

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- Coloured covers/  
Couverture de couleur
- Covers damaged/  
Couverture endommagée
- Covers restored and/or laminated/  
Couverture restaurée et/ou pelliculée
- Cover title missing/  
Le titre de couverture manque
- Coloured maps/  
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black)/  
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations/  
Planches et/ou illustrations en couleur
- Bound with other material/  
Relié avec d'autres documents
- Tight binding may cause shadows or distortion along interior margin/  
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure
- Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/  
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.
- Additional comments:/  
Commentaires supplémentaires:

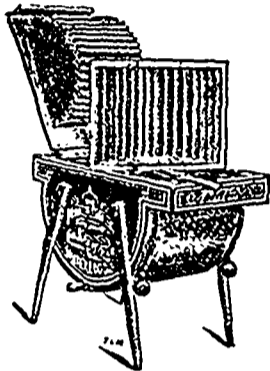
- Coloured pages/  
Pages de couleur
  - Pages damaged/  
Pages endommagées
  - Pages restored and/or laminated/  
Pages restaurées et/ou pelliculées
  - Pages discoloured, stained or foxed/  
Pages décolorées, tachetées ou piquées
  - Pages detached/  
Pages détachées
  - Showthrough/  
Transparence
  - Quality of print varies/  
Qualité inégale de l'impression
  - Continuous pagination/  
Pagination continue
  - Includes index(es)/  
Comprend un (des) index
- Title on header taken from: /  
Le titre de l'en-tête provient:
- Title page of issue/  
Page de titre de la livraison
  - Caption of issue/  
Titre de départ de la livraison
  - Masthead/  
Générique (périodiques) de la livraison

This item is filmed at the reduction ratio checked below/  
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	14X	18X	22X	26X	30X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12X	16X	20X	24X	28X	32X

# FARMING.

## THE INVINCIBLE WASHER

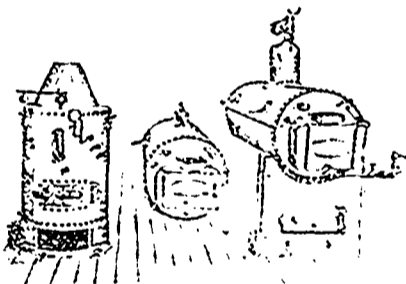


The Greatest Household Labor Saver ever invented. Actual trial has proved that it will wash cleaner and quicker than any other machine now in use, it is without doubt the Best Washer in the World.

Every Machine guaranteed to give satisfaction. is an easy seller.

Reliable Agents wanted in every Township. For full particulars, address

**CHAS. KREUTZIGER,**  
Manufacturer and Patentee. WATERLOO, ONT.



## Steam Plants

Portable or Stationary

Why not have one for your Farm or Factory? If you do not require it continuously for driving machinery, the steam produced may be employed in heating, boiling, drying, etc.

We invite your enquiries, and shall be pleased to supply information as to cost, etc.

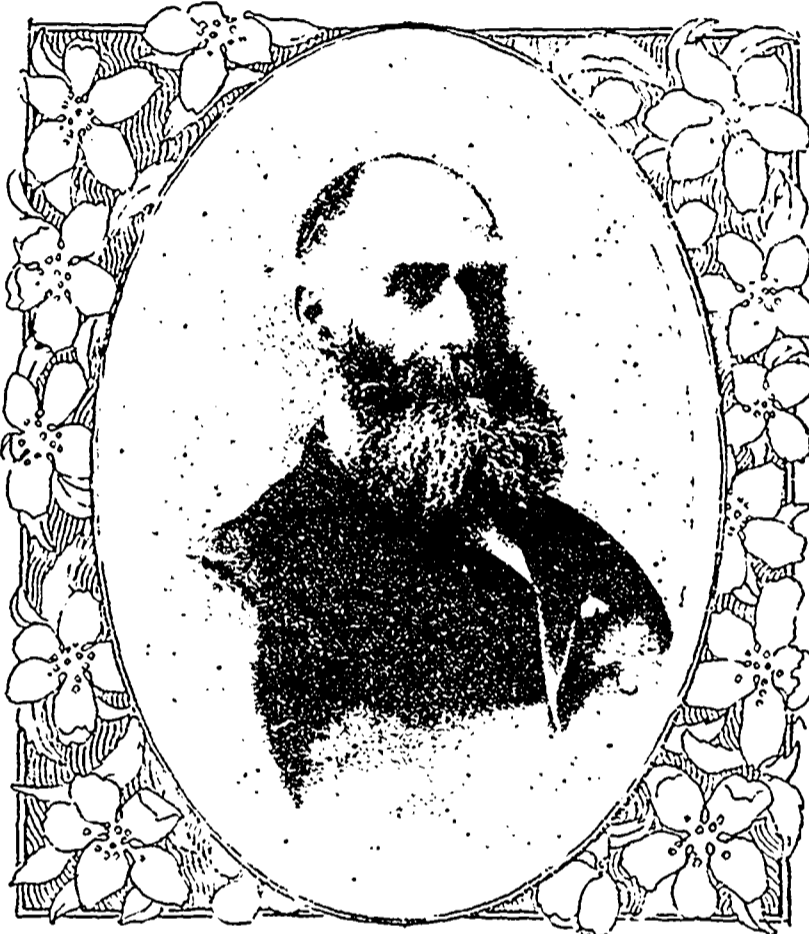
THE  
**JENCKES MACHINE CO.,**  
30A Lansdowne Street,  
SHERBROOKE. - QUEBEC.

## THE TORONTO ENGRAVING CO.

20 Bay Street, Toronto

Live Stock Engraving and  
Photographing a Specialty

Cuts for Newspapers, Magazines, Advertisements, Catalogues and Circulars supplied on short notice.



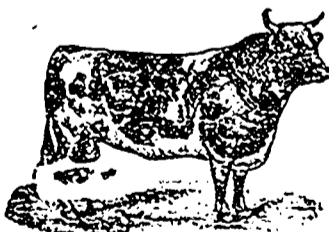
E. H. BULL, BRAMPTON

### LEADING TOPICS FOR THE WEEK.

CURING FALL CHEESE. SKILL IN BREEDING. HIRED HELP ON THE FARM. JUDGING AT SHOWS. VISIT THE FAIRS. EDUCATION FOR FARMERS. THE FARMER'S IDEAL. CLOVER AND PHOSPHATE. THE FAMILY HORSE. PROFITABLE FARMING. CROP REPORTS. MARKET REVIEW, ETC., ETC.

## Isaleigh Grange Stock Farm

Ayrshire and Guernsey Cattle.  
Improved Yorkshire Swine.



Shropshire Sheep. Our Ayrshire herd is headed by the noted bull, Matchless 760, sire, Glencairn III., imp. 6055; dam, Nellie Osborne, imp. 5358.

Our Special Offer

consists of six choice young Ayrshire bulls and a few heifers; two extra Guernsey bull calves, and a choice lot of sheep and pigs. All at very low figures for immediate sale.

**T. D. McCallum, Manager,**  
Danville, Que.

**J. N. GREENSHIELDS, Proprietor**

## Grind for Profit

Don't ruin yourself with a grinding machine that takes twice the necessary power.

BUY A "Joliette" Champion

It's the best and does the most work for the least power.

Send for Catalogues and prices

**S. VESSOT & CO.**

Joliette, P.Q.

## Coming To the Fair?

50 Buildings on the Toronto Exhibition Grounds are roofed with our

### Steel Shingles

Letters from Mark Hall, the Architect, and President J. J. Withrow, tell us that "Our Metallic Shingles have given the utmost satisfaction, making the tightest roofs on the grounds," also that "they are ornamental in design and effective as a fire guard."

To use our goods is to know their superior worth.

Call in and inspect our many reliable lines of fireproof building materials when in town—we're right on the corner of King and Dufferin Streets, adjacent to the grounds, and we will make you cordially welcome.

**Metallic Roofing Company**  
(Limited)

1192 King St. West, Toronto



## Every Man His Own Cobbler

The Home Repairing Outfit. A complete set of tools for Boot, Shoe, Rubber, Harness and Leather Repairing. 17 articles packed in a new strong box; weight, 18 lbs. Every family needs one. They sell like hot cakes. Price for the complete outfit, \$1.75.

The Ballely Donaldson Co.  
MONTREAL, Quebec.

## Rock Salt for Horses and Cattle

70c. per 100 lbs.; 500 lbs. for \$3.00 here. CASH WITH THE ORDER.

TORONTO SALT WORKS, Toronto, Ont.

## FLEMING'S LUMP JAW CURE

Is sold under a positive guarantee to cure, or money is refunded



Trade Mark Reg'd.

SHOAL LAKE, MAN., Jan. 26th, 1898.  
DEAR SIR, In regard to our experience with your Lump Jaw Cure, we used it on seven lumps last season. It worked all right. Some of the lumps had broken and run several times before using it.

Yours truly,  
FLEMING & SHORT.

PRICE, \$2.00, sent by mail. Illustrated Treatise on "Lump Jaw" sent free.

Address  
**FLEMING BROS., Chemists, ST. GEORGE, ONT.**

English Advertisements.

