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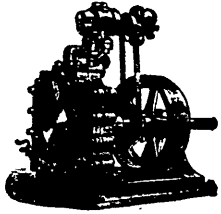
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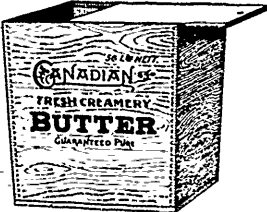
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Agricultural News and Comments. Social Life on the Farm. Roots for Cattle Feeding. Good Roads. The Sub-earth Duct for Curing-rooms. Value of Honey as a Food. Model Farms. Pheasant Culture. Cultivation for Corn and Field Roots. Intensive Farming. Care of Milk for Cheese making. Market Review and Forecast.

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WM. ARMSTRONG, Locust Hill, Ont., Breeder of Purebred and High-Grade Holsteins.

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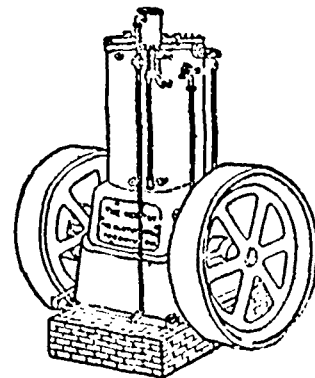
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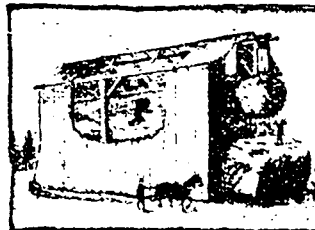
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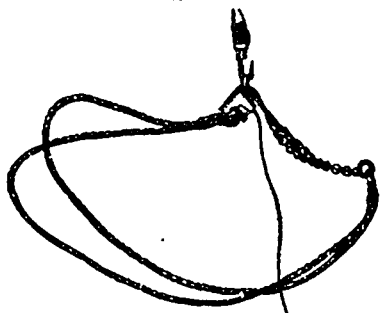
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Birds imported from best yards in England and United States. Eggs \$1.00 per dozen. A few good birds for sale.

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# FARMING

VOL. XV.

MAY 17th, 1898.

No. 37.

## FARMING

AN ILLUSTRATED WEEKLY JOURNAL DEVOTED TO FARMING AND THE FARMER'S INTERESTS.

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## TOPICS FOR THE WEEK

### Agricultural News and Comments.

The butter industry is assuming somewhat large proportions in Argentina. The country is now exporting over 15,000 cases of butter per annum, whereas a few years back almost all the butter used there was imported. An English capitalized concern has bought out a factory already established in the Province of Buenos Ayres and hopes to increase the output in a large degree.

The total exports of butter from Denmark during the year 1897 were 132,000,000 Danish pounds (907 Danish pounds are equal to 1,000 English pounds), or fully 11,000,000 pounds more than in 1896. About 4,000,000 pounds of the exported butter were packed in tins; the remainder, 128,000,000 pounds, in casks of the usual type. Of this quantity more than 102,000,000 pounds were produced in Denmark, 5,000,000 were transhipped in Danish ports without being landed there, and 21,000,000 were landed there and reshipped to other countries by Danish exporters. About 18,000,000 pounds of these butters were of Swedish origin and 3,000,000 pounds of Finnish.

Spain imported during 1896, 24,402,183 eggs, principally from Morocco and Portugal, and exported 6,920,983, principally to Great Britain. Galicia, in the northern part of Spain, is the only exporting province. The southern provinces are the chief importers. Eggs sell in Spain for about 30 cents (2 pesetas) a dozen, when fresh, and for about 22 cents when more than four days old.

No fewer than 739,534 animals were received at the Metropolitan Cattle Market, London, England, last year, made up of 83,789 cattle, 635,596 sheep, 2,610 calves, 4,628 pigs, and 12,911 other animals. In the foreign cattle market there were landed and slaughtered 223,628 beeves and 286,990 sheep. From the United States there was an increase of 5,141 beeves and a decrease of 4,075 sheep; from Canada an increase of 4,556 cattle and 8,544 sheep; while from Argentina there was an increase in both—3,326 cattle and 21,313 sheep. As many as 695 vessels discharged cattle and sheep at the market during the year.

There will be a large increase in the make of sugar from sugar-beets in the United States this season. Several other states besides those which

started last year will have sugar-beet factories started this season. The movement is a pretty general one and should result in a very large increase in the output of beet sugar. There has been some agitation along this line in Ontario, but so far nothing definite has been accomplished. If the business can be made a success in the Northern States there should be no doubt about its being successful here providing the sugar can be manufactured at a price that will enable it to compete with the bounty-fed sugars of Europe.

The great success which American trainers have with trotters and pacers is attributed to their knowledge of foot balancing or shoeing in such a way as to bring out the best speed of which a horse is capable. Great stress is laid upon the matter of shoeing. A very slight deviation in foot balancing may prevent a horse from doing his very best. Instances are given where a colt which had never beaten 2.10 was made to pace his mile in 2.7 $\frac{3}{4}$  by having the shoes removed and the angle of the foot changed very slightly by a rasp.

Italy is quite a large exporter of cheese. It is estimated that from three and a quarter to three and a half million pounds' worth are sent to foreign lands annually. The cheese exported is nearly all fancy cheese, and a considerable quantity of it goes to England. The chief brands of fancy cheese made are the Parmesan, Gorgonzola, Stacchino of Lombardy, the Fontina of the Valley of the Aosta, and the Cacio Cavallo of Southern Italy. The first two named please the English buyer best.

In some centres it is expected that the extension of the Trans-Siberian railway in Russia will tend to increase the wheat production of that country by opening up new districts. But good authorities claim that such will not be the case. The three leading cereals of Russia are wheat, rye, and oats. Of these rye comes first in regard to production, oats second, and wheat third. The wheat fields of Siberia are not numerous or extensive, and where wheat is grown in the largest quantities the railway does not reach. The surplus wheat of Western Siberia goes only to the rural districts to supply the deficit of the country. The portion of the country suitable for wheat has long been under cultivation.

In Ohio the average wages of farm hands per month with board is \$14.30; without board per month it is \$20.80; and per day without board, 97 cents. In Vermont the average wages of farm hands is from \$18 to \$20 per month with board; and from \$25 to \$27 per month without board. Farm wages is reported to be higher in the New England States than in any other portion of the Union.

There are only three conditions on which the broad tires on wagons draw heavier than the narrow tires—when the road is sloppy, muddy, or sticky on the surface and firm and hard underneath; when the surface is covered with a very deep loose dust and is hard underneath, and when the mud is very deep and so sticky that it adheres to the wheels of both kinds of wagons. These are, as a rule, exceptional conditions, and in the great majority of cases the broad tires will pull easier than the narrow ones.

The wheat yield in New Zealand is all around better than was anticipated. In some sections the dry weather has resulted in a light yield. In the

Argentine farmers are holding out for high prices, though there appears to be plenty of wheat in the country. It is expected that the total shipments for the year from the river Platte will be about 5,000,000 quarters. Less damage than was expected seems to have resulted from the January rains, and the quality is likely to keep up very well.

### Good Roads.

In a few weeks farmers will be busy putting in their allotted time of statute labor. But should the term "busy" be applied to such labor? From our own experience in performing statute labor, a few years ago, it was anything else but a busy task. Those who engaged in this work did not busy themselves as much in trying to do a lawful day's work and to improve the condition of the roadways as in endeavoring to see who could tell the biggest yarn and who could get in the day's time with the least exertion. Whether the same motives guide people in performing statute labor to-day or not we are not prepared to state definitely. We fancy, however, that a great deal of it is performed in the same "don't care" and half-hearted way. It may be, perhaps, that the agitation in behalf of good roads during the past ten years has had the effect of imbuing those to whom the task of performing statute labor in this country is committed with more patriotic zeal and a desire to do their utmost to secure better roads, and that, instead of a desire to do his share of the work at as little sacrifice to himself as possible, everyone who performs statute labor endeavors to put in a lawful and a faithful day's work. If so, all well and good; but from what we learn from those interested we are inclined to think a great many follow in the old way.

If, however, the statute labor has been performed in a "don't care" manner in the past, it does not follow that the same method of performing it should be continued. We would like to see, this year, a special effort made by everyone to perform a lawful day's work, and, if need be, to do a little more than his share in getting the statute labor done. The statute labor system is in disrepute in many quarters because of its past record in the way of securing good roads. True, there are other methods by which a great deal more could be done towards securing good roads, but they have one chief fault, and that is they are too expensive. For cheapness and small expenditure of money the statute labor system, if rightly looked after, cannot be beaten as a means for securing better roads. What it needs is some fountain head from which should emanate each year a fund of practical information and systematic instruction in regard to the making of good roads, and, coupled with this, a director-general whose duty it should be to see that the instructions sent out from headquarters were carried out by the councils of the municipalities and put into practice by those performing the statute labor work of the province.

It may be said that we now have such an officer in the person of the Provincial Road Instructor. True, we have, and he is rendering and has rendered excellent service in stimulating a greater zeal and more enthusiasm for good roads. But he cannot do what he might do if he had the active co-operation of every municipality in the province in endeavoring to put his teachings into practical effect in the way of securing better roads. A great many municipalities have taken advantage of his services and made great improvement in the roads under their control by following Mr. Campbell's directions. But what is wanted is a more

systematic effort along this line, and that every municipality should feel its responsibility in this matter and that it has a duty to perform that should not be relinquished till every roadway in the province has been made the very best of its kind. To some this may seem an impossible task. But it is surprising what can be accomplished by concentrated effort, and if everyone who has to do with making the roadways of the province would do his utmost along this line in a few years we would have a splendid system of highways all over the country.

A couple of weeks ago we published a copy of a circular of instructions sent out by an eastern municipality to its pathmasters. We would again like to emphasize the importance of this. Every township council, if it has not already done so, should send out at once specific instructions to pathmasters telling them what their duties are and insisting that each performer of statute labor be required to do a lawful day's work, and coupled with this, if at all possible, send instructions as to how good roads may be obtained, and how the work performed may be utilized to the best advantage. By a definite systematic effort on the part of every one interested it is possible to have every roadway in the country of the best.

### The Sub-Earth Duct for Curing-Rooms.

In our issue of May 3rd we drew attention to the importance of more attention being paid to the curing of cheese after it is made. If the factories have not yet done so they should begin at once to place the curing rooms in the best possible condition for curing the cheese properly. If dairymen fully realized the importance of this they would not hesitate a moment, but proceed forthwith to have all the unfavorable conditions in connection with the curing rooms removed. A good many of the curing rooms are almost beyond repair, and no matter how much repairing is put upon them they cannot be made fit for curing cheese properly. These should be replaced by new ones. Where the buildings are fairly good and have been built in recent years very little labor will improve the curing rooms and put them in a condition so that the temperature and moisture can be controlled.

A very good scheme for ventilating a curing-room is what is known as the sub earth duct. In *Hoard's Dairyman* of a few weeks ago a very good scheme of this kind is shown. It consists of an excavation, preferably twelve feet deep (although some are less), and 100 feet or more in length, and from five to six feet in width at the bottom. In this excavation are placed in continuous rows, common six-inch drain tile, six to eight rows on the bottom, and five to seven above. These tiles are usually separated somewhat by filling in loose soil, but in some cases they are laid close together, just as they are stacked up in a yard.

These rows of tile form the duct proper, and are connected at one end with the outside air, and at the other with the curing-room. For this purpose a circular or square pit or well is built up at either end with brick or stone, and into which the tile project. At the outer end an intake flue or pipe, which may be made of wood or iron, is erected, and which should reach well above any surrounding tins or buildings and be surmounted with a vane and cowl so as to catch every passing breeze. These may vary from thirty to seventy-five feet in height. By means of this shaft and weather-vane the air is sent down into the duct and thence up into the curing-room and out through the ventilating pipe.

The cost of putting in such a duct will vary much, according to the locality and the degree of finish and style. But where the patrons would turn out to do the excavating and the larger share of the work, one could be put in very cheaply, and would more than pay for itself in one single month in the improved quality of the cheese. Both the intake and ventilating shafts must be securely fastened. The most difficult feature in the construction is the vane and cowl, which should be

made of galvanized iron and arranged to revolve easily.

### Roots for Cattle-Feeding.

British exchanges are giving considerable attention just now to an experiment in cattle-feeding conducted by the Royal Agricultural Society. In this experiment was involved the feeding of roots to cattle and the quantities which give the best results. The feeding of roots to cattle has been practised for ages, but the practice, in many cases, has been to give them an unlimited supply; which practice, in the case of turnips, especially, is wasteful, inasmuch as it leads the cattle to take into their bodies an undue and undesirable quantity of water. In England, where root feeding is largely practised, the question of the right quantities to be fed to get the best results is a very important one.

