheat situation continues to be an interesting one. While reports seem to indicate considerable injury to winter wheat both in Canada and the United States, it is felt in commercial circles that there is enough of last year's crop in the country and in farmer's hands to make up for any injury to the winter wheat crop. The world's total amount of wheat in sight on May 1st was 66,464,000 bushels, as compared with 63,423,000 on May 2nd, 1898. Of this amount the visible supply in Canada and the United States on May 1st was 28,144,000 bushels, as compared with 23,263,000 bushels a year ago at this time. Since July 1st, 1898, the commencement of the crop year, the aggregate exports of wheat and flour from the United States to date were 196,290,581 bushels for 1898-99, as compared with 195,952,695 bushels for 1897-98.

Nearly all the leading markets ruled steady early in the week, but towards the close were easier. At Liverpool on Friday wheat futures closed $\frac{3}{8}$ d. to $\frac{1}{2}$ d. per cental lower, and at Chicago for the same day they closed a cent lower and closed at the lowest for the season. At Montreal, though receipts have been much larger, prices have not undergone any material change, though Manitoba was easier at the end of the week. Wheat is easier here, and quotations are 68 to 69c. for red and white north and west; goose, 65 to 66c. north and west; and No. 1 Manitoba hard, 81c. at Toronto, and No. 1 northern, 77c. Prices are nominal. On the Toronto farmers' market prices are about the same as last week. To day's cable reports are slightly higher.

Oats and Barley

Canadian oats continue to meet with a good demand in Great Britain with a further slight advance in prices. On this side there seems to be a regular boom on in oats. Large sales have been made at Montreal at 36 $\frac{1}{2}$ to 37c. afloat, and the market there is strong as well as at Ontario points. It is believed that most of the farmers have sold their oats and the supply to come forward is small. This market is steady at 32 to 32 $\frac{1}{2}$ c. west, 37 to 38c. per bushel are the prices on the Toronto farmers' market.

The barley market is quiet at last week's prices. Prices range here from 40 to 43c. west. Rye is quoted here at 54c. and buckwheat is firm at 48c. north and 50c. east.

Peas and Corn.

The English markets for peas continue steady, though prices are thought to be too high for business. The Montreal market is firm as 74 $\frac{1}{2}$ to 75c. afloat, and peas bring from 65 to 66c. f.o.b. Ontario points. The market here is steady at about 65c. west in car lots. On the Toronto farmers' market peas are worth 62 $\frac{1}{2}$ c. per bushel.

American corn is quoted at 41c. afloat laid down at Montreal, and at 41 to 42c. on track here.

Bran and Shorts.

These are quiet at Montreal, where Ontario bran sells for \$15.50 to \$17, and shorts at \$18 to \$18.50 per ton. City mills here are selling bran at \$14.50, and shorts at \$15.50 f.o.b. Toronto.

Clover and Timothy Seeds.

There has been a good enquiry at Montreal for timothy, red clover and Alsike during the

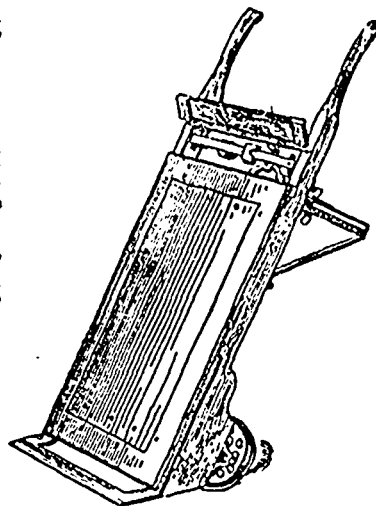
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week, and quotations are: Ontario timothy, \$1.75 to \$2, and American, \$1.25 to \$1.50; red clover, \$3.75 to \$4.50; and Alsike, \$3.50 to \$4.50 per bushel, as to quality. The market here is quiet and prices are about the same as a week ago. Millet and Hungarian seeds are quoted at 60 to 75c. per bushel in round lots. On Toronto farmers' market prices are the same as given last week.

Eggs and Poultry.

The English egg markets are dull and prices have declined 3d. per 120. The first shipment of eggs for this season was made last week from Montreal. Packers claim that prices are too high for pickling and it is doubtful if there will be much done, unless it is for the home market next winter. A year ago the most of the eggs for pickling purposes were bought at 9 to 9 $\frac{1}{2}$ c. at Montreal, while this year they cost from 11 to 11 $\frac{1}{2}$ c., which is considered too high for profit, as it is expected that prices will be lower in England this summer owing to larger receipts from Russia and the continent. Receipts have been large at Montreal and values slightly easier with still lower prices looked for. Quotations are 10 $\frac{3}{4}$ to 11 $\frac{1}{2}$ c. The market here is steady with a good demand at 11 to 12c. for fresh stock wholesale. On the farmers' market eggs fetch from 11 to 13c. per dozen.