Henry Dudding

Riby Grove, Great Grimsby,  
Lincolnshire, England

Has always for inspection, and sale, the largest flock of pure Lincoln Longwool Sheep in the county, including many prize-winners, having taken prizes for many years at the Royal and other shows for both Rams and Ewes, including champion medals at both the Paris Exhibitions, Vienna, Amsterdam, Canada, Australia, New Zealand, and all the leading prizes at the Chicago Exposition; also the first for the best collection of Lincoln fleeces of wool at the Royal Windsor Show and the Lincolnshire Show, which proves the character of this flock. The sheep are famous for their great size and one hundred and twenty-five years' good breeding. At Lincoln Ram Sale, 1896, this flock's consignment not only made the highest individual average of any consignor, but also made an average price exceeding that made by any other breed in England, i.e., \$512 per head, the first six making an average of \$840. The sheep for sale this year are all sired by noted rams, and are fully equal to their predecessors in every way.

Rail Stations: Stallingboro, 3 miles distant,  
and Great Grimsby 7 miles.  
Telegrams: "Dudding, Riby, England."

S. E. Dean & Sons

Dowsby Hall, Folkingham,  
Lincolnshire, England

Have always for inspection and sale fine specimens from their FLOCK of PURE LINCOLN SHEEP (No. 47 in Lincoln Flock Book), including SHEARLING EWES and RAMS, also RAM and EWE LAMBS. Sheep from this flock have been exported to nearly all parts of the world, where their great substance and large fleeces of beautiful quality wool give the greatest satisfaction to purchasers. Early in 1894, about twenty Rams from this flock were sold by public auction in Buenos Ayres, and realized the highest average ever obtained for Ram Hogs exported from England. The flock is most carefully bred, and none but the very best sires used. Messrs. Dean also send out selections from their flock to purchasers who are unable to come to England to inspect them, and they have given great satisfaction. Messrs. Dean have also for sale purebred Bates SHORTHORNS and pure LINCOLN RED SHORTHORNS.

Dowsby Hall is one mile from Ripplingale Station, on the Great Northern Railway, Bourne and Sleaford Branch.

TELEGRAMS: DEAN, RIPPINGALE.

J. E. Casswell

Stock Book  
No. 46

Laughton, Folkingham, Lincolnshire, Eng. This well-known flock has been established more than 100 years, and the pedigreed Lincoln long-wooled rams and ewes have been noted throughout the Colonies and South America for their "size, symmetry, and lustrous wool." Ewes from this flock have always passed from father to son, and have never been offered for sale. Mr. J. E. Casswell's grandfather, Mr. G. Casswell, of Laughton, was the first breeder in the county to let his rams by public auction. At Lincoln Ram Fair, 1895 and 1897, Mr. J. E. Casswell made the highest average for 20 rams. The rams of 1896 were all sold privately for export. During the last two years the following amongst other noted sires have been used: Bakewell Counciller and Baron Rigby, for each of which very high prices have been refused; Laughton Major, Laughton Style, Laughton Choice, No. 5; Ashby George, 60 guineas; Judge, 95 guineas; his son, Laughton Justice Lincoln, 200 guineas; Lincoln, 152 guineas; Welcott, 70 guineas; Lincoln, 72 guineas; and his sire, Laughton Riby. Shire horses, Short-horn bulls, and Dorking fowls are also bred. Inspection and correspondence invited. N.B.—Laughton Choice won and at the Royal and a pen of 5 thieves by him won 1st at Royal Doncaster. Visitors met by appointment. TELEGRAMS: Casswell, Folkingham, England.

IMPORTED OXFORD DOWN RAM

LAMBS—Canadian bred yearling and ram lambs. Yearling ewes and ewe lambs for sale, reasonable.  
HENRY ABEKELL, Arkell, Ont.

WALTER NICHOL, Plattsville, Ont., Breeder of Ayrshire Cattle and Leicester Sheep. Choice young stock for sale.

Metal Roofing

Our Patent Safe-Lock Shingles are cheap, easily laid, handsome in appearance, and practically indestructible.



Patent Safe-Lock Shingle.

They are absolutely weather-proof, fire-proof, lightning-proof, and will last a lifetime. Perfect satisfaction guaranteed.

Samples and Price List Free on Application.

The Metal Shingle and Siding Co., Limited  
PRESTON, ONT.

AGRICULTURAL COLLEGE  
GUELPH, Ont.

Will re-open on the  
26th September of this Year

Full courses of lectures with practical instruction in subjects needed by young men who intend to be farmers. Send for circular giving information as to course of study, cost, etc.

JAMES MILLS, M.A., President.  
Guelph, July, 1898.

SALT IN CHEESE-MAKING

Why will your Cheese be better every way by using Windsor Fine Salt?

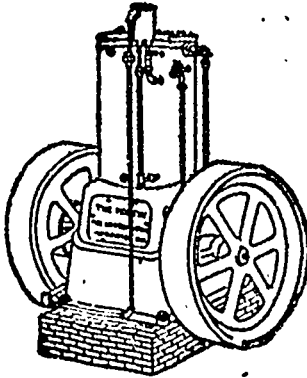
It seasons as you want it seasoned. It is PURE SALT and nothing more.

Your grocer sells it—or will get it for you.

Windsor Salt

The Windsor Salt Co.  
Limited,  
Windsor, Ont.

Northey Gasoline Engine



An ideal form of power for the farm. There is absolutely no danger from explosion, this we particularly emphasize. The running expenses are light—only 1 1/2 c. per h. p. per hour—less than any other form of power we know of. In addition, it is perfectly under control at all times, and so simple of construction that the most unexperienced person can run it—and that without much attention for hours at a time.

Our booklet tells all about it. Write for it.

Northey Manfg. Co., Limited, Toronto  
1008 King St. Subway

Central Canada Exhibition  
OTTAWA, ONT.  
SEPTEMBER 16th to 24th, 1898.

ENTRIES CLOSE  
TUESDAY, SEPT. 13th.

Over \$75,000 expended since last Exhibition in extending and improving the Grounds and erecting New Buildings. Prizes increased in all the principal Live Stock Classes including Poultry and Pigeons, also new classes added to the Horse, Cattle, and Swine Departments.

Special Prizes for Milk Test. 32 Gold Medals as Sweepstake Prizes for Horses and Cattle.

New Main Building, 310 feet long, constructed of iron. Agricultural Implement Hall and Poultry Building enlarged. New Dining Halls. All buildings reconstructed and enlarged. Live Stock Accommodation Unsurpassed.

Evening Entertainments and "SPECTACULAR" as usual.

Special low rates on all lines of travel. For all information address  
WM. HUTCHISON, M.P., President. E. McMAHON, Secretary.

CANADA'S  
Great EASTERN FAIR  
Sherbrooke, Que.,  
SEPT. 5th to 10th, 1898.

LARGEST and Best Exhibition of Live Stock, Agricultural, Horticultural and Dairy Products, Women's Work and Industrial Exhibits of Province of Quebec and the famous Eastern Townships. Five full days of Fair and Two Evening Performances. Trotting and Running Races. Unrivalled Special Attractions, including the

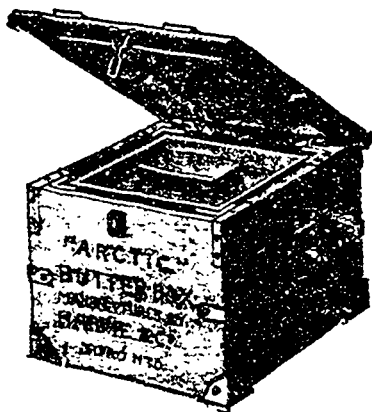
DESTRUCTION OF THE MAINE

in Havana Harbor. Magnificent Display of Fireworks, Balloon Ascensions, etc., etc. The Live Stock Exhibit will be particularly fine. Every Department will be complete.

FOR PRIZE LISTS AND ENTRY FORMS ADDRESS

HON. JOHN McINTOSH, H. R. FRASER, Sec.-Treas.,  
President. SHERBROOKE, Que.

Agents Write for a copy of our Exhibition Number and Special Terms to Agents. Liberal inducements to good men. FARMING, 44-46 Richmond St. West, Toronto.



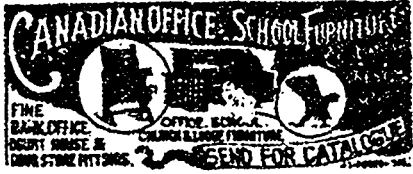
Harvie's "Arctic" Butter Shipping Box

Made of spruce lumber, with galvanized iron ice tank, malleable iron hinges, handles, hasps, and corner plates, almost indestructible. Made in sizes to hold

40 lbs. in Summer, or 48 lbs. in Winter	\$3.00.
60 " " " "	\$3.50.
80 " " " "	\$4.00.
100 " " " "	\$4.50.

HARVIE & CO.

222 QUEEN ST. EAST. TORONTO.



# FARMING

VOL. XV.

AUGUST 30TH, 1898.

No. 52.

## FARMING

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

Published every Tuesday by

THE BRYANT PRESS,

44-46 RICHMOND STREET WEST TORONTO, CANADA

Subscriptions in Canada and the United States, \$1.00 per year, in advance; six months 50 cents, three months 25 cents. In all countries in the Postal Union, \$1.50 a year in advance.