It was to try to find out the proper quantity to use that the above experiment was carried on. In 1895-96 an experiment was carried on at the same place in which one lot of bullocks got 50 lbs. and another lot 35 lbs. of turnips daily. The result was that after taking into account the prices obtained for the cattle (dead weight), the cost of the feeding, and the value of the manure left, there was nothing left to choose from between the two systems. In the late experiment the animals selected were sixteen Irish Shorthorn bullocks, and were purchased on November 14th and fed alike till December 4th. They were divided into two lots and each lot sub divided and a careful record kept of the diet of each. Each set got the same kind and quantity of concentrated food, chaff, etc., other than turnips. Of the latter, one lot got as many as they could eat, which never exceeded 64 lbs. per day, while the turnips (swedes in each case) allowed to the other lot were limited to 35 lbs. daily. The rich food allowed to each was 6 lbs. daily at first, but after a short interval this was increased to 9 lbs., which consisted of 3 lbs. of linseed cake, 3 lbs. "dicorticated" cotton cake and 3 lbs. barley (gritted). Each bullock was given all the water he would drink, and an exact record of the quantity made. The heavy root feeding lot consumed on an average about 56.6 lbs. per head daily of turnips, 14.3 lbs. of chaff, and an average of 39.2 lbs. of water. The light root feeding lot consumed 35 lbs. of turnips, 16.2 lbs. of chaff, and the average pounds of water taken by each daily was 57.7 lbs. or 18.5 lbs. more than the other lot. On the assumption of the turnips containing 90 per cent. of water, the total moisture taken in water by itself and in the turnips was 90.2 lbs. for the heavy root feeding lot, and 88.9 lbs. for the light feeding lot. The weight of dry matter consumed with the turnips and chaff was almost the same, being 19.9 lbs. in the first mentioned lot and 19.6 in the second. The results of the experiment are summed up by the *Scottish Farmer* as follows:

"This heavy root feeding lot made 2.05 lb. of average live weight gain per day, as compared with 1.82 lb. for the light root feeding lot. This is a difference of about 11 to 12½ per cent. The percentage of carcase weight to the fasted live weight was 59.60 in the light root feeding lot, and 59.14 in the heavy lot. At the different times of weighing the average gain made by the former was always a degree greater than by the latter. The one lot consumed 1 ton 17 lb. more swedes—valued at 7s.—than the others, but the light root feeding lot consumes 13s. 1¼d. more cake, chaff, etc., than the others, so that there is a balance of 6s. 1¼d. in favor of the heavier consumer of roots; which, when added to 1s. 3¼d. of increased price per head got for them over the others, brings the total balance in favor of the heavier root feeding lot to 7s. 5d. per head. However, this falls to be reduced by 1s. 4d., being the estimated manurial value of the extra cake, etc., consumed by the light root feeding set, making a net difference of 6s. 1d. We only add that, when the cost of food and attendance is deducted from the selling price, it is found that a profit of £1 6s. 2½d. was made on the heavy root feeding lot. This leaves out of account on the one hand the cost of the litter, and on the other the value of manure produced."

### Canada's Agricultural Resources Arousing Interest in Great Britain.

The interest in Canada and Canadian agriculture on the part of the people of Great Britain is becoming greater every year. Beginning with the Queen's Jubilee, Canada has entered upon a new

era in regard to its relations with the Mother Country. Since then some of the important newspapers of the United Kingdom have been sending out special correspondents and artists to give their impressions of the country, and this, coupled with the efforts our own people are making, is having the effect of making Canada known as she was never known before in Great Britain and of diverting a better class of emigrants to our shores.

Last week two representatives of the English press from Lincolnshire in the persons of Mr. Joseph Wilson and Mr. Ernest T. Waring, who are visiting Canada, were interviewed by the *Montreal Witness*. It is the intention of these parties to write a series of articles upon the country and its prospects for the immigrant. In this connection their efforts will be confined to Ontario, where a great number of Lincolnshire people are located. These will be visited and their condition reported upon with the object of inducing others at home to follow their example. In the judgment of Mr. Wilson, who is now making his second visit, Canada offers more advantages to the emigrant than any of the other colonies of the Empire. He believes that as compared with Australia Canada, aside from its greater nearness, offers a greater certainty of getting on quicker to the emigrant.

In England, as in Canada, the cities have a great attraction for the country people, with the result that the population of the small English villages is gradually decreasing and the number of small farmers is every year growing less. The farmer with capital, taking advantage of these conditions, enlarges his farm, and, with the aid of improved farm machinery and a small amount of labor, tills great stretches of country which were formerly occupied by men who were content with small farms. Considerable legislation has been enacted to counteract this tendency, such as the Parish Councils Act, but the general movement towards the large centres still continues. However, while many of the small farmers have been wiped out, the condition of the farm laborer has greatly improved. By the provisions of a County Act tracts of land are purchased and rented to farm laborers, with the result that, while the laborer still works for the gentleman farmer, he is able, at the same time, to till his own ten acres of land with the help of his family, and thus make a fairly good living. All the farm laborers, however, have not this extra ten acres to till. The wages received amount to about thirteen shillings a week, and how a laborer is able to bring up a family on this is somewhat of a mystery.

It is men of this stamp, or the better class of farm laborers, who, Mr. Wilson thinks, would make admirable settlers for Canada. We are of that opinion also, and believe a man who is experienced with the work on the English farms would do exceptionally well on the unsettled lands of Ontario, Manitoba, and the Northwest Territories. The difficulty is that these laborers have not the means to emigrate. They are, however, the class from which good agriculturists can be made, and if they can be induced to locate in Canada every effort should be made on the part of those in authority to enable them to do so.

### Social Life on the Farm.

In a recent issue of the *Toronto Saturday Night* the editor, in his characteristic style, in endeavoring to solve the problem why farming is not more popular than it is, makes out that it is because of the lack of social life on the farm. In a large measure this is true, but if farming could be made to pay, and if it were looked upon as a money-making concern, it would soon become popular enough. Nevertheless, there is a great deal in the contention that the social life on the farm has considerable to do with its unpopularity.

But how this is to be remedied is the question. It is pointed out in the above journal that if farm-houses had bath-rooms and hot-air furnaces, good cellars and ice-houses, telephones, postal delivery, good roads, and all that sort of thing, farming would be a much more agreeable occupation than

it is. We fancy we see a contemptuous smile sweep across the face of the average farmer when he reads this. But is it not a fact that life on the farm would be much more enjoyable if some of these more modern conveniences were introduced? True, to get some of them means the expenditure of considerable money, but is it not equally as true that many farm-houses could be provided with good cellars, ice-houses, hot-air furnaces, etc., at comparatively little cost? And, besides, is it not possible for farmers to have good roads and similar advantages if they only set about getting them in the right way?

If it were possible to have the conditions of life in the country similar to those in the city, there would be a different story to tell in regard to the cities being overcrowded while it is difficult to get sufficient help on the farms. Man is a social being, and likes to mingle with his fellows, and if he is placed in circumstances where he is in a large measure deprived of the advantages of a daily mail and communication frequently with his neighbors, life becomes somewhat of a burden to him, and he desires a change in his surroundings. Thus it is that so many people look for something to do in our cities and towns, and prefer to live on a smaller allowance, if need be, in order that the social advantages which the cities afford may be enjoyed. People of the cities sometimes speak rather flippantly of the beauties of the country and of the delights of a country life, when at the same time if an opportunity presented itself for changing from a city life to a life in the country, they would be the very last ones to make the change. If, in addition to the many advantages which a life in the country affords, were added some of the advantages which bring people into closer intercourse, a comparison of a city life with a country life would be decidedly in favor of the latter.

To people who have been brought up in the country and have always lived there, the social intercourse which a life on the ordinary farm affords is all that they deem necessary and quite sufficient for their tastes; but to one who has been brought up in a city the situation is quite different. It is this latter class that should be induced to consider a life on the farm in a more favorable light than they do. In Canada we have millions of acres of land unsettled and waiting for occupants, and there are hundreds of people in our towns and cities who, if they could be induced to settle on these lands would have a better living, and would become better citizens than they are at present. But if these people believe that to take up farming, especially in a new district, means isolation from their fellows, and being deprived of many of the social advantages to which they have been accustomed, it will be a hard matter to induce them to make a change.

*Saturday Night* suggests that in settling up new lands the same system should be followed as is followed in some parts of Europe, where the tillers of the soil live in villages and go out to their farms to work each morning, and return again when the day's work is done. This might be possible in some districts, but where the farms are large and situated, it may be, several miles from the central village, there would be an unnecessary waste of time in going to and fro from the farm to the village. However, these are days of great achievements, and it may be possible in the near future to have a system of electric railways that would enable farmers to live in the towns and cities, and take the car to work in the morning the same as the workman of the city. In many of our large cities people working in the centre of the city travel several miles night and morning in going to and from work, and why would it not be possible for farmers to do the same thing, and thus enjoy the pleasures of living in or near a city or town?

But this is not the most important feature of the social problem of farm life. Those who work our farms, and those who will become farmers in the future, are quite content to live on their farms, providing they have all the advantages that are possible for a life in the country to have. We

have referred frequently in these columns to the free rural postal delivery, which is being adopted in some States of the Union. Such a scheme would do much to make farm life more enjoyable, and if it were possible for more telephone communication between the cities and country considerable of the lonesomeness of farm life which we have spoken of frequently would be removed. But these things will come in time, and what is required now is for every one living in the country to make the most out of the present conditions of farm life. There is no doubt, whatever, that they could be very much improved in a social way if farmers would take advantage of the opportunities they have.

#### Favorable Crop Reports.

In the present excited state of the wheat market any information regarding the outlook for the present season's crop will be very valuable indeed. The Ontario Department of Agriculture last week issued its first crop report of Ontario for 1898. It is based upon reports received from the regular correspondents of the Bureau of Industries and may be considered to be reliable as far as it goes.

In the November reports of last year the area of fall wheat sown was shown to be largely increased especially in the western portion of the province, and that the area would have been still larger but for the delay to seeding caused by the drouth of September and the early part of August. The present report shows that in most cases the fall wheat came out in the spring in about the same condition as it entered the winter. There is some slight mention of a little heaving, of smothering, and of slight injury from frost, but these are the exceptions. Very little harm has been done by insects. The early part of April was far from favorable to the crop and though rains helped it later on it is hardly in as forward a condition as usual at this season of the year. Where the wheat was sown early on a summer fallow it looks exceptionally well. But many fields were hastily prepared owing to the rise in the price, and this with the drouth prevailing at the time of seeding, gives the fields a patchy and weak appearance in many quarters. A little plowing up has been done in some of the western and central counties, but not to any extent. The present acreage of the crop is set down by the Department as quite up to the average, and the average condition in the first week of May as "fair." The success of the crop will depend upon the weather during the next six weeks.

The prospects for clover are looked upon as most favorable. Reports from the eastern counties are particularly good. Alsike did not stand the winter as well as clover. The correspondents differed very much in their opinions as to the condition of vegetation, some considering growth as pretty well advanced for the time of year, while as many were of the very opposite opinion. The majority of the reports concerning live stock were of the most satisfactory character. Horses as a rule are in good condition. Cattle, though in good health, are reported as looking thinner than the abundance of fodder would warrant. Sheep are in good shape and lambs are many and strong. With the exception of a few cases of hog cholera which were quickly stamped out, swine are described as being in fine condition.

There appears to be a large surplus of hay. The supply of oats in the farmers' hands was hardly as large as usual at the first of May. The recent rise in the price of wheat has caused the farmers to sell, and the reports seem to indicate that there is very little in farmers' hands. In the western counties, owing to the low price of beef, many fat animals are being kept for a further rise, thus leaving more in the farmers' hands than are desired; in the eastern counties fat cattle are reported as scarce.

**Our premiums are valuable, and cost but little trouble.**

**It will pay to read our premium offers this week.**

**A. W. Campbell,**

ONTARIO'S ROAD INSTRUCTOR.

We have pleasure this week in presenting the readers of *FARMING* with a splendid likeness of Mr. A. W. Campbell, Provincial Road Instructor. Mr. Campbell is a son of Mr. C. J. Campbell, and was born in Wardsville, Middlesex county, in 1863. His early boyhood was spent on the family homestead in Ekfrid township, where his father still resides.

When a young man, Mr. Campbell began the study of engineering and surveying and completed a successful course in these subjects in Toronto in 1885, when he entered into partnership with Mr. James A. Bell, then city engineer of St. Thomas, where a large practice in municipal engineering was carried on in the surrounding counties. On the retirement of Mr. Bell in 1891, Mr. Campbell succeeded to the position of city engineer of St. Thomas. During the period in which he retained this office, his attention was largely directed to street and road improvement, with the result that St. Thomas has to-day a greater mileage than any other city of its size in the province of splendid macadam and Telford roadways.

Mr. Campbell has for the past seven years been associate editor of the *Municipal World*, during which time he devoted considerable attention to the good roads question. He was largely instrumental in organizing the Ontario Good Roads Association, of which he was one of the first directors and is at present one of the vice-presidents. In this latter connection he was very energetic in bringing the matter of good roads before the farmers' institutes, dairy and other associations. In 1894 he was appointed a member of the Ontario Toll Roads Commission and in that way obtained a thorough acquaintance, not only with the toll roads system, but with country roads in general. In 1896 Mr. Campbell was appointed Provincial Road Instructor. This position was created by the Hon. John Dryden, Minister of Agriculture, whose recommendation to the Legislature regarding the appointment was unanimously adopted by its members.