The cheese and poultry markets are quiet. At Montreal fresh killed turkeys bring 10 to 11c.; chickens, 7 to 8c.; geese, 6c., and ducks, 8 to 9c. per lb.; 11 to 13c. per lb. for turkeys and 50 to 70c. per pair for chickens are the wholesale prices here. On the farmers' market turkeys fetch 12 to 15c. per lb. and chickens 60c. to \$1 per pair.

Potatoes.

There is still a demand at Montreal for potatoes for Ontario points. Car lots are quoted there at 70c. and jobbing lots at 77 to 80c. per bag. Cars on track are quoted here at 75 to 80c. per bag. Potatoes fetch 90c. out of store and on the Toronto farmers' market 80 to 90c. per bag.

Fruit.

The general fruit market at Montreal has been active, but apples have been quiet at \$3 to \$5 per barrel. Apples bring \$2.50 to \$4 per barrel on the Toronto farmers' market.

Hay and Straw.

The high prices of a fortnight ago at Montreal for hay have been well maintained owing to fair export enquiry and light country deliveries. Choice No. 2 has sold at country points at \$5.75 to \$6, which means \$6.75 to \$7 per ton at Montreal. The weather in England has been cold and backward, causing more feed to be needed. There is a good enquiry here for baled hay at \$7.50 to \$8.50 for cars on track and \$4.50 to \$5 for baled straw. On Toronto farmers' market timothy brings \$9 to \$11; clover, \$7 to \$8; sheaf straw, \$7, and loose straw \$4 to \$5 per ton.

Cheese.

The London and Liverpool markets are quiet and the latter easier. Stocks, however, are not heavy, but there is a feeling in the trade that supplies are ample for all requirements, and, as prices are 10s. to 12s. above what they were at this time last year, and as the new make will soon be on hand, buyers do not seem inclined to take more than they require for immediate wants. Sales of new cheese have been made at 48s. 6d. to 49s. Fine Septembers are quoted at Liverpool at 52s. to 53s. The Montreal market for new cheese is quiet but firm, with sales reported to fill cable orders at 9 $\frac{1}{2}$ to 9 $\frac{3}{4}$ c. The quality of the new make seems to be an improvement on former years. Holders of old stock are firm for 11c. There has been quite a large increase in receipts of new stock, and it is expected that as receipts get larger prices will recede, though many think differently, and are looking for higher prices.

The bulk of the factories have now begun making, and the early make will be larger than expected. Sales on the local cheese markets during the week are reported at 9 $\frac{1}{2}$ to 9 $\frac{3}{4}$ c. at the factories, though 9 $\frac{1}{2}$ to 9 $\frac{3}{4}$ c. were the ruling bids at the markets held later in the week. It is not likely that full grass cheese will be made before the middle of the month.

Butter.

The Trade Bulletin's special London cable of May 4th reads thus: "The market is weak and lower under increased supplies of the home product, which, along with liberal offerings of foreign, has caused a further decline of 2s. per cwt. At the drop, however, there is a good demand." Receipts at Montreal have been more liberal, and several cable orders for choice creamery butter are reported filled at 16 $\frac{1}{2}$ to 16 $\frac{3}{4}$ c. in boxes. Sales of jobbing lots are reported at 16 $\frac{1}{2}$ to 16 $\frac{3}{4}$ c. There is a large make going on, and the export demand appears to be setting in earlier than usual, and a good season's shipment is expected. The lower English cable does not seem to make exporters less active. Western dairy is quoted at Montreal at 12 $\frac{1}{2}$ to 14c., and fresh rolls at 12c. per lb. Creamery butter is steady here at 16 $\frac{1}{2}$ to 18c. for prints and 16 to 17c. for tubs. Receipts of large dairy rolls are liberal and the market easy at 10 to 12c. Choice dairy tubs and pound prints bring 12 to 13c. On the farmers' market pound rolls bring 14 to 17c., and large rolls 13 to 14c. per lb.

Cattle.

The cattle markets ruled steady in the early part of the week but towards the end there was an easier tendency, especially for exporters. Some exporters who generally get their supplies here are reported buying on the Chicago market. They claim that American cattle turn out better and make more money for them in England and as they can buy them for less money and get cheaper freight rates from Chicago than they can from Toronto they prefer to do busi-

ness there. This is one of the many instances where the Ontario farmer is hampered by excessive freight charges. If the extra freight charge cannot be done away with our farmers can, however, improve the quality of their cattle.

Export Cattle—These were a little lower on Friday than a week ago. Choice heavy ones brought \$4.80 to \$4.90 per cwt. A few choice picked lots brought \$3 per cwt., but the general run sold for \$4.60 to \$4.75. Heavy export bulls sold for \$3.85 to \$4.25, and light ones at \$3.40 to \$3.65 per cwt.