The date opposite the name on the Address Label indicates the time to which a subscription is paid, and the changing of the date is sufficient acknowledgment of the payment of a subscription. When this change is not made promptly notify us. In ordering change of address, be sure to give the old address as well as the new.

FARMING will be sent to all subscribers until a notice by post card or letter to discontinue is received and all arrears are paid up. Returning a paper is not a notice to discontinue. All arrears must be paid up before a name can be taken from our list. All remittances should be made by P.O. money order, express money order, or registered letter. Sending money in an unregistered letter is unsafe, and will be at the sender's risk.

Advertising rates furnished on application.

All communications should be addressed to "FARMING, 44 46 Richmond Street West, Toronto, Canada."

Representative for Great Britain and Ireland, W. W. CHAPMAN, Fitzalan House, Arundel St., Strand, London, Eng.

## TOPICS FOR THE WEEK

### See Our Special Fair Number Next Week.

Look out for our special Fair number next week. It will be worth preserving and will be a splendid copy to send to friends at a distance. Subscribers will confer a favor by sending us the names of any persons in their localities who would be likely to become subscribers if a copy were sent them.

This special number will be something unique in the line of agricultural journalism. It will contain, at least, forty-eight pages of good, solid reading matter, profusely illustrated, and will be distributed in large numbers at the leading Canadian exhibitions. All our advertisers should have a special advertisement in this number, and we would call their attention to the special announcement on inside of back cover of this issue.

FARMING will again have a tent at the Industrial Fair this year, which opens on August 20th. This tent will have the same location as last year, that is, opposite the Farmers' Institute tent, and in close proximity to the cattle rings and horse stables in the north eastern portion of the grounds. If you visit the Fair be sure to give us a call. We shall be glad to see you, and to give you any information at our disposal in the way of helping you to enjoy the Exhibition. Pens, ink, and paper will be at the disposal of stockmen and others who may care to use them, and we shall take it as a favor if all our friends will avail themselves of the privileges of the tent at any time during the Exhibition.

### Agricultural News and Comments.

According to returns compiled by the United States Government Canada imported from that country products and goods of all kinds for the year ending June 30th, 1882, to the value of \$38,569,882, and exported to that country goods to the amount of \$31,113,475. In 1892 the total imports were valued at \$44,855,988 and the exports at \$35,334,547. In 1897 the total imports were valued at \$66,028,725 and the exports at \$40,722,798. In 1898, strange to say, the total imports had risen to (the estimates for the month of June being estimated) \$83,000,000 and the exports to \$81,000,000.

A French physician has hit upon a very novel plan of administering iron. He has noticed that hens have powerful digestive organs, and has discovered that they can digest considerable quantities of iron and send it back through the albumen of their eggs in a form which is more easily

digested by the weaker stomach of man than if taken in the other way. So he feeds his hens salt of iron, mixed with their wheat, and they lay eggs extremely rich in pre-digested iron. This certainly provides for an easy and convenient way for giving iron to patients, and we would like to see the experiment tried.

It is an excellent idea to have a number of small coops for young chickens when large enough to be taken away from the hen. These could be made not more than four or five feet high, or even less, in which they can easily be taught to stop at night, and if the floor is kept well covered with dry and clean straw the chicks will do better than they would do in the larger coops.

At an auction sale held at Glasgow, Scotland, recently American horses sold up to 100 guineas (\$500) and 200 guineas (\$1,000) each. There were seventy head catalogued, and the quality was of that high class that brought buyers from England, Ireland and Scotland. The coach and harness horses sold for from \$400 to \$600, and up to \$1,000, and the draft or van horses sold for \$125 to \$165.

During the first six months of this year there were received at the Union stock yards, Chicago, 1,225,607 head of cattle, or 51,197 more than last year for the same period; 4,269,459 hogs, or 172,277 more than last year, and 1,822,169 sheep, or 184,520 more than last year. In all there were 136,127 car loads of stock received, being 2,171 cars more than last year.

### Judging at Shows.

"The men selected to judge live stock at shows ought to be scrupulously conscientious, and among the most honorable of their kind." So says *The Mark Lane Express*, and there is a large amount of truth in the assertion. Technical knowledge and a ready ability to distinguish the good and bad points of an animal are essential, but they are not the only qualifications required in order to fit one to do perfectly satisfactory work in the show ring. A judge may be perfectly capable in this respect, but if he is not "scrupulously conscientious" in making the awards a great injustice will be done someone.

At some of the leading British shows there has not been altogether smooth sailing in judging live stock, and it was in a criticism of some of the methods of judging that the above statement was made. Even at the Great Royal Show there have been some grounds for believing that prejudices existed among some of the judges, which caused them to award prizes for other than real merit. However, we are not aware that there is much of this kind of thing done at the leading Canadian fairs. We only draw attention to it in order that those concerned may be on the alert, and may exercise all their powers to deal as fairly as possible with all exhibitors. Sometimes there are complaints about the judging when the judge is in no sense to blame. Every exhibitor makes an exhibit with the expectation, or, at least, the hope, of securing a prize, and if he does not get it he is inclined to blame his misfortune upon someone, and the judge is the most convenient person for that purpose. So judges of live stock at the leading show will be consulting their own pleasure, and also the interests of everybody at the fair, by being strictly honest in their methods of awarding the prize money.

Every exhibition and especially a live stock one is a great educational factor in the country. Its greatest value in this respect is in the competition in the prize ring and in making the awards. If the judging has been done strictly according to merit both the exhibitor and the onlooker will be benefited; but, if not, both will be led astray, and the real educational value of the show in that it enabled the really best animals to be distinguished from the poorer ones lost sight of. A young man, for instance, who is on a visit to the fair for the purpose of learning something about stock will receive a very bad training if the best animal does not get the prize. The prize animal will be taken as his ideal and if it is not the best in its class his ideal will be wrong.

Judges at all fairs should remember that to a large extent they are teachers and are teaching a lesson when they pick out the best animal in the show ring just as surely as the teacher in the public school does when he explains a lesson on the blackboard to his class; with this difference, however, that, while the latter has comparatively few pupils, the former has everyone who views the live-stock exhibit as his pupil. The work of the judge, then, is not merely the awarding of the prize money but in pointing out which is the best animal in the prize ring. Better work could be done along this line if every judge would give a short talk pointing out the good animals from the bad and why one animal is superior to another, and we hope to see the day when something of this kind will be done at our leading fairs. In the meantime, however, every person who has the honor to be appointed a judge should be scrupulously conscientious and endeavor to give prizes only according to merit.

### Visit the Fall Fairs.

This week the fall fair season begins by the opening of the Toronto Industrial Exhibition, and during the next month thousands of people will spend their time and money visiting the larger fairs of the Dominion. The question may well be asked. What do these people visit the exhibitions for? Is it for pleasure or for profit? The answer should be for both. The person who visits an exhibition for pleasure alone is likely to be grievously disappointed. The merely amusement features of a great agricultural fair should not be the only attraction which should induce one to visit an exhibition. These are all very well in their way but should hold a secondary place in all great fairs.

The educational advantages of a great agricultural fair are many. It is there that one may see the best horses, the finest cattle, sheep and swine, and the best that the country can produce in the way of agricultural products. These features alone, if nothing else, should make it worth while for every farmer to visit some one of our great fairs every year. To reap the greatest advantages from a visit to a fair every exhibit should be examined critically in order that the visitor may be able to make comparisons between the animals exhibited and those he has at home. In this way valuable information may be secured that will be helpful to every farmer if applied toward the improvement of his own stock. Then, the exhibits of up to date farm machinery of all kinds are an education in themselves, and no tiller of the soil should miss seeing this part of the show. A glance at the exhibits in the agricultural hall and dairy building will always repay one.

Our advice then to the agriculturist is to visit at least one good show every year. In fact it becomes almost a necessity to do so in order to keep thoroughly in touch with what is best in the line of agriculture. The farmer who remains at home year after year, and does not know what is going on in the agricultural world around him, cannot expect to be a leader in his calling. Then be sure to let the boys on the farm spend at least one day at the fair. It will be money well spent and will tend to brighten the lad's understanding and to widen his views in regard to what can be produced on a farm if the very best efforts are put forth. Where can the embryo farmer get a better training for his future calling than in visiting the live stock exhibits at a leading agricultural fair? Encourage them to take notes of what they see and question them as to the merits of the different animals. An early training of this kind will prove invaluable to the boy as he develops into manhood and will inspire him with more enthusiasm for his calling.

### Education for Farmers.

In an address on this subject before the students of the Maryland Agricultural College, the Hon. James Wilson, United States Secretary of Agriculture, made this statement:

"The uneducated man earns on the farm from \$10 to \$20 a month; the educated man easily earns from \$50 to \$100. An improved pasture will sustain an animal to the acre; an unimproved pasture requires several acres. The native horse, without blood or development, in some of our North western States, is valued at \$10 a head; a well bred, well developed horse is worth from \$100 to \$1,000. The native cow in some of our newer states yields \$7.50 worth of products in a year; the improved cow in the hands of a skilled dairyman yields \$75 worth of products in the same time. Corn in Iowa, some years, is worth 10 cents a bushel where it is the one crop of the farm; but the skilled feeder makes it worth 40 cents a bushel. The native pineapple weighs from three to four pounds, and sells for 10 to 20 cents apiece; the scientist hybridizes the same pineapple and makes it weigh from eight to twelve pounds, and sells it for 75 cents to \$1 apiece. The uneducated laborer produces cotton as his sole crop, and sells it for 5 cents a pound; the educated laborer diversifies his industry, and puts high-selling products on the market."