At this season of the year Mr. Campbell is busy visiting the various municipalities preparatory to the performance of the statute labor work of the province. It is needless to say that his services are in great demand. We know of no busier man in public life to-day. But his heart and soul are in the road reform movement, and if there is not a great improvement in the public highways of this province during the next few years it will not be Mr. Campbell's fault. In the performance of his duties he visits the various municipalities requesting his services, examines the condition of the streets, roads, etc., addresses a public meeting of the councils and citizens, and subsequently presents a written report in detail. In addition to this, general information on road and street improvement is distributed by means of bulletins sent out by the Department of Agriculture and through the press.

The London (Eng.) *Rural World* considers the proposal to give a bounty of one cent per lb. on all creamery butter exported to Great Britain a backward step. In support of this contention it quotes statistics showing that without a bounty Canada, in 1895, exported 38,000 cwts., in 1896, 88,000 cwts., and in 1897, 109,000 cwts. of creamery butter to Great Britain. It also points out that for the quarter ending March 31st last, the exports were 6,000 cwts., as compared with 3,000 cwts. for the same period in 1897, and 900 cwts. for 1896. This bears out our view that there is no ground for alarm in regard to Canadian export trade in creamery butter.

#### This is what They Think of Us.

The agricultural journal (*FARMING*) published by the Bryant Press Publishing Co., of Toronto, has been received in our office, and upon its perusal have much pleasure in recommending it as one of the best agricultural journals we have seen.—*The Monitor, Highgate, Ont.*

### PHEASANT CULTURE.

By T. SHANNON MCGILLIVRAY, M.D.C.M., Hamilton, Ont.

(Continued from last week.)

#### Cost of Raising by New Method.

Let us now compare the new scientific method with the old. The result of the Massachusetts commission experiments reports as follows:

"Not only is the feeding of the larvæ necessary, but it is much cheaper than the eggs and custard. Six sheep's plucks a day, costing from three to five cents each, (according to location) will produce food for 300 chicks until old enough to feed on scalded grain."

Six plucks will give from six to eight quarts of maggots. We will allow a cost of twenty-five cents, *i.e.*, to feed 300 pheasants one day. How much will feed them for thirty days? \$7.50. That would be on an average of 2½ cents each for the first thirty days.

By an examination of the books of our own pheasantry (Canadian Pheasantry, Hamilton, Ontario), we learn that it just takes 25 bushels of corn to feed 300 pheasants for four months, when they are out on grass. Allowing the corn to be 40 cents per bushel—\$10,—it costs on an average 3⅓ cents each per pheasant, for the four months after the change from maggot food.

The pheasants are now five months old and have reached maturity, and not counting the grass and the thousands of insects they have caught for themselves, have cost for actual feed about 5½ cents per bird.

#### Market for Pheasants.

From the most reliable sources we have obtained estimates on what it costs to raise pheasants in Europe to stock their preserves. The estimates range from \$1 per bird to \$2.60. This may be accounted for by the unscientific methods of the game-keepers, the damp climate and the diseases peculiar to the young pheasants there that are unknown here in America.

Now when we have shown that pheasants can be raised to maturity here for less than ten cents each in unlimited numbers, could not all the preserves of Europe be stocked from America, and that too at less than half the cost that the English noblemen now pay? With our fast line of steamers we can see nothing to prevent it, and the trade and profit therefrom will far exceed that of poultry with the Old Country.

Though pheasants can be raised more cheaply than hens, there is no likelihood of the price of the pheasant ever falling so low as that of the common hen. The flesh of the pheasant in delicacy and richness of flavor surpasses all other birds, and will always command a handsome price as the choicest and most nutritious flesh for invalids.

Pheasant culture in America is only in its infancy, and we cannot see where there can be a reduction in prices to any great extent for years to come. There will be good orders from every state in the Union (except those already stocked) to replace the native game birds which are fast disappearing. Canada also is to be stocked. New breeders will need a

stock to start with and wealthy gentlemen will have their own preserves to stock.

We are informed that ex-President Cleveland has purchased eighty-five acres, which he intends for a game preserve, and which he will stock with English and Mongolian pheasants.

William Hendrie, one of our Canadian millionaires, intends to stock with pheasants several hundred acres of land lying five miles west of this city (Hamilton, Ont.), and no doubt there are other gentlemen of wealth who will catch the contagion and establish private game preserves. This with the demand by gun clubs will make pheasant-raising a profitable business for years to come. Mr. Horne, author of "Pheasant Keeping for Amateurs," informs us that pheasants are exposed for sale by the thousands on the markets all over the interior of China, and we look forward to the time when it will be the same in this country.

(To be continued)

### POTATO CULTURE.

By A. F. Wilson in *Loca Homestead*.

In raising potatoes the first thing is the selecting of the seed. I have no



A Stone Crusher is needed on this road. There is stone for the fence but none for the roads.

patience with the idea that little potatoes are as good for seed as any. Select your seed as carefully as you would your seed corn. A man who raised the best potatoes that I ever saw attained his success mainly by selecting his seed. He established a reputation and in an early day he often got 25 cents a bushel extra for his potatoes. Never plant scabby or diseased potatoes. It is a little maggot that plays all the mischief. It leaves its eggs in the potato and if you plant them you will have scab, and it will get worse. Anybody can convince himself by taking a pen knife at digging time and examining them then. They can be killed by immersing in vitriol water or Paris green, but my plan is not to plant them. I always sort my seed, and the heaviest potato dealer in the state said that my potatoes were the freest from disease of any he handled. This disease is the worst thing potato raisers, dealers and buyers have to contend with, and it ought to be against the law to plant diseased potatoes. This disease was brought west from New York. The potatoes should be cut with about two eyes to a piece. If you cut too small, one eye on a piece, there is not substance enough. It does not give

vitality enough to the sprout. Take an old case knife, break the blade in two about the middle, make it sharp and keep it sharp. Take a bushel basket, put a scoop full in the opposite side from where you sit. When they are cut, give your basket a little shake to level them and put in another scoopful. Pay no attention to the eyes, handle your knife lively and you can cut twenty-five bushels a day with ease. But if you take a dull knife and about as long reaching for a potato as you ought to be cutting it, look for every eye, cut in about half way and break out, you will do well to cut eight bushels, and will get left as a potato raiser. I have a potato cutter that I can cut one hundred bushels a day with. Plow your ground about six inches deep, take your cultivator, remove the two inside shovels, fasten the beams the right distance apart with a piece of scantling—about three and one-half feet—and go ahead of the planter and lay off the rows. After you get once straight through, let one horse walk in the furrow, so that one shovel will go twice in the same row, as you can't loosen up the ground too much right under your row. I use a potato planter, and can plant eight

potato country as it was where we formerly lived, but for many things we like it better.

### INTENSIVE FARMING.

By T. C. WALLACE (Wallace & Fraser), St. John, N. B., and Toronto.

By intensive farming, as regards land, is really meant the production of the largest amount of material containing the largest amount of feeding value for either stock or human consumption. When we apply the term "intensive farming" to a stock farm, we mean that the greatest number of head per acre are properly fed from the land. We get our lesson in intensive farming for human consumption from the market gardener, who, by constantly employing all the soil, practically gets several crops off the land in one year. But there is an element in it which is not usually carefully taken into consideration, with the result that there is a greater percentage of failure among people who attempt "intensive" work than among the less ambitious farmers. I refer to the exhaustion of the soil by cropping and grazing. The more intensive your farming the more exhaustive it will be, and then you cannot obtain from the start the fullest possible feeding value in your crops if you do not manure in a rational manner. Since the discovery that legumes can be made to yield us an immense supply of nitrogen for crops, intensive farming is much easier and can more reasonably be made profitable. If we carry on a stock farm in an intensive way we are not likely to suffer much loss of the mineral element of potash from our land, but it may be much harder on the bone earth or phosphate which the animals, and particularly the growing ones, store up in the bony structure or give off in their milk. But even if we farm without stock, which we can do very well, the grains and ripened fruits and grasses sold carry away the bone earth very rapidly. If we sell straw, and the full product in fact, we must supply both the phosphate first and the potash in a few years. The nitrogen we can get from growing legumes to plow under.

The case you refer to in your issue of 26th August, that of Mr. D. M. McPherson, scarcely comes under this head, as he buys a large amount of his feed, and also, I understand, he does not produce his young stock, but buys them from his neighbors. In this way he saves a large amount of the bone earth of his own farm at the expense of his less astute neighbors, but even with all this care I venture the opinion that already the feeding value of Mr. McPherson's foddlers and grains can be so largely increased by rational manuring of the soil that a large part of the "\$2,180.50 hard cash" paid out for feed could be saved. I even venture to predict that Mr. McPherson will have this fact forced upon him by his own observation, for he fully appreciates what he is saving by letting his neighbors grow cattle for him.

An important point in intensive farming is maintaining or increasing the fertility or producing power of the soil. As Mr. McPherson's farm has been quoted in this matter, we may fairly take it into the discussion. He is adding nitrogen to his soil no doubt

acres a day and do it better than anybody can do by hand. If you do not mark off with cultivator it is hard on two horses, but if marked off any team can step right along and do a better job and a more satisfactory one in every way. After planting a few days blind cultivate them, then just as they begin to come through the ground give them a good lap harrowing crossways, and they can get up a good height to plow. Now take your eagle-claw cultivator and it is just fun to plow them. Plow again a time or two, lay them by with larger shovels and you will have no weeds, without ever using a hoe. Let a potato raiser see a man in the field wearing his life out with a hoe and a broad smile will come over his face, and he will be sorry for his ignorance. In digging I use a digger. I can and have dug 1,000 bushels a day and hands will average 100 bushels each picking up after it. Potatoes should not be dug till they are ripe and should be handled with care—not skinned or bruised—and when sold they should be screened and all scabby, diseased potatoes sorted out. Many potato raisers stand in their own light in trying to crowd potatoes onto the dealer that are not merchantable. This is not as good a

by the growing of legumes, but as it is a volatile thing and difficult to hold we can scarcely count upon storing much of it in the soil for future crops. The same may be said of the nitrogen obtained from the purchased feed. It then confines itself down to a question as to whether the potash, phosphoric acid, and lime obtained from the purchased feed and recovered from the animals in the form of manure is equal to the drain from the farm of these elements through the products sold. I have not sufficient data or knowledge of this particular farm to answer this question, but I may fairly assert that there is a greater profit to be obtained by increasing the feeding power of the product of the farm than by purchasing feeds to make it up. In somewhat similar circumstances under my own hand I saw the feed bills reduced one-half in one year, and a continued improvement in the soil and crops for several years was obtained by rational manuring at comparatively slight cost.

This is an age of concentration and true intensive farming cannot be too highly recommended from the standpoint of economy, and also because most of our farms have been so weakened by growing crops and animals with ut any attention to the "rationale" of manuring, that it becomes a considerable item to bring large areas up to a proper state of fertility to produce paying crops in competition with virgin soils. But every tub should be made to stand on its own bottom, and it is hardly an elevating code of human ethics which permits us to build our farms at the expense of our less astute neighbors.

I would say to your correspondent that he will do well to inform himself carefully before he undertakes intense farming, and when he has gained the necessary information no other plan of farming is possible. He should know the nature and constitution of his soil and the air which feeds his plants. He should understand the flora of the country fairly well, and know as well what plants to grow and how to grow them. He should appreciate the theory and understand the practice of draining. He should understand the condition of a soil in proper tilth, and know how to prepare it. He should understand the value of the various grains, roots, and fodders for feeding purposes. He should be a born feeder, or have a clear knowledge of the principles of stock feeding. He may need to know some of the underlying principles of breeding. He will need to understand dairying, for it will not do for him to rely upon the women of his household in this branch. With all the knowledge he may acquire, he must use common-sense judgment, and under fair circumstances a good, healthy, active mind in a healthy vigorous body seldom fails. Seek for information, weigh it carefully, and apply it practically.

#### CULTIVATION FOR CORN AND FIELD ROOTS.

By SIMPSON RENNIE, Milliken, Ont.

(Prepared for the Farmers' Institute Department.)

I need scarcely say that any person engaged in farming should follow some system of rotation, and in that rotation one year should be in green or hoed crops. Now, it would be difficult for me to say what rotation would suit

every part of the Province. Nor can I say what crop should be followed by corn or roots, but this I can say, there is not a well-rotted sod for corn or roots, especially a clover sod. But in my system of rotation, I take peas, wheat, and oats after sod so that I follow with corn and roots after a crop of oats when the land is in the poorest condition. My reasons for this are twofold. First, that after sod the land is in good condition to grow at least two crops of grain. Again, I like to apply the manure to the land intended for hoed crops so if there should be any foul seeds in the manure the cultivation, the corn and roots require would destroy them.

#### PREPARATION OF THE LAND FOR CORN AND ROOTS.

After harvest, any manure on hand is applied on the oat land, at the rate of about fifteen or sixteen good loads to the acre, and plowed in lightly. The remainder of the land for hoed crop is also plowed fairly deep. Of late years we have hauled out some manure during the winter and spread it on the land broadcast, and find the result very satisfactory.

The land intended for corn, carrots, or mangels (which include beets of all kinds) should be manured during the fall or winter, and if the manure is not too long I find the best results are obtained by working the land in the spring without plowing, especially on clay soil. Now, this can be done with the disc or spring tooth cultivator as soon as the land is dry enough in the spring so that it will work finely. After the soil is well pulverized, say the first week in May, sowing may be done. Carrots or mangels would do earlier and corn somewhat later.