Butchers' Cattle—These were scarce and firm at \$4.50 to \$4.60 per cwt. for choice picked lots equal in quality to the best exporters and weighing 1,000 to 1,150 lbs each. Good butchers' cattle brought \$4.37½ to \$4.50 and medium \$4.20 to \$4.30 per cwt. Common and inferior stuff brought all the way from \$3.25 to \$3.85 per cwt.

Stockers and Feeders—It is expected the demand in the West for these will be greater when the grass is ready. Stockers were active on Friday at this market. Buffalo stockers sold all the way from \$3.75 to \$4 for common to medium, and \$4.25 to \$4.30 for choice extra bred steers. Stock heifers are worth \$3, and stock bulls \$2.50 per cwt. Heavy feeders are in good demand and prices are firm at \$4.40 to \$4.50 for well-bred steers, half fat, weighing 1,000 to 1,150 lbs. each. Some farmers are buying medium shippers weighing about 1,200 lbs., to turn on grass, at \$4.60 to \$4.75 per cwt. Feeding bulls are worth about \$3 per cwt.

Calves—These are in moderate demand at Buffalo, and on this market fetch from \$2 to \$8 each, the bulk going at \$3 to \$6.50 each.

Milk Cows—These are worth from \$30 to \$45 each. Extra choice cows are wanted.

Sheep and Lambs.

There has been a good demand at Chicago and Buffalo during the week and supplies have not been large. Deliveries on this market on Friday were light and prices firm at \$3.50 to \$4 for ewes, and \$3 to \$3.50 per cwt. for bucks if they are not too heavy. Yearling lambs are scarce and are wanted. Good grain-fed ewes and wethers sold at \$5.65 and common at \$5 per cwt. Spring lambs are worth from \$2 to \$5 each.

Hogs.

Prices are the same as last week for choice bacon hogs at \$4.50 per cwt. Light sold on Friday at \$4 12½ and thick fats at \$3 per cwt. Receipts are light at Montreal, where quotations are \$4.60 to \$4.75 per cwt. The *Trade Bulletin's* cable of May 4th, re Canadian bacon, is as follows: Under larger arrivals of Danish, Irish and American, the market has lost the improvement cabled by me last week, and values of Canadian have receded as on the week.

Buffalo Horse Market

Receipts were fairly liberal this week, 700 head. There was a good attendance of buyers and the bidding was quick and active with a good retail trade also. A pair of choice drafters sold at \$152.50, a pair at \$337.50, a pair at \$322.50, one drafter at \$160, one at \$185. About all were sold and the close was firm. We quote: Good to choice draft horses at \$150 to \$180; fair lots, \$75 to \$95; good light teams, \$185 to \$230; better ones, \$250 to \$300; good to choice drivers, \$75 to \$115; fancy ones, \$125 to \$175; plugs and only fair horses, \$20 to \$40, as to quality.

Watts—Did you ever know a doctor who would take his own medicine? Potts—I think I did once, an old Routt county fellow who prescribed whisky for nearly every possible complaint.

"John," said the old man to his son, "the doctor says I've got this here new thing called pendicitis, an' durned ef I kin either spell or pronounce it! I wish you'd fetch me a preacher, a undertaker, an' a dictionary."

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Every Machine Warranted. Our Motto: "Not How Cheap but How Good."