A great many farmers have a totally wrong conception of what a farmer's education should be. They conclude that to be educated means to have a wide knowledge of "reading, writing and arithmetic," and some of the higher branches. These are all well enough in their place, and are a necessary part of every man's education. They form what may be called the fundamental part of a man's education, but should not be looked upon in any sense as completing it. After a training in these is acquired a much wider field opens up to one; a field in which everyone may educate himself along a line that will best fit him for making the most out of the calling which he has chosen. The farmer has to do this as well as the professional man. It is just as necessary in these days that the young man, who is going to remain on the farm, should receive a training that will help him to follow his calling intelligently and profitably as it is for the young man entering the medical profession to receive a training that will enable him to practise it.

The practical value of an education for the farmer in the sciences pertaining to his occupation is shown very clearly by Secretary Wilson in the above extract. The farmer who does not know anything about the higher branches of agriculture or has not received a training in the best methods of practising his calling will not make the very most out of his farm. In fact, there is a tendency to retrograde, and, instead of becoming more valuable, the farm will lose its productive power if proper methods are not followed in maintaining and keeping up the fertility of the soil. There is no branch of farming that will respond to skill and advanced training in the best methods more than the dairy. The cases which Secretary Wilson gives of one cow producing \$7.50 worth of products, and another \$75 worth, are things of everyday occurrence. The reason for this difference in returns is that, while the owner of one

cow knows practically nothing about dairying, the owner of the other cow has received a thorough training in the breeding, feeding, and caring for the dairy cow and is enabled thereby to make her produce to her utmost capacity. The same reasoning applies to all branches of farming, and no farmer should expect to make the most out of his calling unless he first perfects himself in the knowledge that will enable him to carry it on in the very best way.

### Skill in Breeding.

There can be no stronger evidence of skill in breeding than that shown in the development of the race horse. It is only a generation ago since a mile in 2.40 was the limit of speed for racers in harness. Since that time there has been remarkable progress along this line and now we have the almost incredible record of a mile in 1.59¼. This record was made by the noted horse, Star Pointer, at Glen Falls, N.Y., last year, when the previous record of 2.00¼ was reduced by a full second and the world's championship for speed won. When this wonderful record was made it was said that it would be a long time before it was equalled; but only a week or two ago this same horse paced a full mile in his record time of 1.59¼ without a slip or break at Columbus, Ohio.

All this has not been brought about by chance. The very fact that this horse has made the same record this year as last is conclusive evidence that he is the product of some person's superior skill and good judgment displayed in horse-breeding. To some extent, the superior qualities of Star Pointer, as a racer, may be accounted for by his individual training, but it by no means accounts for all of his good qualities in this regard. That horse was some breeder's ideal of what a race-horse should be. To realize his ideal he did not attempt to breed a race-horse from animals that had not been developed for that purpose. He simply followed the laws governing general horse-breeding, and selected as the sire and dam of his ideal animals that in themselves possessed the qualities that go to make a race horse, and the marvellous work of his ideal is a living testimony of his superior skill and intelligence as a breeder of the highest type of animal, the race-horse.

There is a lesson in this for every breeder and farmer in the country if it is properly applied. Whether it is a horse, a cow, a sheep or a pig, have some ideal before you, and then breed for that ideal. Don't attempt to breed a dairy cow from animals not developed for that purpose. The bacon hog cannot be produced unless the dam and sire partake of some of the characteristics of what the bacon hog should be. In short, follow the lines laid down by the successful breeder of race-horses, and always remember that like produces like. Before starting be sure that your ideal is right. For the farmer, the ideal animal should be the one which the market requires, and which will give him the best returns.

### Curing the Fall Cheese.

One of the chief difficulties that many cheesemakers have to contend with in curing the fall cheese is the lack of proper facilities for controlling the temperature so that the cheese may not be subject to wide variations of heat and cold. To cure a cheese properly it should be kept at an even temperature (about 65°) from the time it is placed upon the curing-room shelf till it is shipped. This can be done quite easily where the maker has a curing-room that has been built for the purpose, and has in it proper heating apparatus. But how many of our cheese factories have all that may be desired in this respect? We venture the statement that there are not more than one-quarter of the factories in Canada equipped with curing-rooms and heating apparatus of a kind that will enable the maker to cure his cheese as they should be cured.

When the majority of the factories now in operation were built not much attention was paid to the

curing of the cheese other than to keep it from freezing or from coming in contact with the weather. But many changes have taken place in the process of making since that time, and to-day a high quality of cheese is demanded, and this cannot be produced unless the cheese can be properly cured. Makers and others should remember that the curing process is a very important part of the making. No matter how good a quality of milk has been received, or how carefully and skilfully it has been handled in the process of making, a really first-class cheese cannot be made out of it if it is placed in a room to be cured where the temperature fluctuates between 40° and 80°, and factory-owners should not expect a really fine cheese under such conditions. In fact the maker would be amply justified in refusing to be held responsible for cheese that had to be cured under any but very favorable conditions.

The favorable conditions necessary for the proper curing of fall cheese are a well-built curing-room so fitted up that the temperature can be controlled at all times. To maintain an even temperature a coal stove is more to the purpose than a wood stove, as a more steady fire can be maintained. There are furnaces made for heating curing-rooms, and factory owners should not delay in getting one. Where a coal or wood stove is used a suitable jacket should be placed around it to prevent too much heat from reaching the cheeses on the near-by shelves and to distribute the heat in all parts of the room. Where proper facilities such as we have described do not exist, factory men should lose no time in making the curing rooms in a fit condition for curing this fall's cheese properly.

### Co-Operative Pork Packing.

In discussing this subject in last week's issue we stated that co-operative pork factories have been in operation at Stouffville and Bowmanville since the early spring. We have now been informed that this statement was not correct and we desire to rectify the mistake at the earliest opportunity.

Early last spring we made particular enquiries regarding the movement at that time for co-operative pork-packing establishments and were supplied with a fund of material by responsible parties at both of the above-named places, showing that arrangements were completed for going ahead with the work. In fact, in one case, the rules and regulations governing the operations of the company were sent us and statements showing the basis upon which hogs would be received from farmers and others and we gave our readers the benefit of them. It is needless to say that it is a great surprise to us to learn at this late date that these organizations formed last spring have not yet commenced operations. The fact that these co-operative concerns have not yet got under way bears out our contention in last week's issue in regard to the great risk and outlay involved in the establishing of co-operative pork factories. Had it been an easy matter to equip and place these factories on a working basis they would no doubt have been in operation ere this.

### Hired Help on the Farm.

The following extract from *The American Cultivator* is along the line we have taken in discussing this question on former occasions:

"The ideal way to hire farm help is to have suitable houses built so that each hired man may marry and keep house, with a sufficient piece of land so that some fowls may be kept, and vegetables and fruit raised for family use. Such farm tenements can usually be rented for enough to pay interest on the buildings and the value of land thus set apart. In most cases farms on which this convenience for farm help belongs will increase in market value more than the cost of the buildings put upon them. It is such farms that wealthy men who are desirous of country life part of the year are always looking for. Nobody wants to buy a large lot of land with few improvements on it. So long as the improvements are made judiciously they are apt to add more to the selling value of land than their cost. We do not make enough of rural life. What is needed is some

system by which the greater part of the help on farms can be made self-supporting in homes of their own, instead of, as now, becoming a part of the farmer's family and interfering with the privacy which every man is entitled to in his own home."

There may be reasons in the older settled districts of the United States why the plan of building houses for the hired help on the farm should be followed rather than in Canada, but we fail to see the reason why. If such a practice is a good thing for the United States farmer it should be an equally good investment for the Canadian farmer. On the older Canadian farms where a large amount of stock is kept, and where there is employment for a man all the year round, a married man would fill the bill better than a single one. Besides there is the question of breaking into the privacy of the farmer's home which always takes place when the hired man boards with the family. This in itself is almost sufficient reason for the employment of a married man.

### Ornamental Trees on the Farm.

Every farm should have a number of ornamental trees tastefully arranged. Nothing adds to the general appearance, and, in fact, to the value, of a farm more than a number of ornaments of this kind. There should not be too many or too few, but just enough to set off to advantage the house and farm buildings. As to the kind of trees to grow the farmer will have to depend largely upon his own judgment and good taste. To our mind no tree looks as well in and about a farm as a good maple. In addition to being a thing of beauty, it makes a valuable windbreak if placed on the north or west side of the houses or barns. The spruce and kindred trees make handsome ornaments for decorating the lawn or the green about the house. If properly placed and cared for they often make very effective windbreaks.