#### CULTIVATION FOR CARROTS AND MANGELS.

As already stated, I prefer the manure applied in the fall and winter, and in the spring work the land well so that the manure will be well mixed with the soil. Then make the drills thirty inches wide but not high, and sow on top at the rate of about one and a half pounds of carrot and four pounds of mangel seed to the acre. After sowing, if the land is dry roll with the common land roller and the seed will germinate much more evenly. I may say that last year, for the first time, I grew some mangels and sugar beets of the different varieties on the checkerboard row system and found it very satisfactory. To do this, mark the land off twenty-eight inches each way and plant with a corn planter and single out to one plant in each place. The advantage of being able to scullie both ways is certainly very great, especially on weedy land. As soon as the plants are seen along the rows start the sculler at once; for at no time are the weeds so easily killed as in the early stages of their growth. Where the land is weedy it may be as well to side-hoe the carrot rows, but if the mangel rows are closely scullied they will do until they are large enough to single. Carrots are as well to be singled out eight or ten inches in the rows. The yield will be about the same as though they were left closer, but the labor of thinning and handling is very much lessened where they are left a good distance apart. In singling where the rows are thirty inches apart, mangels (especially the long varieties) should be singled out to at least twenty-four inches and the globe varieties eighteen to twenty inches.

As soon as the carrots, mangels, and corn



A Nicely Crowned Country Road.

#### CULTIVATION FOR CORN.

Where any quantity is grown for the grain it is better to mark off the land about forty-two inches each way and plant with a corn planter and try to have only three stalks in each hill. Probably for fodder it would be as well to have four or five. After the corn has been planted a few days and before it is through the ground harrow well; but do not let the horses walk where the corn has been planted. Usually it is well to harrow again after the corn is up a few inches, but I have seen cases where it would not do on account of the soil being too loose; and again I have seen the land so lumpy that the lumps would roll on top of the young plants and bury them. However, when this difficulty is met with just start the horse-hoe or sculler and scullie both ways and within a few inches of the plants, but always run the sculler shallower on the side next the rows of corn. A wrong idea some have is that the corn should have shallow cultivation, especially after it is a few feet high. Now this is a mistake. Corn requires a loose soil, and for that reason I cultivate at least four inches deep between the rows, especially after every heavy rain, until the corn is nearly full-grown. It is true, some of the small fibres would get broken off by the deep cultivation, but any injury by the breaking off of a few fibrous rootlets is not at all to be compared to the benefits derived from a free circulation of air down through the soil. By the loosening of the soil even in dry weather the moisture is retained, which is very important, not only for the growth of corn, but also for all field roots. It is better to use a short whittletree eighteen inches long after the corn gets up high, and it may also be found necessary to have the horse muzzled.

are planted we turn our attention to the manuring of the potato and turnip land which is plowed in with not too deep a furrow as soon as it is hauled out, after which it is harrowed, rolled, and allowed to remain at least two weeks. It is then cultivated and worked until the manure is thoroughly mixed with the soil. For potatoes I mark out four or five rows with a narrow-bottomed plow. I do not like to mark out with the drill-plow, for the long sole has a tendency to pack the soil which should not be; and when a few rows are planted I cover, going the one way with a good deep furrow and open out coming back, which should not be over five inches deep. This will always leave a few rows ready for the planters.

In my experience of potato culture the best results are obtained from planting potatoes of good size, uniform shape, and cut to one or two eyes in a set, and if the land is well manured plant eighteen or twenty inches apart in the rows. A few days after the potatoes are planted and before they show through the ground the drills should be harrowed lengthwise until they are nearly level, and as soon as the potatoes are through the ground start the sculler and keep the soil loose. There may be a little earth put up to the plants with the sculler while loosening the soil, but they should never be banked up with a plow, for when this is done it tends to shed off the water between the rows just where it is least required.

Turnips require a nice, rich, loamy soil, so it is very important to have the land well worked and made fine so that the manure will be thoroughly incorporated with the soil, after which roll the ground all smooth. At this time, if there should only come a nice shower, then start and drill up about thirty inches

wide; but do not have the drills high. Some are sown on the level, but I prefer the drills slightly raised so that the water will not settle around the plants in case of a heavy rain. The seed may be sown with the turnip-drill at the rate of about two pounds to the acre, although less would do if there were no flies to trouble the young plants. If the land is dry when sown it is well to roll with the common land roller, and as soon as the plants commence to show along the rows start the sculler and keep the land loose between the rows until the tops meet in the drills. Turnips should be thinned out to eighteen or twenty inches. The cost of thinning and harvesting will be very much less and the yield will be nearly the same as if left closer.

I feel as though I cannot close this article without drawing the attention of root-growers to the importance of deep cultivation for the best results.

May I say, the collection of roots that was awarded the first prize and silver medal at the Industrial last year received deep cultivation until some two weeks of the exhibition.

## CORRESPONDENCE.

### CO-OPERATIVE AGRICULTURE.

Editor of FARMING:

Over twenty-eight hundred Ontario farmers have received material and instructions for conducting tests upon their own farms during the present season. These include young men who have attended the Agricultural College, successful and painstaking farmers who have experimented previously, and others who are undertaking the work for the first time.

About two thousand experimenters have conducted satisfactory experimental work within the past ten years. Of this number, over two hundred have furnished good reports for at least three different years, and some for five, six, and even nine years. These little experiment stations form object lessons in nearly every neighborhood in the province, the influence of which can never be correctly estimated. To give some idea of this influence, I quote the following from reports sent in by experimenters:

"I get much benefit from my experiments, and my plots are visited by most of my neighbors every year."

"As a result of my experiments I raise more bushels to the acre and make more money on my farm."

"Looking at it from a financial point of view, my neighbors have received benefit from my experimental work to the amount of a good many hundred dollars."

This system of co-operative experimental work in agriculture, which centres at the Agricultural College and operates through the medium of the Experimental Union, is being enlarged and improved from year to year. A study of the fertility of the soil on different farms, and of the relative merits of promising varieties of agricultural crops for different sections, are the main subjects under experiment on about twelve thousand plots this year. There are, in all, nineteen distinct experiments, which embrace the agricultural crops grown on about nine tenths of the cultivated land of Ontario. The demand has been greatest for experiments with oats, spring wheat, peas, corn, and mangels.

We could still furnish a number of applicants with a package of each of six leading varieties of corn, which forms a valuable test for farmers who are anxious to ascertain which varieties of corn are best adapted to the soil of their own particular farms.

C. A. ZAVITZ, Director.

Agricultural College, Guelph, Apr. 30, 1898.

### THE WOOD SUPPLY.

Cold weather is the time to get up the wood supply for next summer and winter. Wood seems to saw and split much easier in frosty weather, besides it always seems to take a great deal more coaxing to get the work along when the weather begins to get warm. If the summer wood supply is not got up before spring work comes on it will be a drag all summer, and many a time important work will have to be stopped on purpose to cut wood.

A little time spent in working for our premiums will be well spent.



# 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.

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

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

### BENEFITS OF MEMBERSHIP.

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

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

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

The name and address of each member, and the stock he has for sale, are published once a month. Over 20,000 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.

A directors' meeting of each of the following associations will be held on the dates given below at the Belmont House, Brantford:

Dominion Swine Breeders' Association.—Monday, May 23rd, at 1 p.m. An evening session will be held if necessary.

Dominion Cattle Breeders' Association.—Tuesday, May 24th, at 10 a.m. to 3 p.m.

Dominion Sheep Breeders' Association.—Tuesday, May 24th, at 3 p.m. to 10.30 p.m.

The directors of the Provincial Winter Show for 1898 will meet at 8.30 a.m., May 25th. An afternoon and evening session will be held if necessary.

The business to be transacted is the election of standing committees for 1898; the revision of the rules and prize list of the "Winter Show"; the presentation of the report of the secretary-treasurer, etc., etc.

Each officer and director of the respective associations is urged to be present at the meeting of the board of directors to which he belongs.

Each director is respectfully requested in the meantime to go carefully over the prize list, including the rules governing each department of the winter show, and be prepared to make such suggestions as he considers to be in the public interest.

Members and exhibitors are invited to suggest improvements in the mode of conducting this show. Communications may be addressed to the secretary or to any officer or director of any of the above-named associations.

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

To the Officers and Directors of Each District Farmers' Institute in the Province of Ontario:

The annual meeting of each District Farmers' Institute in the Province of Ontario will be held this year on Tuesday, June 7th, commencing at 1 p.m., in each of the respective districts.

Please do all in your power to make this meeting in your district a success.

Carefully read the

### RULES AND REGULATIONS GOVERNING THE ANNUAL MEETING.

13. The institute year shall begin July 1st and end June 30th. The annual meeting shall be held on the first Tuesday in June, at one o'clock p.m., of each and every year. At this meeting the directors and auditors shall be elected for the ensuing year.

[The Treasurer's books should be closed this year on June 1st, and the financial statement made up to that date. Although new officers are elected this year on June 7th, the old officers should continue in office until June 30th. After this date those elected on the 7th of June should take charge of the affairs of the institute].

14. The method of election shall be by ballot or otherwise, as decided by the members present. No person shall be eligible for office, or be entitled to vote at the annual or any other meeting, who has not paid his fees in full for the current membership year.

15. At the annual meeting, members may suggest points in the district where institute meetings may be held during the succeeding institute year, first as to regular, and second as to supplementary meetings.

16. At the annual meeting, the executive officers for the current institute year shall, through the secretary, present to the meeting in writing a carefully prepared report of the proceedings of the year, in which shall be stated the number of institute meetings held since last annual report, the attendance at each session, the total number of papers read and addresses delivered.

The treasurer shall present his report for the current year. Said report shall first be audited and certified to by the auditors.

17. The annual meeting shall be devoted to the business of the institute, as specified in Clauses 13, 14, 15 and 16, and in carrying out the "Programme of the Annual Meeting," and in considering ways and means whereby the institute can be improved.

18. The annual meeting shall be advertised by mailing to each member, at least ten days before the first Tuesday in June, an announcement calling the members together. Said announcement shall specify the date, place, and hour of meeting, and shall contain a programme of the said meeting. If the executive deem it in the interest of the institute, posters and newspaper advertising may also be employed to make this meeting public.

### PROGRAMME FOR ANNUAL MEETING HELD FIRST TUESDAY OF JUNE OF EACH YEAR.

19. (1) President's report.
- (2) Discussion thereon.
- (3) Report of the executive presented in writing by the secretary.
- (4) Treasurer's report presented in writing.
- (5) Auditors' report presented in writing.
- (6) Suggestion of points at which to hold regular meetings.
- (7) Suggestion of points at which to hold supplementary meetings.
- (8) Election of directors, election of auditors.

(9) Suggestions as to how the institute can be improved or made more useful, if this has not already been considered by the president in his opening address and the discussion following.

(10) Addresses, etc.

20. At the close of the annual meeting, the new board of directors shall meet and elect from among themselves a president and a vice-president, and shall finally decide at what points in the district regular and supplementary meetings shall be held during the succeeding institute year. The points selected shall be entered on page C of the secretary's minute book, and a copy of this page shall be sent to the Superintendent, and shall be considered as part of the report of the annual meeting.

21. The officers and directors shall, at the close of the annual meeting, and when afterwards necessary, appoint from among themselves or otherwise a secretary-treasurer, who shall remain in office during pleasure.

22. In case any institute shall, through any cause, fail to hold its annual meeting at the time appointed, the Superintendent may appoint a time for holding the same, the meeting to be called as for the regular annual meeting, and this meeting shall, in all particulars, be taken as the annual meeting of the institute.

Before 1896 the Government grant to each Institute was dependent on the report sent to the Department of Agriculture at the close of the year. It now depends on the report given at the Annual Meeting, a copy of which must reach the superintendent not later than June 20th, 1898, as set forth in Clause 47 of the Act and Rules governing Farmers' Institutes. The grant will be paid on recommendation of the Superintendent to the Minister of Agriculture as soon as convenient after July 1st.

The 20th of June is the latest date on which the reports of the Annual Meeting may be sent to the Superintendent by Institutes wishing to receive grants from the Department in 1898. Secretaries are respectfully requested to send this report at an earlier date if possible.

Hereafter, the Annual Report of each Institute will be published, therefore executive officers are urged to make said report as complete as possible. (See Forms B, C and D of Secretary's Minute Book.) Each Institute is also invited to fully report any special features developed by their officers or any special line of work undertaken by them, or any plan which has been adopted and proved to be an advantage.

Most of the data required in these returns can be prepared between now and June 1st, and on June 7th it should be submitted to the members for approval.

On December 31st, 1895, the total Institute membership in the Province was 11,020; June 30th, 1896, the membership had increased to 12,384; May 1st, 1897, to 14,228; and on May 10th, 1898, to 15,507. The general election held March 1st, 1898, greatly interfered with the Institute meetings to be held during February, and it was found necessary to cancel a number. But for this interruption the present membership would probably have been 2,000 greater than it is.

I wish again to repeat what I said before, viz.: that experience has taught me that the success of an Institute depends on the officers, especially the secretary. Where an Institute has a good secretary it is always found in a flourishing condition. Many of the secretaries are first-class men. The most suitable available man should in each case be chosen as secretary, and he should be as liberally treated as the circumstances of the Institute will allow. His position should be permanent as long as he does the work satisfactorily; frequent changes are a great disadvantage.