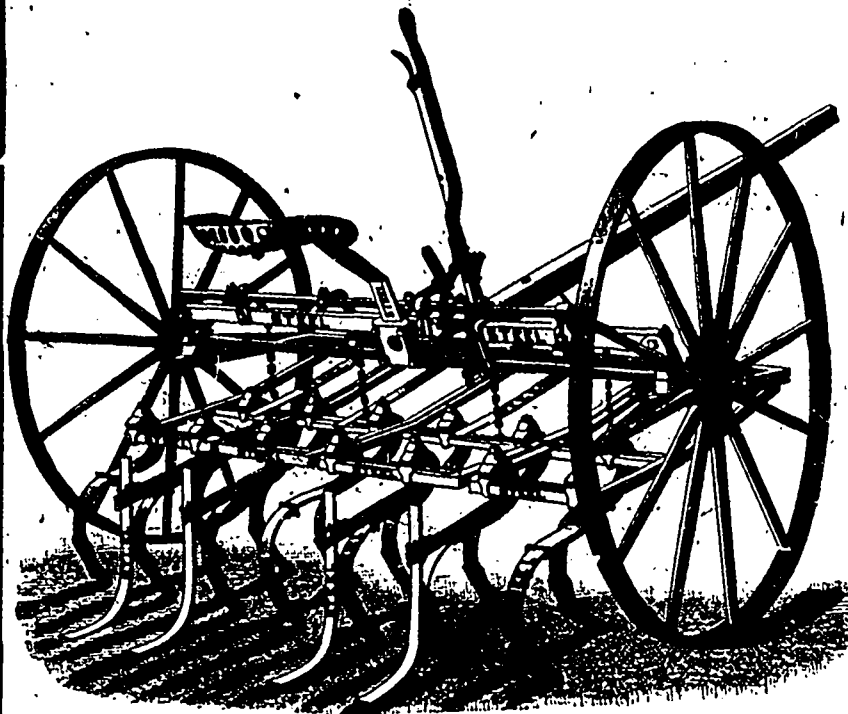
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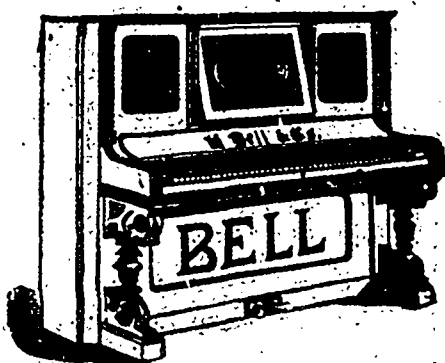
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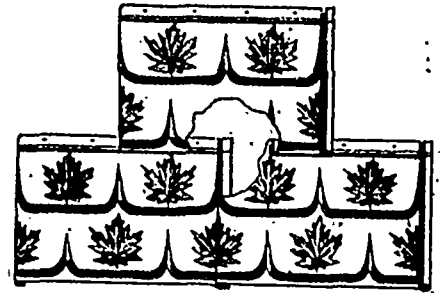
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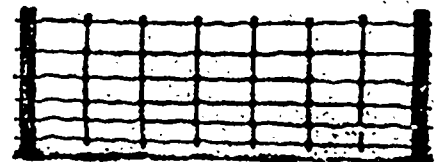
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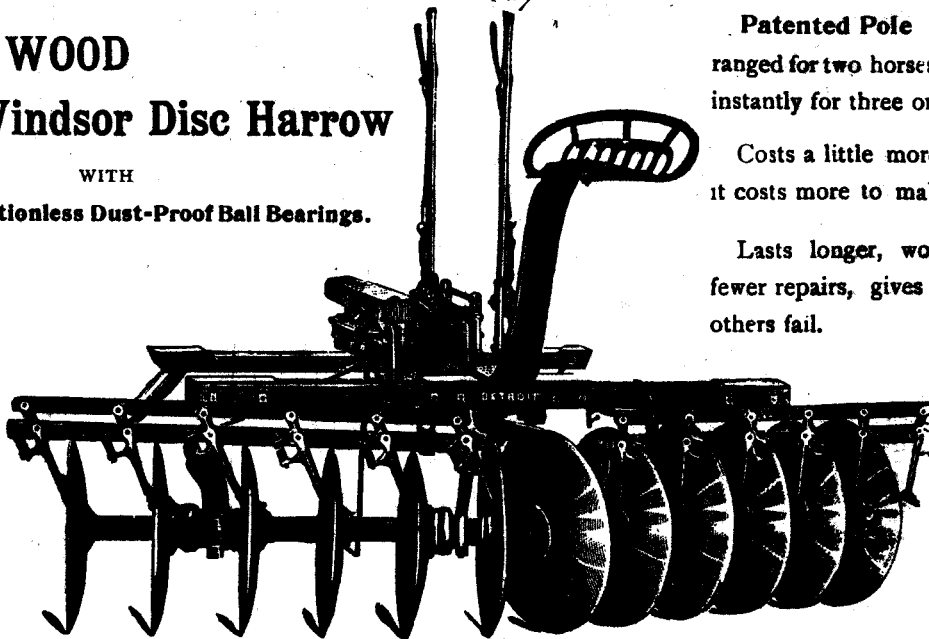
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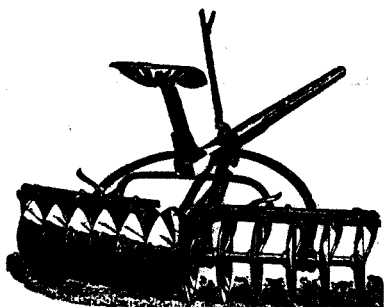
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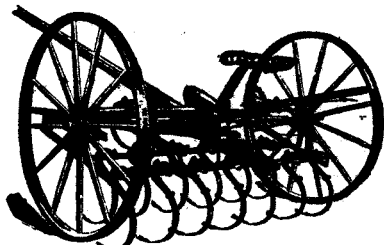
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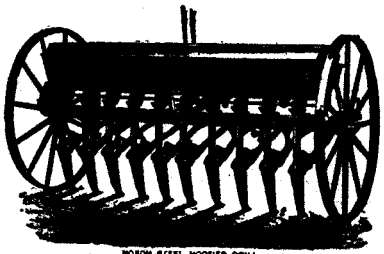
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