No trees should be planted close to or right against the house. They may not do any harm when quite young; but when they grow, as every tree undoubtedly must, and reach large proportions, they become a menace to the health of those who live in the house. No tree should be planted so near the house as to exclude the sunlight and the pure air from getting in and circulating through every room from cellar to garret. There are many farm homes injured by having trees planted too close to them. A judicious arrangement of the trees, however, will add greatly to the beauty and value of the home.

### The Family Horse.

This is, or should be, the most valuable animal on the farm. When we speak of the most valuable animal, we do not mean his intrinsic value, but what he is worth to the farmer and his family in adding to their comfort and pleasure. To endeavor to farm, at the present time, without a family horse for driving to town and elsewhere is to make life a drudgery and to separate oneself, very often, from the outside world. On the average farm the horse that works in the field every day cannot do the work of the family horse. In the first place it cannot always be spared when a trip to town or elsewhere is desired, and is usually of a type that totally unfits it for light driving. Where the farm is small and there is not so much work for the farm horse he may be able to do both, but otherwise every farmer should keep a good roadster for driving when necessary.

If a farmer lives several miles from the post-office or store a family horse is almost invaluable. If he is a quiet animal any member of the family can hitch him up and go for the mail or necessities for the household without disturbing the farming operations in the least. Then he will come in handy on Sunday for taking the family to church. Even if it is only a mile or so to the church it is better to drive there after the week's hard toil in the fields than to walk. But it is surprising how many farmers trudge along to church or elsewhere on foot, when they could just as

well have a horse and buggy to carry them as not. These are the ones who talk most of the farmer's hard life. And is it any wonder?

### The Farmer's Ideal.

How often we hear the expression among farmers: "My hogs sold for as much as neighbor Jones'," or, "My cows did as well as any other cows in this section." No doubt there is a feeling of satisfaction in doing as well as one's neighbors, but every farmer's ideal of what can be accomplished should not be gauged altogether by what his neighbors can do. He should have an ideal of his own, and one that will enable him to make the most out of his cows, his sheep, his hogs, or any other branch of his farming operations. Many farmers fail to attain to the highest pinnacle of success just because they are guided too much by what their neighbors have done or are doing. We do not mean by this that a farmer should completely ignore what those around him are doing, as very often a neighbor may be working along lines that the farmer should follow. But do not be satisfied in getting returns for your labor just equal to what your neighbor gets. There may be better things in store for you by striving to surpass your neighbor. A rivalry of this kind will stimulate you to greater things as you go along, and it is surprising what can be done when we have a good ideal before us. No man ever made a great success in any calling who always lived up to his ideal and was satisfied in doing or being the same as those around him. The farmer, then, in breeding stock, should have some high type of animal before him to reach up to, and in growing grain, in managing the dairy, or carrying on any other line of farm work, should have some standard ahead of him that will bring out his very best efforts to attain to.

### Cheap Money for the Farmer.

The cheap money for the farmers question seems to be arousing considerable interest in some quarters. Since the British Columbia Legislature passed a law authorizing the organization of associations for the purpose of providing the farmers of that province with cheap money, an account of which was given in FARMING some weeks ago, the discussion of the question has become more widespread. Other sections are watching the movement in British Columbia, and should it prove successful there is no doubt that similar means of supplying the tiller of the soil with cheap money will be adopted in some of the other provinces.

As to the need for legislation of this kind there is a difference of opinion. Many object to the farmer being singled out for this special favor. Why should he not be able to obtain money and to do business on the same terms as other citizens? Those who raise this objection do not thoroughly appreciate the real situation of the needy farmer and how beneficial it would be not only to the farmer himself but to the country generally, if the farmer were able to obtain money on reasonable security and at a low rate of interest whenever he needed it to carry on his farming operations. It has been said many times that Canada is an agricultural country, which means that agriculture is her greatest and most important industry. If so, every effort should be made to develop all the agricultural resources of the country, and how can this be done better than by providing the tiller of the soil with the means of making as much as possible out of the land? As we have pointed out before in these columns, there are many farmers, even in the banner province of Ontario, who find it difficult to make both ends meet, just because they are hampered in not being able to obtain money to purchase stock, etc., at a rate of interest that would enable them to make a profit out of the investment.

There can be no more striking proof of the need of some reliable means of supplying cheap

money to the farmer than the following, taken from one of our local eastern exchanges:

A case of oppressive usury has come to light in Ottawa East, which is about as bad as could well be imagined in these days of protective laws and advanced civilization. The man, finding it necessary to get five hundred dollars in cash, applied to a loan society and was accommodated. An examination of the agreements shows that he had to give a mortgage of one thousand one hundred dollars for the money, at sixteen per cent. The mortgage is to be liquidated by 1906, and the interest has to be paid monthly. Should he miss a payment a fine of fifty cents a month is imposed. An analysis of the agreement shows that the man pays for the five hundred dollars the sum of one thousand one hundred dollars with interest at sixteen per cent. for ten years, one thousand seven hundred and sixty dollars; or altogether two thousand eight hundred and sixty dollars.

That in free Canada such a "shark" game should be played upon an innocent farmer by a loan company is almost incredible. Surely some remedy for this kind of thing is needed, and that very soon. Of course, it may be said that the man was a fool for entering into such an agreement. But we do not know his circumstances, and it may be that he either had to have that five hundred dollars at that particular time or lose his farm and bring his family to starvation's door. If some method of advancing cheap money to the farmer were inaugurated under government supervision, there would be no occasion for recording instances of this kind.

There is economy in working as much land and in growing as many crops as can well be taken care of, but there is no economy in doing more than can be well done. This latter fault is only too common among Canadian farmers. Because a farmer has a big farm is no indication that he is making money out of his business. If he can work all his land carefully and well the returns will be all right, but if not he would be better off with a farm one-half the size properly and carefully tilled.

## CANADA'S FARMERS.

### B. H. Bull,

PRESIDENT OF THE DOMINION JERSEY BREEDERS' ASSOCIATION.

The photograph on the front cover of this week's issue is that of Mr. B. H. Bull, of the firm of B. H. Bull & Son, proprietors of the Brampton Jersey Herd. Mr. Bull was born at Downsview, York county, in 1845. He received his early education in the local public school and the Weston high school, after which he spent some time at Victoria University, Cobourg, Ont. For some time after completing his education Mr. Bull engaged in the exportation of horses to the United States, after which he took up active farming operations at Brampton, where he now resides.

In 1880 Mr. Bull purchased his first Jersey, and laid the foundation of his present large herd. In starting he adopted the plan of securing the very best animals for his herd, a plan which he has followed ever since. His Jerseys are of the St. Lambert strain, which is a guarantee that they possess many good qualities. Mr. Bull's herd now consists of fifty purebred animals, among which may be mentioned Princess Meneite, with a record of 18 lbs. 6½ oz. This cow is the dam of Adelaide of St. Lambert, who recently made a record of 205¼ lbs. of milk in a month.

During recent years the Brampton Jersey Herd has come to the front very rapidly as prize-winners. Last season eighty-six prizes in all were taken, among which were two sweepstakes. In 1896 a cow belonging to his herd—Corinne—won second place at the Provincial Dairy Show. The number of prizes won by this herd could only have been secured by skilful breeding and management, and by bringing into the herd at frequent intervals animals imported from the home of this noted dairy breed.

In addition to Jerseys the firm of which Mr. Bull is the senior member are extensive breeders of Improved Berkshire swine and Plymouth Rock poultry, in which branches they have also been successful.

Mr. Bull has always taken an active part in matters pertaining to the welfare of the farmer and stock breeder. He has been a director of the Peel Agricultural Society for several years, and is at present president of the Dominion Jersey Breeders' Association, a position which he now holds for the second time. Mr. Bull is an active worker in the present prohibition campaign, and is president of the county association. In politics Mr. Bull is a Conservative, and for some years has been active in the local association, of which he is president this year. Mr. Bull married a daughter of Wm. Duncan, and who is a sister of David Duncan, the present reeve of York township. He is as yet comparatively young and we are likely to hear of his accomplishing even greater achievements in the Jersey line than the past few years have given us.

### INTER-COLLEGIATE CONTEST IN LIVE STOCK JUDGING.

An important contest, of interest to the students of the agricultural colleges in America, will take place at the Trans-Mississippi Exposition at Omaha. If it were possible, we would like to see some of the students of the Ontario Agricultural College take part in this contest, as we believe that, with the training they have received there in the judging of live stock, they would be able to give a good account of themselves. We are indebted to John A. Craig, formerly editor of *The Canadian Live Stock Journal*, and now Professor of Animal Husbandry, Agricultural College, Ames, Iowa, for the following particulars concerning this contest:

Through the liberality of Messrs. Clay, Robinson & Co., of the Union Stock Yards, Chicago, two hundred and fifty dollars is offered by them for competition among the students of our colleges. The brief conditions so far outlined are enumerated below.

#### Conditions of entry—

1. Any students that are or have been regularly enrolled in any American college in 1898 are eligible to enter this competition.
2. The names of those entered for competition must be submitted to a committee on eligibility at least two weeks previous to the date set for the competition.

#### Basis of awards—

1. The rank of the competitors will be based on the total number of marks obtained in judging the three classes of fat stock, cattle, sheep and swine.
2. The examiners will observe the following scale in marking:
  - 50 per cent. for correctness in placing animals.
  - 30 per cent. for reasons sustaining decisions.
  - 10 per cent. for method of examining animals.
  - 10 per cent. for dispatch submitting decisions.