I desire to impress on each officer the necessity of using every effort to induce the members to attend the Annual Meeting. The success of next season's meetings depends, in a large measure, on the result of the meeting held on June 7th, 1898.

Membership of the various Institutes up to May 10th, 1898:

Addington	68
Algoma, C.	213
Amherst Island	47
Brant, N.	146
Brant, S.	109
Brockville	152
Bruce, C.	116
Bruce, N.	88
Bruce, S.	80
Bruce, W.	232
Carleton	113
Cornwall	80
Dufferin	117
Dundas	125
Durham, E.	214
Durham, W.	183
Elgin, E.	115
Elgin, W.	172
Essex, N.	66
Essex, S.	156
Frontenac	93
Glengarry	194
Grenville, S.	106
Grey, C.	189
Grey, N.	279
Grey, S.	182
Haldimand	221
Halton	323
Hastings, E.	136
Hastings, N.	476
Hastings, W.	140
Huron, E.	192
Huron, S.	138
Huron, W.	393
Kent, E.	215
Kent, W.	116
Lambton, E.	177
Lambton, W.	78
Lanark, N.	259
Lanark, S.	188
Leeds, N. and Grenville, N.	125
Leeds, S.	196
Lennox	96
Lincoln	160
Manitoulin, E.	85
Manitoulin, W.	78
Middlesex, E.	201
Middlesex, N.	340
Middlesex, W.	200
Morck	147
Muskoka, C.	53
Port Carling	26
Muskoka, N.	163
Muskoka, S.	58
Norfolk, N.	248
Norfolk, S.	83
Northumberland, E.	191
Northumberland, W.	124
Ontario, N.	367
Ontario, S.	229
Oxford, N.	122
Oxford, S.	173
Parry Sound, E.	102
Parry Sound, W.	123
Peel	421
Perth, N.	186

GAZETTE—Continued.

Perth, S. ....	254
Peterborough, E. ....	146
Peterborough, W. ....	133
Prescott. ....	107
Prince Edward. ....	301
Renfrew, N. ....	91
Renfrew, S. ....	120
Russell. ....	79
Simcoe, C. ....	114
Simcoe, E. ....	116
Simcoe, S. ....	98
Simcoe, W. ....	116
Stormont. ....	169
St. Joseph Island. ....	92
Victoria, E. ....	126
Victoria, W. ....	135
Waterloo, N. ....	156
Waterloo, S. ....	486
Welland. ....	173
Wellington, C. ....	171
Wellington, E. ....	203
Wellington, S. ....	128
Wellington, W. ....	167
Union (Branch of West Wellington). ....	78
Wentworth, N. ....	216
Wentworth, S. ....	238
York, E. ....	128
York, N. ....	47
York, W. ....	135
Total. ....	15,507

Monthly Returns.

A few of the secretaries do not conform to the rules and regulations regarding the monthly return of members. See Clause 6:

"All memberships terminate on the 31st of December of each year," and Clause 48:

"On or before the 10th day of January of each year the secretary shall send a revised list of members for the current membership year to the superintendent, and on or before the 10th day of each succeeding month he shall forward the name and address of each additional person who has since the previous return become a member of the institute."

The attention of the secretary is also called to Clause 50:

"The secretary shall, when possible, retain the manuscript of all papers read at meetings of the institute by local talent, in order that he may, when required, furnish the superintendent with the same. Each institute is required to forward at least two such papers each year, which may be published as the superintendent decides. Secretaries or essayists are not required to re-write papers before sending them to the superintendent; forward them as read at local meetings."

Some institutes have not yet complied with the requirements of this clause and have not sent the copies of the two papers required.

On the 31st of December of each year the Department cancel all lists; thereafter no reports or other literature is sent except to persons whose names appear in the new lists as required by Clause 48. No matter in what month a person joins an institute he or she will, as far as possible, be supplied with all literature previously issued by the Department during the current year; nevertheless all names should be sent in as early in the year as possible, for even with the greatest care a number of the most valuable reports become exhausted and sometimes it is found impossible to supply members whose names are received late in the year. This year some of the secretaries did not send a name in until after the 1st of May; the result was their members lost several valuable reports.

Many members will doubtless join during September, October and No-

vember. I advise that such be considered members for the succeeding year. This is the plan adopted by many newspapers, especially agricultural papers. That is, if a man subscribes for a paper in September, October, or November, of 1898, and pays the subscription price, his paper is continued until 31st of December, 1899. The adoption of this plan will, I am sure, prove a benefit to the institute system.

Notice.

I respectfully call your attention to the following clauses:

26. The regular delegation shall visit two points only in one year in each institute district, or when said delegation spends two days in one place, that point only shall be visited. The Government will defray the cost of sending these delegates, but officers and members of institutes are expected to lighten as far as possible the expenses of delegates while in their district.

27. Should any institute require a speaker or speakers, at any other period during the year, to assist in holding supplementary meetings, application for assistance shall be made to the superintendent at the time of reporting the annual meeting. The Department will pay for the services of such supplementary speaker or speakers, but the institute requiring the services of same shall pay all legitimate expenses from the time said person or persons leave home until they return thereto. When the delegate or delegates address meetings in more than one district, the expenses will be equitably divided between said institutes and collected from the institute or deducted from their grant.

28. If an institute decides to hold supplementary meetings other than those asked for at the time of reporting the annual meeting, said institute shall pay all expenses and wages. If a regular or supplementary meeting has been granted, and the time and place published in the annual bulletin, no change shall be made in said time or place. Any institute, failing to hold a supplementary meeting published as aforesaid, shall be required to pay the expenses notwithstanding.

29. All requests for assistance to hold agricultural, horticultural, live stock, or dairy meetings, shall, when possible, be made through the secretary of the district institute. Applicants should state what subjects they wish the speaker to discuss.

The demand for supplementary meetings has grown so great that it is found necessary to limit the number to four supplementary meetings or days in each separate district under the provisions of Clause 27. While each institute is thus allowed assistance, as provided in Clause 27, to hold these supplementary meetings, no institute is compelled to hold this number. (See Clause 23 of the Act and Rules, and explanations thereon.) If the officers of any local institute desire to hold additional meetings they are at liberty to do so under the provisions of Clause 28.

LIVE STOCK PRIZES AT THE OTTAWA FAIR.

The secretary of the Central Canada Fair has been notified that the Dominion Shorthorn Breeders' Association will offer the following Special Prizes in this year's prize list of the Central Fair: \$30 divided into two prizes, \$20 to first and \$10 to second, for the best herd of Shorthorns, consisting of one bull and four females under two years. Also \$10 for the best bull of any age, and \$10 for the best female any age.

The Ayrshire Breeders' Association also offer \$10 as a special prize for calves under six months old.

Dr. H. S. Perley and Ex.-Ald. John Henry have signified their intention of contributing gold medals to the Live Stock Department as usual

CORRESPONDENCE.

(Continued.)

ILLUSTRATION STATIONS FOR FARMERS.

Editor of FARMING:

In FARMING I read with much interest Prof. Robertson's plan for establishing "Illustration Stations" or "Illustration Fields."

Five years ago I submitted to the Minister of Agriculture a plan for establishing "Illustration Farms" throughout the Province of Ontario. In brief it was as follows:

That the Ontario Legislature select a certain number of farms (differently situated) throughout the province, the owners thereof agreeing to cultivate and manage their farms for, say, four years, according to the direction of a supervisor appointed by the Government. The idea being to carry on several systems of farming, considering the location and other circumstances, on the most economical and scientific principles, in order to demonstrate that farming, under various systems, will give adequate returns when cultivated and cropped according to up-to-date methods, and at the same time increase the soil fertility; and also make the farm attractive by planting a few evergreens and deciduous trees, artistically arranged.

The only cost to the Government would have been the salary and travelling expenses of a supervisor.

A lady assistant might have been added, who would have been competent to give instruction in dairying, domestic economy, etc., in accordance with scientific teaching.

WM. RENNIE,  
Farm Superintendent.

Ontario Agricultural College,  
Guelph, Ont.

MODEL FARMS.

What is Needed and What Should be Done.

Editor of FARMING:

Your paper has reported the visit of a deputation to Ottawa asking the Federal Government for the expenditure of ten thousand dollars for the starting of another model farm and one thousand dollars per year in addition to maintain it afterwards.

As this model farm question is a very important public question, both from an economic and political standpoint, and as I have given this question special study and consideration for the last twenty years, having advocated in the country and on the floor of the Ontario Legislature the adoption and carrying on of county model farms, one or more in each county throughout the Province of Ontario, I ask for some indulgence and space in your paper, to give expression to my views regarding this matter. Model farms, which the practical farmers and country want, are such as will demonstrate the maximum product at the minimum cost, producing thereby the four main results of successful farming which are:

- (1) The producing from year to year of the greatest cash profit.
- (2) The production of the highest added value to land.
- (3) Creating the most profitable commerce and trade throughout the country.
- (4) The employment of the largest amount of capital and labor individually on each farm and in the country generally.

Model ("profitable") farms worked to attain these four conditions fulfil the true ideal of political economy, for in them lie the basis of "Universal Profit," which means also the basis of universal good times, both of which mean added national wealth; and increased national wealth, when properly used, means higher education and intelligence of the masses: a condition and result which ought to be the true ideal of every Canadian, whether he be a farmer, laborer, business man, or politician.

It does seem inconsistent and a great wrong to devote public money to establish unprofitable model farms, which not only do not pay a profit from working them on the capital invested, but require a thousand dollars a year or more to maintain them in existence. It is an undeniable fact that there are a hundred of such unprofitable farms in each county in the Province of Ontario already bringing in reduced returns yearly from labor and capital invested, and at the same time reducing the value of the lands or the value of capital invested in the land.

The intelligent and thinking farmer who has given this matter any thought or study has long ago come to this conclusion that there are already too many unprofitable model

farms but not enough or profitable model farms, conducted by the Governments and the people.

The real object lesson or model farm which the farmers and country want is one, the management of which will demonstrate how an average farmer owning an average farm of 100 square acres can pay off a debt or mortgage in the shortest possible period, and at the same time add the greatest value per acre to his land. The management of a farm which will allow good wages to be paid for all work done, liberal allowance for wear and tear and all other expenses, have a good balance in cash at the end of each year for profit, with a prospective increase of cash profit from year to year, and at the same time employ the greatest amount of labor, produce the greatest amount of valuable products, and circulate the greatest amount of cash, and effect the improvement of the public roads as well as the public welfare, is and what ought to be the aim and object of a model farm. If, on the other hand, model farms are to be models for expenditure and expense for maintenance, as all now in existence are I regret to say at the present time, then we want no more of such farms—and the sooner the present unprofitable model farms are wiped out of existence the better for all interested. They should be transformed into true model, profitable farms, or sold for what they will bring. Some may think, and I know are convinced, that governmental model farms cannot be managed so as to pay good, fair wages—wear and tear and incidental expenses—and besides pay a good profit on capital invested. But even under present low market prices for farm produce and large outlay in other ways for labor and expense, I hold and am prepared to prove that an average farmer, working an average 100 acre farm under proper conditions of direction and assistance, can make a handsome progressive profit from year to year, and add value to his land at the same time. It is quite possible to employ double the manual labor the year round, produce three or four times the productive value, and create conditions which will double the actual value of his land inside of ten years. These are conditions which, if they can be produced, ought to be—and the farmers are slow to claim their right if they do not promptly demand such, and persistently insist that they receive such to the fullest extent and at the earliest possible date.

D. M. MACPHERSON.  
Lancaster, April 25th, 1898.

ROOTS FOR HOGS.

Editor of FARMING:

In reading in the columns of your valuable paper of April 12th, I noticed Mr. W.H.C. asking about roots for hog feed. I have fed store hogs on raw and cooked turnips, but find the cooked turnips the best and give the best results. With a little ground grain and clover hay cut fine and mixed in while hot, this makes a very good ration for store hogs.

Now, I will give Mr. W.H.C. my way of making a cheap cooking-box. Take a large size plate of heavy sheet iron—they are usually about 36x60 inches in size—make a plank box two feet deep and about two inches smaller than the sheet of iron. Nail the sheet iron on the bottom of the box, allowing one inch to turn up around the outside. Place the box on a brick arch. Do not make the arch too large so that the fire will come in contact with the wood, and place some strong pieces of iron across the bottom to strengthen the box.

Now as to an implement for putting in all kinds of roots, I am the inventor of a machine that will drill up the land; sow dry fertilizers; sow the seed and roll two rows at the same time. This machine would do first-class work on W.H.C.'s sod. With an ordinary fast walking team a man can put in from six to eight acres per day. One of my neighbors borrowed it and his hired man put in eight acres in eight hours.

As root growing is largely increasing I think this machine would be a good investment for some manufacturing company to take hold of. I am a farmer by occupation and in no ways a manufacturer.

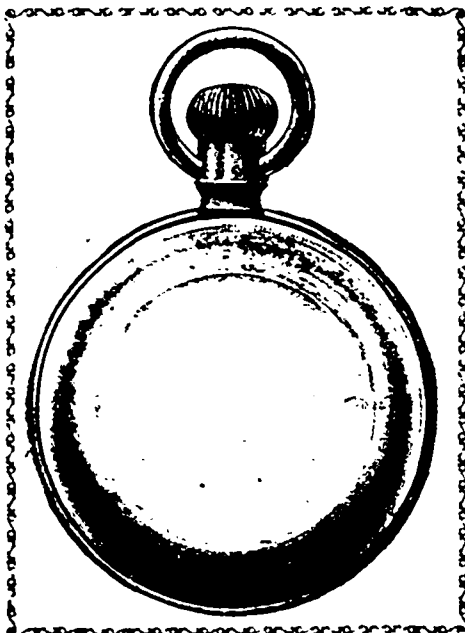
T. C.  
Woodstock, Ont., May 6th, 1898.

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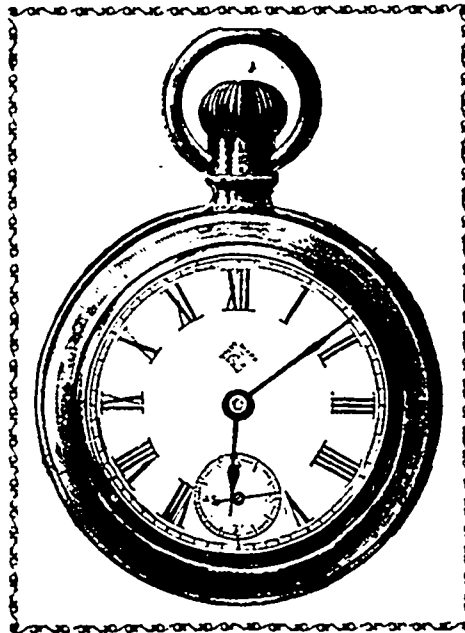
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There should be no difficulty in obtaining the subscriptions of all practical farmers to a paper which so fully meets their wants. Subscription price is only \$1.00 a year, for which every subscriber is entitled to receive fifty-two complete numbers.

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### PROFESSOR DEAN MAKES A GOOD SUGGESTION

Editor FARMING:

I see by the press that the Secretary of the Live Stock Associations and Provincial Fat Stock and Dairy Show has called a meeting for May 25th, to revise rules, prize list, etc., for the winter fair of 1898. Would it not be a good time to appoint a committee to confer with representatives of the different dairy breeds to consider the scale of points used in awarding prizes among the milch cows? Your readers are probably aware that the present scale is based on one adopted by the British Dairy Farmers' Association. We hear considerable about giving prizes for "water," etc. It strikes me that if representatives of the different dairy breeds were to meet and discuss with the Provincial Show authorities the present scale, and offer suggestions as to changes, if any are needed, there might be less "kicking."

It is possible that the present scale is not adapted to Canadian conditions. If it is not, let us have one that is, though there will be difficulty in adopting any scale which will suit all parties.

I have taken the initiative in the matter, for the reason that it was largely at my suggestion that the present scale (except in points for conformation), was adopted at the first Provincial Dairy Show held in Gananoque, in 1865, under the auspices of the Agricultural and Arts Association, of which Mr. Henry Wade was secretary.

H. H. DEAN.

Guelph, Canada, May 13, 1898.

### CARE OF MILK FOR CHEESEMAKING.

By T. B. MILLAR, Inspector Butter and Cheese Association of Western Ontario.

In the care of milk for cheese-making or for any other purpose the first and most important point to be considered is *cleanliness*. Cleanliness not only with the milk after it is drawn, but to begin at the beginning with the person or persons who have charge of the cows. So much has been said and written on this subject that one might think it quite unnecessary to add another word, yet we find the majority of dairymen paying very little attention to the care of milk; even those who should take the greatest interest in better methods of dairying seem to be quite indifferent.

In the first place see that the surroundings are as clean as it is possible to make them. Give a full supply of clean, wholesome food and water, free access to salt, and with reasonable care you should get a good quality of milk.

Before commencing to milk brush the loose hairs and dirt off the cow's udder and flanks. A very good method is to have a damp cloth or sponge and dampen the udder part of the belly and flanks; thus preventing innumerable particles of dust from falling into the milk. These dust particles, though quite minute, are loaded with germ life or bacteria, and it is very essential that these should be kept out of the milk if we wish to deliver it at the factory in fine condition.

Use only tin pails, and be sure they are well washed and thoroughly scalded after each milking. Do not use these pails for any other purpose, but put them where the sun will shine on them all day. Fresh air and sunlight will do good work if we only give them a chance.

Always milk with dry hands, removing the milk from the milking yard and straining it as soon as possible. Then aerate in a place where the atmosphere is pure. Aeration should be done by running the milk through

an aerator or by dipping or pouring. Never cool milk until it has been thoroughly aerated, as milk gives off odors much more quickly when hot; hence the necessity of aerating before cooling. During the spring and early part of the summer it will not be necessary to cool the milk by the use of water, but as the season advances and you find it difficult to keep the milk sweet it will be advisable to do some cooling, but be sure that the milk has been well aerated before doing so. Do not cool the milk below 60° F. at any time. Milk keeps better over night in small quantities and should be stirred occasionally during the evening. If two cans are used never mix the hot milk with the cold, and remember that the morning's milk requires aerating quite as much as the evening's.

Have the milk stand in some clean place away from anything that is likely to contaminate the milk. See that the milk drawer keeps himself and his wagon clean and delivers the milk at the factory in good time each morning.

### THE NEW CHEESE AND BUTTER MAKERS' ASSOCIATION MAKES A NUMBER OF RECOMMENDATIONS TO DAIRYMEN.

The new Cheese and Butter-Makers' Association of Western Ontario have issued a very neat circular to dairymen setting forth the objects of the organization, and making recommendations to makers, salesmen, and others. The new Association has now one hundred members and makes a strong appeal to all butter and cheese-makers to identify themselves with this organization which exists for their special benefit.

As stated in the circular the objects of the Association are to advance and protect the interests of dairying and dairymen and especially those of the makers; to raise the standard of makers; to assist the patrons in the production and care of milk; to protect the patrons from unskilled makers, and makers from losses over which they have no control; to establish a better system of selling dairy produce; and to secure better sanitary conditions in connection with cheese factories and creameries.

The following recommendations are made by the directors of the Association, which, if put into practice by the members and others interested, will do much to improve the quality of our dairy products: That each member put forth his best efforts in assisting the patrons to produce, care for and deliver milk in the very best condition, and we look to the makers to accomplish this. In selecting milk at the factory that extra precaution be used and none but clean, pure milk be accepted. In regard to the rejecting of bad milk the makers should stand shoulder to shoulder, and no maker should accept milk that has been rejected by another. We would urge upon the makers the necessity of keep-

BINGHAM, IOWA, MARCH 1, 1896. H. H. DeWitt, Dayton, Ohio: DEAR SIR AND FRIEND FARMER: Enclosed please find express order for \$1.25 for book entitled, "Secrets of Success." The book sent me, entitled, "Farming, the Farmer and the Force of Habit," is a gem. Every word of it is the truth. Have put off sending for the "Secrets of Success" on account of hard times. No money, and everything so ruinous low in price that one don't feel like selling anything. Respectfully, GEO. W. MARINE. Bingham, Page County, Iowa.

ing the factory and themselves as clean as possible and endeavoring to produce a better quality of cheese and butter in the future than has ever been produced, to see that the finish and appearance is perfect in every particular. The prospects are that the inspection of dairy produce will be closer this coming season than ever before, hence the necessity of more uniform goods and the very best finish that is possible. In case of dispute re the quality of goods between any member of our Association and the patrons, we have appointed the following inspectors to be called in if their services are required: T. B. Millar, Kincardine, and James Morrison, Stratford.

The board of directors will grant certificates to all competent makers who are members of the Association. The salesmen of cheese factories are urged to endeavor to establish a better system of selling. The board recommends that all sales of cheese be made binding and that all cheese be inspected before selling and when a sale is made to have a specified time for shipping. The president of the Association is Mr. T. B. Millar, Kincardine, and the secretary, Mr. W. W. Brown, Attercliffe Station, Ont.

### BOYS AT THE INSTITUTE MEETINGS.

MANAGEE B.G.

This subject is a very important one; for as "the boy is the father of the man," his attendance at the farmers' institute meetings tends to the future welfare of the country. The sooner a boy begins to think about

and learn something of the different subjects connected with his future profession the better. That he can learn much at Institute meetings it is needless to say; though some farmers imagine that they lose time in attending them. But as we find at them the most-intelligent and go-ahead farmers in the country who attend them not only to tell what they know, but also to learn something of what others know, there is no doubt that a boy will pick up many things which will be useful to him in after life, and he may also acquire a taste for agriculture, while if he stays at home doing—as is too often the case—work that ought to be done by a man, it makes him think that farming is drudgery—all manual labor, without any head work—and smart boys want to use their heads as well as their hands.

In order to get the boys to attend the meetings it will first be necessary to get their fathers to bring them. This may be done by the chairman asking the members to bring their boys to the next meeting, or it may be that the advisability of having boys attend the Institutes be made the subject for a meeting with one or more papers on the subject; either will, no doubt, have the desired effect, though the attendance will, in all probability, be small to begin with. The next thing is to create in the boys a wish to come again, for if this is not done nothing has been accomplished. The subjects taken up, therefore, should be such as will interest boys, and great care should be taken that the papers be interesting and to the point, and the discussion spirited. After two or three such

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Double and Stitched Nickel-Mounted Single Harness \$8.50; regular price \$10.

10 pounds of 25c. Black, Japan or Blended Tea for \$1.80.

## CASH WITH ORDERS F.O.B.

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R. Y. MANNING, Manager.

meetings the subject for the day may be one which the boys are supposed to know something about, and a couple of the boys could be asked to prepare and read papers on the subject, after the reading of which the meeting may be given up to them for a short time to discuss the subject among themselves. Though it may be difficult to get the lads to say anything, the fact of one of them reading a paper would awaken an interest that would do much to cause them to wish to attend the meetings; and if their taking part in the proceedings were repeated at intervals this interest would be kept up, and the time well spent in drawing out the future agriculturists. Very much would depend on the chairman, if he was a man that had a knack of drawing out and making young people feel at home all would go well; such a man can interest them, and when that takes place we sometimes hear from these boys words of wisdom which show thought that would put many of their elders to shame. Such boys will learn much at Institute meetings and will be examples for those less bright or not so thoughtful. There are generally in all communities boys who, though bright, because of shyness do not show it, these a little encouragement will draw out and cause them to be regular attendants. The short time given up to the boys in order to create in them an interest in the proceedings of the Institute is necessary, for though a boy may be brought there by his father it will be of no use to him if his mind is not set on what is going on. Hence the importance of always hav-

ing good and interesting meetings. This rule stands good, not only as regards the young, but also with those of mature age, for we often see many vacant seats at the regular meetings.

Scientific agriculture may be introduced into meetings without in any way doing harm, but rather having the opposite effect; but the paper, when it is introduced, should not go too far at a time, but plainly show cause and effect in such a way that the young people can understand it, and thus give them an idea that there is much to learn in farming that they cannot see, but which will enable them to understand things that they do see.

If the Institutes can show the boys that farming requires the use of brains as well as of muscle, and that agriculture is a deep subject and requires study, much will be accomplished towards having a good and regular attendance, not only of the boys but also of their fathers.

**APPLES FOR COLD CLIMATES.**

This is a subject of a bulletin of the Vermont Agricultural Experiment Station. The limit of successful apple culture has been moving steadily northward ever since the occupation of this country. Factors in this progress have been the planting of crab apples, the introduction of the Russian varieties, and especially the selection of native hardy seedlings and the adoption of better orchard practice.

Any given variety, more or less sensitive to cold, can be grown from fifty

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| 1 " Musk Melon   | 1 " Watermelon  |
| 1 " Citron       | 1 " Onion       |
| 1 " Radish       | 1 " Squash      |
| 1 " Tomato       | 1 " Vine Peach  |
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| Dr. Williams' Pink Pills | 35c      |
| Scott's Emulsion         | 70c      |
| Ayer's Sarsaparilla      | 70c      |
| Castoria                 | 25c      |
| Copperas                 | 2 1/2 lb |
| Paris Green              | 2cc lb   |
| Salts                    | 3c lb    |
| Sulphur                  | 3c lb    |

All Drugs and Medicines at Wholesale Prices

**The Grange Wholesale Supply Co.**

LIMITED

126 KING STREET EAST, TORONTO

Address,

**FARMING**

44-46 RICHMOND STREET W., : : : TORONTO

to one hundred and fifty miles north of its natural limit by reasonable precautions, such as the following:

1. Plant on land sloping south or south-east and furnish good wind breaks to the north.
2. Secure thorough atmospheric drainage by choosing moderately high and sloping land.
3. Secure thorough atmospheric drainage. If the subsoil is not porous enough to carry off all extra water it must be underdrained.
4. Buy trees on hardy stocks. In most grafted or budded trees the character of the stock is wholly unknown, but to grow a given variety at its northernmost limit a perfectly hardy stock is required.
5. Graft the chosen variety in the tops of very hardy trees.