#### Division of prizes—

1. The amount donated for this purpose will be divided into a first prize of \$125, a second prize of \$75, and a third prize of \$50.

#### Method of examination—

1. The animals will be arranged in classes according to the classification of the Exposition catalogue and each animal will be numbered. The competitors will be required to submit to the examiners a report written on a blank similar to that attached herewith.
2. The examiners will place the animals after the students have judged each class and explain their reasons for the decisions they make.
3. Recognized experts will be selected to make the awards by representatives of the colleges competing. In event of any disagreement the donors of the prize will be requested to adjust the difficulty.

#### Time and place of examination—

The competition will take place at the Trans-Mississippi and International Exposition at Omaha, Nebraska, during the time fixed upon by the Exposition authorities for the exhibition of fat stock, namely, October 13th to the 20th, 1898.

### CLOVER AND PHOSPHATE.

The clover and phosphate theory has received considerable attention in these columns recently and some more data bearing upon the subject will not be amiss. The same question is also receiving the attention of some of the leading farmers and agricultural teachers in England. Following a discussion in the Lincolnshire Chamber of Agriculture on the value of clover and the best means of obtaining it, it being affirmed and generally admitted that clover resulted in great luxuriance as the result of Alberts' Thomas-Phosphate Powder manuring, *The Lincoln Leader* started out to investigate the

soundness of this amazing clover and phosphate theory.

After a visit to a farm at Thurlby the writer says: "From inquiries made from Mr. Clark, the farmer, I was informed that the fields had been looked upon as land not worth bothering with. One was dressed with four five hundred pounds Thomas-Phosphate Powder per acre, and, to the great surprise of all, it did well and gave £35 to £40 (\$175 to \$200) worth of hay, and, as a greater surprise, a large quantity of succulent clover. The other field next to it, not treated, was practically barren, and had given no return whatever." The following season this first field, as described, was "as pretty a field of mowing clover hay as we could wish to see on such poor land, and a most interestingly important feature in our inquiry is that there is gradually improving general herbage, as well as the vigorous growth of clover. Mr. Clark has also applied some of this useful phosphate to his grazing land, and says they are keeping a double head of stock and in better condition than ever before." The editor's description of the Rev. Mr. Long's field is "that this field had formerly produced nothing, but since it had been dressed with the phosphate it had entirely changed. At once the clovers began to show and a general improvement took place, and it had that season yielded one ton of rich, clover hay per acre. On examining this field of six acres again, to our great astonishment, we found (in the third year) all the high-class grasses becoming established among the clovers. This was an immensely interesting study. We sought Mr. Long, who was as much astonished as ourselves, and said 'then it must be due to the Thomas-Phosphate.'"

"We have during the past week paid Mr. Drakes a visit, and, as he says, the clover growth on that Thomas-Phosphate-dressed land is indeed brilliant, while the fields where it was not applied maintain the *status quo ante*." These lands were all clays, so an inspection was made on land described as "blown-away-sand." We quote: "The dressing of Thomas-Phosphate had induced a growth of clovers and other legumes to such an extent that it may be seen to an inch where the application commenced." Another instance on light sandy land was on the field of Squire oats, which was dressed last autumn, and "it has never looked so well before. He used 500 lbs. Thomas-Phosphate per acre last fall." Mr. Taylor Sharp's land showed a similar result in clover and general improvement. Mr. N. Lucas Calcraft, land agent in the Gantby district, wrote: "It is quite true that Thomas-Phosphate applied to poor soil does bring up clover, and some fields we have dressed with it will now keep three sheep where they before would scarcely have kept one." Mr. Holmes, a farm manager whom the party met in the market at Bardney, said: "Land which formerly produced but one load of hay now produces ten." "We found most extraordinary instances of clover growth at the farms of Mr. Laughton Wilson, of Kirkby-la-Thorpe. The hay crop is enormous, and further corroborates the fact that Thomas-Phosphate Powder is effective on light as well as heavy lands. Mr. Cook's farm at Eagle was a very striking instance, as he had used 200 to 300 lbs. of Thomas-Phosphate Powder against eight or ten loads of farm-yard manure, and, while there was no perceptible difference in the bulk, yet the Thomas-Phosphate-dressed land showed a very much greater proportion of clover. On this farm the cows and horses, when turned loose, preferentially made their way to the fields dressed the previous year with the Thomas-Phosphate, and even stayed in the fields when eaten down close rather than the other fields where the herbage was not let off. Our lands are being gradually denuded of their phosphate; the live stock have a natural craving for a more liberal supply of such bone-producing food, and, where land has been so phosphatically treated as to affect the herbage, the animals are instinctively attracted to it to strike the balance of nature's requirements, and thrive accordingly."

"In conclusion we desire that we shall not be misunderstood in this matter. We do not wish to draw preferential comparison between Thomas-Phosphate Powder and other phosphate manures, but the more recently introduced Thomas-Phosphate meets the requirements of nature, and the most recent scientific developments in agricultural practice, to perfection, and this principle is supported by all the experiments of the Royal Agricultural Society, the county councils, and the most successful practical farmers throughout the whole kingdom."

### NOVA SCOTIA CROPS.

ISSUED BY THE PROVINCIAL DEPARTMENT OF AGRICULTURE.

The outlook for the agricultural year, 1898, in this province is, upon the whole, satisfactory. The crop bulletins for this year were made returnable to the Office of Agriculture on July 4th, and the probabilities of the various crops are estimated on information received up to that date. Eighty-four returns were received from the counties of Nova Scotia proper, and twenty-four from the island of Cape Breton. All the principal agricultural districts of the province are represented in these returns and a careful analysis of them has been made. These show that the hay crop is an abundant one, being eight per cent. above a full average crop on uplands, six per cent. on improved dykeland and four per cent. on intervals. Owing to the excessive crop of last year, there is a greater supply of old hay still in the country than has been the case at this time of the year in many years. The big crop of this season, coming on the top of that, assures a great supply of fodder, which ought to tell in the shape of a large increase of stock for beef and dairy purposes. The large hay crop of last year has told already, as the returns show that in many districts there has been an increase in beef and dairy stock. The potato crop promises to be slightly above a full average, and roots generally promise well. With suitable weather the oat and other grain crops will be better than usual. There is quite a notable increase in the acreage devoted to wheat in recent years. This is due to two causes, namely, (1) The yield of last season was extra large wherever sown and gave great encouragement to increased cultivation. (2) The great jump in the price of flour in the early spring, caused by the outbreak of the Spanish-American war, made the growth of wheat a leading feature among farmers generally in favorable localities. Lack of warmth and sunshine during the month of June retarded the growth of Indian corn for ensilage and the crop will therefore be considerably below the average. This is to be regretted as no more valuable and profitable fodder can be raised for beef and dairy cattle when used judiciously with other nutritious food.

The fruit crop, which promised to be exceedingly abundant in the period of bloom, will fall far below early expectations as the returns from the great fruit region of the Cornwallis Valley indicate. The wet and cold weather which succeeded the blossoming season prevented perfect pollenization and the fruit did not set well. It is curious to note that outside of what are known as the great fruit counties the apple crop promises better than usual.

### MANITOBA CROP REPORTS.

According to a report issued by the Manitoba Department of Agriculture under date of August 22nd, the total production of cereals in that province for 1898 is estimated at a little less than 50,000,000 bushels. The average wheat yield is placed at a fraction over seventeen bushels per acre and

the total yield at between twenty-five and twenty-six million bushels. This is an increase over the estimates made earlier in the year. And it is explained by the fact that there was a wonderful improvement in the crops three or four weeks before maturity. There has as yet been no damage of note by insects and, given another fortnight of the prevailing favorable weather, Manitoba will have a big harvest of hard wheat to gather in.

Good reports are given regarding live stock and Manitoba will not be behind her record this year in furnishing prime cattle for export. The yield of wheat per acre is placed at 17.41 bushels; oats at 35.02; barley at 29.17; flax at 14; rye at 25 and peas at 21 bushels.

### FEEDING SKIM-MILK TO GROWING CHICKENS.

At this season of the year young chickens and skim-milk are more abundant on our American farms than at any other time. In view of this fact, it would be well if more people growing chickens would feed them some of this milk.

Skim-milk is a food which contains muscle and flesh-forming material in a form to be readily taken up and digested by the system. Milk that has been skimmed has really lost but a small amount of its value as a food, the cream consisting of considerable fat, which in itself is the least nutritious part of the milk. The cheesy matter left in the milk is its most valuable part for food, and tends to produce a vigorous, healthful growth where fed to calves, pigs and chickens. If more American pigs and chickens were fed less corn and more skim-milk it would not only be to their lasting benefit, but it would also eventually result in financial benefit to the farmer.