Varieties recommended for planting where hardiness is a principal consideration are Yellow Transparent, Red Astrachan, Longfield, Oldenburg, Fameuse, McIntosh, Wealthy, Scott Winter, Pewaukee, Arctic. — *Montana Fruit Grower.*

**BEES IN THE ORCHARD.**

Many fruit-growers do not thoroughly appreciate the value of bees in an orchard or there would be more orchards with bees in them. Their value in an orchard was demonstrated in a most practical way at the Oregon Experimental Station some years ago. A few peach trees were forced into bloom in November, and a colony of bees was placed in the house when the trees began to bloom. For some days, however, a heavy fog prevented the bees from working; although the flowers were open not a bee was seen upon them. The first bright day the bees set to work at once and remained at work so long as there was anything for them. The result was that not a peach dropped at the stoning season, the time all unfertile fruit falls. The crop was so heavy that it had to be thinned out. As a check test one tree was protected so that not a bee could get to it. On this tree all the fruit dropped at the stoning period. Bees and other insects have a duty to perform in the orchard, for which there is no substitute provided. This is the distribution of the pollen from flower to flower and from tree to tree. They insure success in the orchard, and every fruit-grower should encourage the bees in their work by not spraying, or doing anything that would be injurious to the bees while the trees are in full bloom. — *Massachusetts Ploughman.*

**A NEW FARM STEAM HEATING DEVICE.**

We had the privilege recently of examining a new device for generating steam, which we think will be especially adapted for stock farms and small dairies. The contrivance is simple, and, if it will do what its inventor claims, will be invaluable for cooking foods and providing hot water on the average farm. The inventor is Mr. R. Bigley, Toronto, who hopes to have his invention in running order shortly. It is a simple hot-water tank, so connected with a small heating apparatus by passing through which the water is quickly heated and escapes in the form of steam at the top of the tank. The heat may be

generated by coal, gas, or coal oil. A very small amount of these materials is sufficient to heat the tank of water and to generate a large force of steam. This steam can be utilized for cleaning and sterilizing dairy utensils, for heating water for washing milk-cans, etc., for cooking and heating food for stock, and in various ways in which hot water can be used on every farm. The heating apparatus can be placed in a farm house and utilized for heating purposes as well as generating steam, and, if necessary, the steam can be carried forty or fifty feet away in pipes. In this way the hot water could be retained in the house and the steam utilized in the stable or dairy.

**Publishers' Desk.**

**The Daisy Barrel Churn.**—A good churn is an absolute necessity, and there is, perhaps, none better than that made by The Wortman & Ward Mfg. Co., of London, Ont. It may be obtained from dealers everywhere.

**People We Rely On.**—Canadians are sometimes cautious about dealing with firms doing business in the United States, but in the case of the Lawrence-Williams Co., of Cleveland, Ohio, and E. R. Ulrich & Sons, of Springfield, Illinois, they need have no fear. Both of these firms have been doing business with Canadians for years and have been found to be thoroughly reliable. Ulrich's ensilage seed corn is too well and too favorably known to need any vindication. Gombault's Castic Balsam is also an article which has been highly beneficial to horsemen the world over.

**Stumps on a Farm.**—The aesthetic sense or appreciation of what is beautiful and in good taste does not require abnormal development in a farmer to enable him to see the desirability of getting rid of the unsightly stump. He desires its elimination for economic reasons as well as for the sake of appearance. When appliances for removing large stumps and stones were unknown the clearing of his land was a process which often exhausted both patience and strength, and was only accomplished in many cases by the hand of time. Modern invention has changed all this. Machines are now obtainable which will accomplish the desired result in a few hours. One of these machines is made by A. Lemire, of Wotton, Que., who has made a specialty of this class of implement, and has spent many years in perfecting the one which he now advertises.

**To Our Advertisers.**—As in every other department of business enterprise, advertising should be instinctive with life and thought and individuality. It is not sufficient to insert an announcement of your business in a newspaper, and leave it to work out its own destiny. If it is to be made effective, it must be changed frequently, and have new vitality infused into every change. It costs us something every time a change is made, and entails an expenditure of time and labor as well; but dead advertising is an eyesore,

**Vegetables**

can be raised at a profit, and the yield enlarged, if properly fertilized. Most fertilizers do not contain enough

**Potash.**

Vegetables need plenty of potash—at least 10%—besides the phosphoric acid and nitrogen.

Write for our books which tell all about fertilizers. They are free.

GERMAN KALI WORKS,  
93 Nassau St., New York.

and we prefer to incur the expense and trouble necessary for its vitality. Advertisers will, therefore, always find us willing to do our part if they will do theirs. They cannot send in changes too frequently to suit us, and they will find it profitable to keep their announcements fresh and interesting. Let us hear from you to-day for fear you may forget.

**He Knows How to Get Premiums.**—Montrose, May 3rd, 1898. Dear Sir,—After reading your premium list I thought I would try for a bushel of Prussian blue peas, and had very little trouble in securing a new subscriber. I enclose \$1 for subscription and 15c. for the bag. The new subscriber is Mr. Henry Hixon, Port Robinson, Ont., a well-to-do farmer who was telling me a few days ago he was tired of the Yankee papers. I lent him some of mine to look at. The result was he came with the dollar and asked me to send for FARMING at once. I have taken your paper for four months, and am very well pleased with it. It should be in the hands of every Canadian farmer, in the place of many American publications which find their way into this country. Hoping your circulation may increase, yours respectfully, RICHARD HARFLEY.

**ROOFS FOR THE KLONDIKE.**



Roofs must be chosen with care and judgment in any country, and especially so in Canada. All our products are constructed for use in Canada, and ample provision is allowed for contraction and expansion, and we guarantee them to be water, wind, and storm proof.

Up-to-date information and fully illustrated catalogues of Steel Roofings, Sidings and Ceilings sent free for the asking.

The Pedlar Metal Roofing Co.  
OSHAWA, ONT.

**Stock Notes.**

Mr. N. Dymont, of Hickory Hill Farm, Clappers' Corners, seems to have brought his fine stock through the winter with more than usual success. He says Dandy (2223), winner of milk test at Guelph in 1897, has given 1/2 lb. of milk per day, and Briery Bank Susie (2247) 6 1/2 lbs. per day. Belle Flower of Hickory Hill is now fresh and doing fine; has not been in long enough to feed her much, yet she can put up 40 lbs. per day, which, with feed, will no doubt increase to 45 lbs., although she is only a heifer. The others have not come in, but will be heard from later on. Drummond (2036) is in great shape, and his stock are all coming right. There have been good offers made for him, but as it would be difficult to replace him I have preferred to keep him for my own herd. It would be hard to find his equal.

**HELDERLEIGH FRUIT FARMS AND NURSERIES**  
—400 ACRES—



Situated at the base of the Mountain in a warm and sheltered valley where trees arrive at full maturity. Having over 125 acres planted in fruit, I have unusual facilities for knowing the value of the different varieties and establishing their purity. Everything is GUARANTEED TRUE TO NAME or purchase price refunded. I have for the fall of 1897, and the Spring of 1898, a complete line of Trees, Shrubs, Vines, etc., both fruit and ornamental. Write for a Catalogue which is furnished FREE, and which contains over ten pages of closely written matter about the various PESTS that trouble fruit growers and means of preventing their ravages. Buy CANADIAN GROWN STOCK only, and thus escape the dreaded San José Scale so prevalent in the States. There is no more reliable, healthier, hardier, or more complete assortment than mine. Good reliable salesmen wanted in a number of fine townships, to start work at once. Complete outfit free. Address E. D. Smith, WILSONA, Ont.

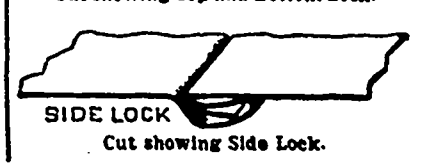


THE BEST  
**For Dairy or Table Use**  
IT IS UNEQUALLED.

**Salt on the Farm**  
for wire worm, joint worm, army worm and all insects that destroy crops. Salt is the best insecticide. It is also a fertilizer.

**TRY IT.**  
**R. & J. Ransford**  
OLINTON, ONT

**New Metal Roofing..**



Our Patent Safe Lock Shingles are so constructed that they lock or fasten on all four sides, making perfect joints, absolutely proof against the weather.

Buildings covered with our roofing look pretty, are fire and lightning proof, and will last a lifetime.

Samples and Prices sent free upon application.

**Metal Shingle and Siding Company Limited**  
PRESTON, ONTARIO

MARKET REVIEW AND FORECAST

Office of FARMING,

44 and 46 Richmond street W., Toronto.

May 10th, 1898.

Everything points to a busy, prosperous season in trade circles all the way through. Prices are advancing, and the whole trade of the country is perhaps in a better condition than for many years back. The maritime trade at Montreal has opened with a rush of exports such as has never been experienced before. This has had the effect of vastly improving trade in the interior. Though trade has been stimulated somewhat by the war, and things have moved a little quicker, the larger share of the prosperity now evident in trade circles is due to other causes of a more permanent character.

Wheat.

Wheat is the all-important topic in trade circles just now, and the tradesman, whether he is directly interested or not, is closely following the market and the wheat crop reports. The market continues in an excited state, owing largely to the fight that seems to have taken hold of European buyers regarding future supplies. In some European centres it is feared that the Spanish-American war may lead to a general European war, which might cut off supplies. The bread riots of Italy have caused apprehension, and the prospects of the Argentina supply being cut off by a war between that country and Chili have so excited European dealers that they are buying up supplies on all sides. However, as the weeks go by it becomes more evident that a large share of the excitement on both sides of the Atlantic is due to the Leiter manipulations. In fact, many claim that Leiter and his gang are responsible for the bread riots of Italy, because of the extensive wheat corner which they have manipulated. If it had not been for this manipulation of supplies prices would not have advanced as they have, and the riots would not have occurred. Considering that the world's supply of wheat in sight is 12,000,000 bushels more than at this time last year, there seems to be good grounds for this latter assumption. The visible supply decreased 100,000 bushels last week, and even if it decreased 7,000,000 bushels every week till the new crop was ready there would be 15,528,000 bushels to carry over.

There have been considerable fluctuations in prices during the past week. At Chicago on May 10th July wheat dropped 19c. in one hour, from \$1.25 to \$1.06, and May wheat 12c., from \$1.85 to \$1.73. The English markets continue excited, though the market was somewhat weaker towards the end of the week. The Toronto market has been very irregular during the week. At the beginning prices advanced from 5c. to 8c. over the previous week, and the ruling figures were from \$1.15 to \$1.20 for red west. As the week advanced prices declined, and on Friday sales of red winter west were made at from \$1.00 to \$1.09. Manitoba is firm at \$1.45 at Sarnia.

Barley and Oats.

The oat market was somewhat easier towards the end of the week, and were selling at 35c. for white west, one-half cent less than earlier in the week. Considerable business has been done at Montreal, and the price was one cent higher, ranging from 39c. to 40c. Cable reports show that No. 2 Canadian are selling at from 18s. 9d to 19s. 4d. and i.

The Toronto barley market is nominal. At Montreal it is quiet but firm. Feed barley is quoted at 48c. to 50c. afloat, and malting at 52c. to 55c.

Potatoes.

Potatoes have been easier during the week, the ruling prices for carload lots being 65c. to 70c., and out of stores from 75c. to 80c. The Montreal market is reported stronger and higher at 70c. on track. Sales to American buyers at interior points have been made at 60c. to 65c.

Eggs and Poultry

Cable reports indicate a quiet market with liberal supplies. Liverpool houses complain of Canadian pickled stock being too high to admit of future contracts being made. Irish eggs in Liverpool are quoted at 5s. 6d. to 6s. 6d. as to weight. At Montreal the market remains steady at 10c. to 10 1/2c. for fresh stock; seconds are selling at about 9c. Eggs that have been put in lime this spring cost 1c. per dozen more than a year ago. At Toronto prices have ruled at 10 1/2c. till towards the

end of the week, when they dropped 1/2c. to 10c.

Poultry here have been fairly steady at about 11c. for turkey, and 60c. to 70c. for chickens.

Wool

The receipts of new stock as yet are small. About 10c. is the ruling price here for washed and 11c for unwashed. About 15c. is the ruling price at country points, though, if the weather becomes warm and supplies increase, it is doubtful if these values will be maintained. The American duty on wool is having considerable effect on trade here. Only the finest quality can be sent in at a profit.

Cheese.

Many of the local cheese markets opened up for business last week. Prices at Ontario points ranged from 7 1/2c. to 8 1/2c., very few sales being made over 8 cents. The make is reported large, and exports from this out are expected to show a large increase. Montreal figures rule about 8 1/2c. for white and 8 1/2c. for colored. There is a weaker feeling in Laver pool and the market is a shilling lower. Holders are a little nervous over lower cables from New York. All this had a somewhat easier feeling on the market here towards the end of the week. The market is, however, away ahead of what was expected a month ago, and instead of cheese selling at 6c. with the cable 30s. as predicted, it is ruling at about 8c. with the cable at 45 shillings.

Butter.

Another decline of 1 shilling per cwt. (112 lb) is reported, with holders forcing sales owing to large and increasing supplies. Finest Canadian creamery is normal at \$28. to \$38. at London—but none there. As soon as grass butter is made it is expected that there will be a larger demand for Canadian creamery. A dry spring is reported in many parts of England, and the English make is not as large as usual. Last season creamery butter sold as low as 14 1/2c., but so far 16c. has been the lowest price that choice brands sold for. There is a good local demand at Montreal. Some lots have been sold during the week on export account. Prices have ranged from 16 1/2c. to 17c. for choice creamery. Sales of seconds are reported at 15 1/2c. to 16c.