With the purpose of studying the effect of skim-milk diet on young, growing chickens, an experiment was conducted at the Indiana Agricultural Experiment Station, in which two lots of chickens were under observation. There were ten chickens of two breeds in each lot, ranging from four to six weeks of age at the beginning of the experiment. Each lot received the same food, care and treatment, excepting that one was fed all the skim-milk wanted, while the other were given none. The grain fed consisted of two parts crushed corn, one part bran and one part ground oats. They were also fed cracked bone, cabbage and lettuce. When the experiment began the total weight of one lot of chickens was only one-half an ounce more than the other. The experiment lasted from July 11th to September 5th.

The result of the feeding show that the chickens fed milk and grain ate some considerable more grain than did those receiving no milk. The results also show that the chickens of lot 1, receiving no milk, made an average weekly gain of 2.62 ounces, while those fed milk made a gain per week of 4.46 ounces, or over one-fourth pound. The chickens fed milk made a more rapid and uniform gain than those fed grain only. The general results of the feeding in every way seemed to show the superior influence of the skim-milk on the growth of the birds.

These chickens were raised on the station grounds, were uniform in char-

acter and kept under good conditions under confinement so that no food was available excepting such as was given by Mr Anderson, who conducted the experiment.

It would be well if our poultry growers would place plenty of skim-milk available to the chickens. If the vessel containing the milk was thoroughly scalded daily to keep the sanitary conditions good, the feeding of the milk would unquestionably result in profit.

Further information on the subject will be forthcoming in bulletin 71 of this station, which will be mailed to all persons on the station mailing list, as well as to other applicants while the supply lasts.—C. S. Plumb, director Purdue University Agricultural Experiment Station.

CORRESPONDENCE.

WINTER WHEAT.

LEADING VARIETIES SUCCESSFULLY TESTED IN 1898 ON 191 ONTARIO FARMS.

Editor of FARMING :

Seven varieties of winter wheat were sent out for co-operative experiments in the autumn of 1897. These were divided into three sets, with three varieties in each set, the Dawson's Golden Chaff being used in all the sets as a basis by which the results of all the varieties could be compared with one another. We have received 191 full and satisfactory reports of carefully conducted winter wheat experiments for 1898.

The following table gives the comparative yield of straw and grain per acre of the varieties of winter wheat tested in 1898 on 191 farms :

	Straw per acre (ton-)	Grain per acre (weighed bushels).
Dawson's Golden Chaff.	1.8	30.6
Imperial Amber . . . . .	1.9	29.3
Early Genesee Giant . . . . .	1.7	28.2
New Columbia . . . . .	1.6	27.5
Early Red Clawson . . . . .	1.7	26.9
Pride of Genesee . . . . .	1.5	25.5
Poole . . . . .	1.5	24.6

This table should be of great value to the wheat growers of Ontario, as none except the 191 good results are included in the summary. Much credit is due to the careful experimenters who sent us the reports of the tests made on their farms.

CONCLUSIONS.

(1) In the average yield of winter wheat per acre the Dawson's Golden Chaff stood highest among eleven varieties tested over Ontario in the year 1893, among nine varieties in each of the years 1894, 1895, and 1896, and among seven varieties in each of the years 1897 and 1898.

(2) Three of the varieties of winter wheat have been tested over Ontario for five years in succession with the following average yields of grain per acre: Dawson's Golden Chaff, 32.0 bushels; Early Genesee Giant, 28.9 bushels; and Early Red Clawson, 28.7 bushels.

(3) Dawson's Golden Chaff was the most popular variety with the experimenters in each of the past five years.

(4) In the co-operative experiments for 1898 the Dawson's Golden Chaff and the Early Genesee Giant came through the winter the best, and the New Columbia the poorest.

(5) The Early Genesee Giant, Dawson's Golden Chaff, and New Columbia possessed the strongest straw and the Poole and Imperial Amber the weakest straw in 1898.

(6) In the co-operative experiments of each of the past five years the Dawson's Golden Chaff was one of the least and the Early Genesee Giant was one of the most affected by rust.

(7) In 1898 all varieties were practically free from smut, which is nearly always the case when no smut is sown with the wheat.

(8) The Pride of Genesee and the Imperial Amber produced the longest and the New Columbia the shortest straw.

(9) The New Columbia, Early Red Clawson, and Dawson's Golden Chaff were the first and the Early Genesee Giant and Pride of Genesee were the last to mature.

(10) The Dawson's Golden Chaff and New Columbia produced the plumpest and the Poole the most shrunken grain.

The following leading varieties of winter wheat will be distributed this year for co-operative experiments :

Set 1. Dawson's Golden Chaff, Early Genesee Giant, and Early Red Clawson.

Set 2. Dawson's Golden Chaff, Imperial Amber, and Golden Drop.

Set 3. Dawson's Golden Chaff, Bearded Winter Fife, and Stewart's Champion.

Any person wishing to conduct a careful experiment with one of these sets should apply to the Experimentalist, Agricultural College, Guelph, for the desired set, and one-half pound of each variety together with instructions for testing and the blank form on which to report will be furnished free of cost to his address. The supply of some of the varieties is limited, but we will be enabled to furnish a large number with this seed before the supply is exhausted.

A bulletin giving the results of ninety-two varieties of winter wheat grown in the Experimental Department of the Ontario Agricultural College is now in the printer's hands and will be mailed from the Department of Agriculture, Toronto, as soon as printed.

C. A. ZAVITZ, Experimentalist.

Agricultural College, Guelph, Aug. 20th, 1898.

PROFITABLE FARMING.

A Reply to Mr. Hobson's letter in our issue of August 16th.

To the Editor of FARMING :

In your issue of August 16th last there appears a letter from my esteemed friend, Mr. Jno. I. Hobson, Guelph, Ont., in which he somewhat criticizes, and also asks several questions relative to, a previous letter of mine, which appeared in your paper. I take much pleasure in replying to the same at some length, inasmuch as all my previous observations (and I hope the future as well) were specially written and designed to bring out criticism and enquiries. The *Business Science of Farming* being newly discovered and very imperfectly understood in all the phases of professional and practical departments, not only by the teacher and the scholar, but by the practical overseer and worker, hence the discoveries which are needful for its development can only be understood and acquired by experiment, enquiry and criticism.

Profitable farming can fairly be divided into two leading distinct divisions which are *Cash* profit and *Capital* profit. Cash profit is the net money received each year as a dividend for the use of the capital or money invested. Capital profit is the net amount of added value to the capital each year. These are illustrated by the financial conditions which appear before us continually in reference to bank and railway stocks. All investors and monied men know quite well how varied are the cash dividends from these investments as well as the great change and sometimes daily fluctuations of capital values.

Farming being a vocation requiring capital and labor to carry it on is, therefore, a business that calls for financial results. Then it must be quite evident that if the different financial departments of business, whether it be railroading, banking, manufacturing, etc., etc., need a special branch of business science for each, particularly designed for one or the other, then it must also be quite evident that there is a branch of business science which is specially applicable to the different pursuits of agriculture.

In such a position I stand as an advocate and an explorer, and am quite willing to give to enquirers advice as far as lies in my power (which I regret is so very feeble), and at the same time give the results of my explorations, investigations and experiments, which I regret also are so limited and confined. In the experience of working a whole farm of one hundred or more acres it is not usual or even possible to devote every part to one crop. Therefore, a farm is usually divided up into fields for the division of crops; and, therefore, as there are different crops, there must be different "cash" and "capital" profits derived from each. Hence, to obtain the maximum profit in cash and capital knowledge and selection must be practised in the established rotation which in the aggregate each year will give the greatest profits (cash and capital) *per acre per farm*. Therefore it must be laid down as a principle to act on in the de-

termining of a rotation practised on a farm to obtain the greatest profits that among those crops which go to make up a rotation, the one which produces the greatest cash profit and added capital value should receive the greatest advantage and maximum area, while those crops which are necessary in the rotation, but give the least "profit" per acre, should, on the contrary, receive the minimum area of land. The result of practising this principle is to give the maximum average profit per acre of the whole farm, and therefore the financial aim is attained.

To practise this principle to the fullest degree on a farm requires a knowledge of the highest attainments in agricultural science, and in business science, and in practice of the highest effective art. Therefore, there are three main accomplishments to be acquired for effective, profitable and progressive farming—which are *science, business and practice*—and these must be combined to promote the best results. The weakest attainment of any of these three determines the strength and success of the whole; the weakness of any one determines the strength of the other two, or the two combined determines the one. It is then quite evident that a successful farmer, striving to attain the maximum profits from his capital and labor, must be proficient in the knowledge of all facts and scientific laws relating to his profession. He must be a business man in the highest sense of the term, drilled in all the multiplicity of departments coming under his supervision, effective calculation, precise and systematic planning and perfect co-operation. He must also be an artist in all the accomplishments of practical work. No oversight, flaw or imperfection must be permitted to mar or retard the effective results of the plan of work laid down. A successful farmer to-day must know the science of agriculture as well as the best "professor." He must have a knowledge of business principles equal to the manager of the best-managed departmental store of the present day—and he must be as practical as the highest prize-winners at our industrial exhibitions.

This "ideal" of a farmer may be high, but I strongly believe it is true and correct. Some farmers believe that professional science in agriculture has done nothing and will do nothing for the average farmer. This is virtually true if we do not associate business science along with science proper. Hence, my contention is, and always has been, that that branch of science in agriculture which I call business has been neglected and overlooked, and, before the Canadian farmer or any other man can expect much better results as relates to progressive profits in a general way, the "business science" of farming must be studied, understood, taught, and practised.