Toronto market is weaker; 17c. is quoted for creamery prints, and 16 1/2c. for tubs. The supply of dairy butter has been very large during the week. Dairy tubs are quoted at 12c. to 13c., and pound rolls at 13c.

Cattle.

Last week cable reports show a steady market though American supplies have been large. Prices are reported firm at an advance of 1d. per stone. There has been nothing unusual in the western cattle trade during the week. Some are looking for an advance because of the war, but it is not in sight yet. Ontario supplies have increased during the week, and small lots are coming to the markets here in large numbers. The export business is increasing owing to the opening of navigation, but the increased freight rates is having some effect upon prices. The receipts at the Toronto markets during the week have been record breakers. There were 96 carloads of stuff on Tuesday's market and 107 loads on Friday's market. Drivers and dealers are demanding more room.

Export Cattle.—Early in the week there was a firmer feeling owing to the opening of navigation and the prospect that the war may cause a better demand. On Friday, however, the receipts were so large that the market was depressed. Prices ruled steady with a lower tendency. Choice shippers sold at \$4.35 to \$4.40 per cwt., but the most sold at 4 1/2c. to 4 3/4c. per lb. Some sold as low as 4c. per lb.

Butcher's cattle.—There were more cattle than were required on Friday's market; though choice quality were not much lower. Some drivers tried to sell at less than the cattle cost in the country. Choice lots bring 4c. per lb., but the ruling figures on Friday were from \$3.50 to \$3.80 per cwt. Common cattle sold as low as \$2.90 to \$3.10 per cwt.

Bulls.—There is a fair demand for export, but stock bulls are not wanted. Prices rule from 3c. to 3 1/2c. per lb.

Stocks and feeders.—There has been a fair supply and the demand good for stockers for Buffalo, and prices for this trade have ruled at from \$3.25 to \$3.75 per cwt. Half-fat cattle are in brisk and bring from 3 1/2c. to 3 3/4c. per lb. Poor stockers fetch from 3c. to 3 1/2c.

Cows.—Offerings are heavy and the demand slow. The ruling price is from \$2 to

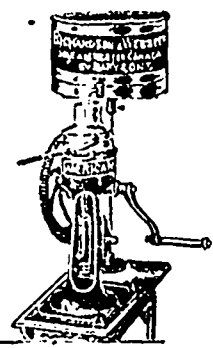
\$70.00...

FOR THE NO. 1

American Cream Separator

Capacity 150 lbs. per hour.

No. 2, 350 lbs. per hour, \$100.00
No. 3, 600 lbs. per hour, \$135.00



THE MOST COMPLETE AND NEAREST PERFECTION OF ANY CREAM SEPARATOR ON THE MARKET TO-DAY

Get our Catalogue of Prices, Illustrations and Testimonials. Good inducements offered in new localities where our machine is not introduced.

AGENTS WANTED.

RICHARDSON & WEBSTER,

ST. MARY'S, ONT.

\$5 each. Choice veals early in the week brought from \$6 to \$6 50 each.

Milk cows and springers.—Prices are firm at from \$25 to \$40, and some fancy cows bring \$42 and \$43.

Sheep and Lambs.

At Buffalo both sheep and lambs have ruled higher and reports from the Eastern States are encouraging. The London market is reported steady, the recent decline of 1d. per stone stimulating demand. Good yearlings are wanted at from 5 1/2c. to 6c. per lb. Light ewes sell for 4c. to 4 1/2c. Spring lambs are in request at \$3 to \$4 each.

Hogs.

Early in the week prices advanced 10c. per cwt. for choice singers ruling at from \$5 to \$5.10. These were the ruling figures on Friday's market weighed off the cars. Light and thick fat hogs sold for \$4.60 to \$4.75, sows at \$3 to \$3.25, and stags and other rough hogs at \$2.

A. ELLIOTT, Pond Mills, Ont.

Poland China, Duroc Jersey and Tamworth Swine, Oxford Sheep, Colic Dogs, Pekin Ducks, White Holland and Bronze Turkeys. Eggs for sale.

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SECRETS OF SUCCESS contains 78 pp. cloth bound; indexed; illustrated, and conceded by all purchasers to contain more practical common sense information than any other Farmer's Book ever put in print.

Mailed Post Paid on receipt of Price, \$1.25. To any one who cannot derive the special benefit from any one single article we will refund your money.

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Paper back, mailed Post Paid on receipt of price, 50c., or the two Post Paid \$1.50. The practical information these two volumes contain turned into practical account will be the means of causing the face of nature to blossom as the rose and to smile in prosperous abundance. Believing that he who does good unto his fellow man does good also unto himself, and awaiting your esteemed favors, I beg to remain, yours for success,

Address— H. H. DEWESE, The Gilt-Edged Farmer, DAYTON, OHIO.

Our Abundance Plum

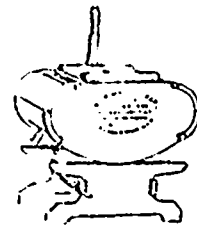


and other Trees, Plants, Vines, Roses, Ornamentals, etc., are reliable and up to date none better. Send for priced catalogue of 1898, giving variety and prices to suit the times. Special offers to buyers. Also choose

Seed Potatoes. Three new Rambler Roses, crimson yellow and white (2 years), by mail for \$1. No Agents employed.

A. G. HULL & SON, Central Nursery, St. Catharines, Ont

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The Maple Leaf Churn

EASIEST AND BEST

Ask your Dealer for or send direct to the manufacturers,

WILSON BROS. COLLINGWOOD ONT.

GOOD SALT, GOOD CHEESE.

The very freshness of the curd of milk requires the salt of sense - Windsor Cheese Salt. The absolute purity of its delicate salt crystals imparts the flavor you want and need to keep the curd from souring. And it dissolves quickly—the full strength is felt at once

Progressive Grocers sell

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The Windsor Salt Co Limited, Windsor, Ont.

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as try to grow much fruit without a SPRAMOTOR. Awarded TEN dip lozas, THREE medals, and the Government Contest within a year. It is all very good to be second or third in a contest, but the winner's the thing, especially when it costs less than the rest. Secure a SPRAMOTOR and spray your trees and plants and reduce the cost of production one half. You're safe with a SPRAMOTOR. It will paint your barns and whitewash the landscape.

Send a stamp for 2c. page copyrighted edition of catalogue and treatise on the diseases affecting fruit trees, vegetables, etc., and their remedies.

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This is to certify that at the contest of Spraying Apparatus held at Grimsby, on April 2nd and 3rd, 1896, 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., London, Ont., was awarded FIRST PLACE.

H. L. HUFF, } Judges M. P. HULL, }

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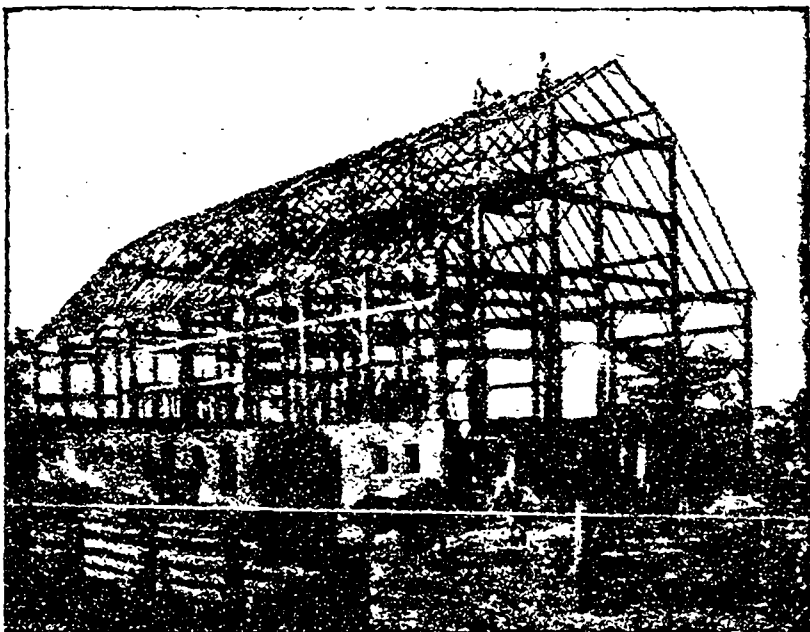
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**High in Quality**      56 Years in use.  
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The Leading Cement for Building Bank Barns, Cement Floors  
in Stables, Silos, Culverts, Pig Pens, etc.



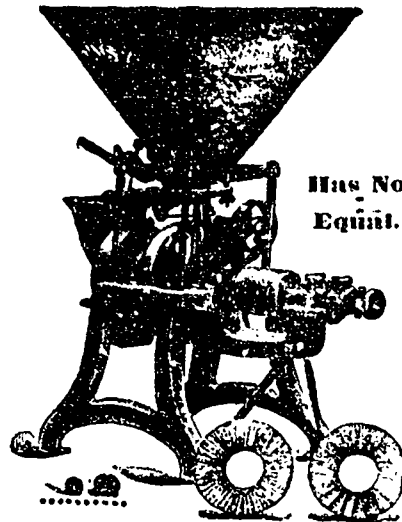
Mammoth Barn of Beswetherick Bros., near Hagersville, Ont. Floors for  
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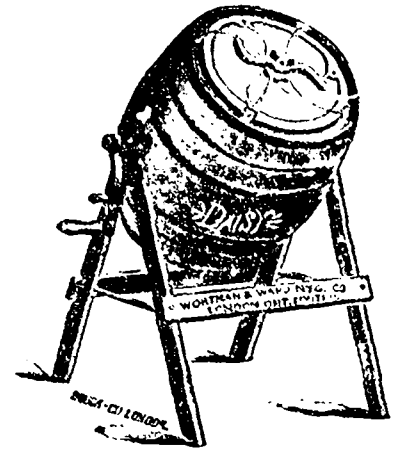
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## THE DAISY GRAIN GRINDER THE DAISY BARREL CHURN

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Has No  
Equal.



Stronger, Lighter and More Convenient than  
ever, and has Roller Bearings.

Suitable for all purposes. Made in four sizes, using  
8 inch, and 10 and 12 inch reversible plates. Fitted  
with ball bearings and relief springs. By a simple  
lever attachment the plates may be instantly separated  
and brought together again while in motion. Elevator  
and bagger added when desired.

The 1893 "DAISY" is far in advance of any other  
Churn in the market. Fitted with improved Gas Vent  
if required. The Gas Vent is not necessary, but you  
can have it if you want it.

**SOLD BY DEALERS EVERYWHERE.**  
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LONDON ONTARIO.

Write for Descriptive Circular and Implement Catalogue before purchasing any other.

The editor of the *English Agricultural Gazette*,  
referring to

# Thomas- Phosphate Powder

says:—

"Despite the fact that it seems to set some of the teachings  
of scientific experts at defiance, I am bound to bear testimony to  
the wonderful results that have followed its use on many farms."

Where it had been used it completely upset his previous  
theories, and convinced him of its great value, both on plowed  
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- Use it on your GRAIN
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## IT WILL PAY



- Plow it into your ORCHARDS
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It is the only safe, perfectly available phosphate known  
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ST. JOHN, N.B.



SAFE  
FOR  
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# GOMBAULT'S CAUSTIC BALSAM

## A BOON TO HORSE OWNERS

Supersedes all Cautery or Firing, and Cures

Founder  
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Skin Diseases  
Removes Bunches  
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Blemishes

Splint  
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All Lameness  
from Spavin.  
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Send for Testimonials and see what others say of it.

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For Transforming Common Wagons into First-Class Spring Vehicles.



WINDSOR BOLSTER SPRING CO.

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Every Spring guaranteed! Will carry light or heavy loads. Especially adapted for marketing fruit, etc. Capacity up to 7,000 lbs. Write for particulars. In ordering give width between stakes and capacity required.

The BEST Farm Wagon Spring in the World

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Free Grants of Government Lands  
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GOOD SOIL PURE WATER AMPLE FUEL

Most desirable lands suitable for mixed farming can be obtained in the Old District along the line of the Calgary and Edmonton Railway, about fifty miles North of Calgary. Most desirable lands can be obtained in Southern Alberta in close proximity to the Calgary and Edmonton Railway and the Crow's Nest Pass Railway, suitable for mixed farming and ranching on both a large and small scale. North Saskatchewan also affords a splendid opening for intending settlers in the Prince Albert, Duck Lake and Rosthern Districts, on the line of the Qu'Appelle, Long Lake and Saskatchewan Railway.

For full information concerning these districts, maps, pamphlets, etc., Apply to

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#### THE ALEXANDRA

Hand and Power. Capacity 100 to 2,000 lbs. \$50 to \$150.

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Hand style only. Capacity 350 to 850 lbs. Price \$100 to \$185.

Up-to-date Dairy Machinery and Supplies

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### ULRICH'S ENSILAGE Seed Corn

This Celebrated Corn is Sold all over Canada.

Giant Prolific,  
Mammoth White,  
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Improved Learning.

Ask your dealer to procure SEED for you and you will be well pleased with results. No fancy prices. Write for Free Samples and Book of Testimonials.

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### Woodstock Steel Windmills

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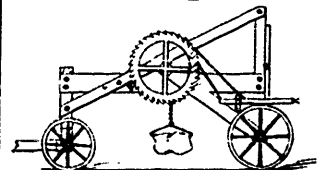
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