Mr. Hobson asks: "Is it proper to credit the land in a speculative business of that sort with more than the largest possible production of grass?" My answer is, yes. Why not credit the land with its productive power? By all means it should, whether it is a single or double crop, or a single or double crop in combination. My theory and practice in farming is to determine the net results of a crop in *cash* and capital profit, not product per acre. My aim is to obtain maximum results at minimum cost, giving *maximum profit* (cash and capital) *per acre*. Mr. Hobson measures the results of an acre by the hay it will produce, or I suppose he means any other crop that might be mentioned. This is the old idea of farming—big crops, irrespective of cost or profit. It seems strange that farmers will persist in overlooking the true aim and purpose of a crop—whether it be large or small.

Mr. Hobson estimates that the highest capacity of land in pasture is the productive power of four tons of hay per acre, and also estimates the results of such an acre the same in pasture as in hay. No greater mistake was ever made or could be made, although I must say it is the usual belief and practice—a farmer owning and using an acre of grass has the means of converting the product of that acre into a great many channels. For example, he can convert it into power through the horse as pasture; into wool through the sheep; into beef through the steer; into milk through the cow; into money through hay; into pork through the pig, and so on; or into hay to feed any or all of these above mentioned animals, a portion of their daily rations during the winter. If it were a fact that a steer could be fattened, a large flow of milk obtained from a cow, or the greatest amount of work secured from a horse by feeding hay alone in the winter then there might be something in Mr. Hobson's contention, but if he admits that the cow and steer must

have provender, the horse oats along with the hay to make the hay profitable then he admits that a combination of conditions must be effected to make the hay (*the product of the soil*) an effective agent to obtain a valuable cash product, whether it is the liveryman with his horse, the farmer with his cow, steer or sheep—then he must also admit that it is not improper to add such necessary conditions and requirements to the grass while growing which will obtain the same or *more* profitable results.

Let me give a demonstrated practical example. Take two acres of clover grass land which will produce, say, four tons of hay, equally the same. One acre is allowed to mature and make four tons of hay, the other acre is pastured and converted into pork. The hay is fed through the winter to two beef cattle to fatten, and sold in the open market. If sold it may be worth, say, the four tons, \$37. The cost of this is as follows: Labor, \$6; seed and preparation, \$5; marketing, \$3; total, \$14. Cash left, \$23. Lost fertility to the acre by sale of four tons, \$16; use of land, *nothing*. If fed to two steers, for six months, we have a gross cash gain of, say, \$40. Cost as above, \$11; putting hay into barn, extra feed (meal, etc., etc.), \$25; labor, \$4; total cost, \$40; net cash gain, nothing. Fertilizer gain left in manure from purchased meal, etc., \$20, which is a source of capital gain. Take, on the other hand, the other acre, and convert it directly into pork, and we have the following result, which is based upon three years' experiment under my own personal direction: One acre of such clover production will accommodate 50 spring pigs, starting at a weight each of 40 pounds, and cause them to weigh in five months 220 pounds, giving an increase of 180 pounds each, or on the whole 50 pigs of 9,000 pounds' live weight. These pigs are supposed to be of the choice bacon type, and therefore are worth at present time 10 cents live weight; but we will take five cents per pound as a fair average value. This makes the one acre produce, gross, \$450 at the following cost: Purchased feed, \$200; labor attending hogs, \$25; labor preparing soil, seed, etc., \$5; cost of sleeping-berth, troughs, etc., \$20; total, \$250. This leaves a net cash profit of \$200, and a fertility profit arising from the feeding of the purchased feed of over \$100 of the finest and best fertilizer possible, for all the liquid and solids are distributed over the acre.

I have given the above example based on the highest maximum product under the most favorable conditions, and I am prepared to show such results actually in progress—on my farm at the present time—and am prepared also to demonstrate and prove that the above figures can be attained—in the hands of any ordinary farmer—with proper directions, start and finish. To say that pork production on the most improved methods is a speculative business, as Mr. Hobson claims, is rather a surprise to me, and the only answer I can give is that I cannot agree in the least that it is, but, on the contrary, claim that bacon pork production is the most reliable and unspeculative branch of Canadian farm production.

Mr. Hobson observes that there is a limit to adding fertility profitably. My reply is, that I believe there is not in practice, particularly in summer pasture and fodder corn. I here state that I have in no way got to the limit of increased fertility on my farm, and must beg my friend, Mr. Hobson's, pardon in making this contradiction to his statement. I wish my land were double as fertile as it is at the present time, and I hope, in a few years more, to make the soil of my farm more than double its present fertility.

I desire to apologize for the length of this letter, but hope some few items of information may be gleaned from its perusal.

D. M. MACPHERSON.  
Lancaster, Aug. 17th, 1898.

LIST OF PRINCIPAL CANADIAN FAIRS FOR 1898

Industrial Fair, Toronto . . . . .	August 29th to Sept. 10th
Stanstead Live Stock Assn, Stanstead, P.Q. . . . .	Aug. 24th and 25th
Eastern Exhibition, Sherbrooke, P.Q. . . . .	Sept. 5th to 10th
Western Fair, London, Ont . . . . .	Sept. 8th to 17th
Quebec Exposition Co., Quebec, P.Q. . . . .	Sept. 12th to 21st
New Brunswick Exhibition Co., St. John, N.B. . . . .	Sept. 13th to 23rd
Bay of Quinte District Fair, Belleville, Ont. . . . .	Sept. 14th and 15th
Central Canada Fair, Ottawa . . . . .	Sept. 16th to 21st
Southern Fair, Brantford . . . . .	Sept. 17th to 22nd
Provincial Exhibition, Halifax, N.S. . . . .	Sept. 22nd to 29th
Markham Fair . . . . .	October 5th to 7th
Thorah Township Fair, Beaverton . . . . .	Sept. 27th and 28th



# 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.

### TO STOCKMEN.

A car of purebred live stock for Manitoba and the West will leave Ontario the last week in September. Persons having stock they wish delivered to western customers are respectfully requested to communicate at their earliest convenience with F. W. Hodson, Parliament Buildings, Toronto, Ont.

### LONDON AND OTTAWA FAIRS.

F. W. Hodson will be at the Western Fair, London, September 15th and 16th, and will make his headquarters at the Tecumseh House, where he will be pleased to meet Institute officers from 7 a.m. to 12 noon, on the above dates, and from 2 p.m. to 4 p.m. he may be found at the secretary's office on the fair grounds.

He will attend the Central Ontario Exhibition, September 22nd and 23rd, making his headquarters at the Windsor Hotel, Ottawa, where he may be seen from 7 a.m. to 12 noon; and from 2 p.m. to 4 p.m. he may be found at the secretary's office on the fair grounds.

### SPECIAL PRIZES AT THE PROVINCIAL WINTER SHOW.

The prize list offered at the Provincial Winter Show this year comprises something over \$4,000 in cash, besides a number of specials. Among the specials are: For best animal shown in the cattle department, a Maple Leaf grain grinder, donated by the Gould, Shapley & Muir Co., Brantford, Ontario. The winner will have the option of an 8-foot pumping mill "Steel King," or a second option of applying \$45.00 on the purchase of a power wind mill outfit. The Dominion Shorthorn Breeders' Association have been very liberal in duplicating a number of prizes awarded to Shorthorn cattle, and have given \$20.00 as first prize for best grade steer sired by Shorthorn bull. Special prizes are also offered by Mr. H. D. Smith, Compton, Que., in the Hereford list. Special prizes are also offered in the same class by the Canadian Hereford Breeders' Association. For the best

sheep exhibited a plow is donated by the Wilkinson Plough Co., Limited, Toronto, Ont. The American Leicester Breeders' Association offer a special prize for the best display of Leicester sheep, the first prize being a gold medal. The American Shropshire Breeders Association offer \$115.00 in special prizes. In the swine department a gang plow valued at \$16.00 is donated by the Massey-Harris Co., Limited, Toronto, for the heaviest sow or barrow at the show; and nearly \$600 is offered as special prizes for export bacon hogs. The contributors to this list are—The Wm. Davies Co., F. W. Fearman, Hamilton; the Ingersoll Packing Co., and the Dominion Swine Breeders' Association. The Thomas Implement Works, Watford, manufacturers of farming implements, offer for the best animal exhibited in the swine department a "Leader" corn and root cultivator, valued at \$10.00. For the most valuable exhibit in the dairy department Messrs. Matthew Moody & Sons, Terrebonne, Que., manufacturers of threshing machines, hay presses, combined grinders, and farm implements, offer one of their justly celebrated grain grinders, which undoubtedly is one of the best grain grinders on the Canadian market. It must be remembered that the Prince of Wales' prize is this year offered in the swine department. Altogether the list of prizes is the most complete ever offered at the Provincial Winter Fair, which is fast becoming the most popular winter exhibition in America.

The Ontario Agricultural College will be represented at the Industrial Exhibition August 30th to September 9th. Mr. Zavitz, Mr. Jarvis, and Prof. Dean will all make exhibits, and Mr. Day will also be there conducting a dairy test. Mr. G. A. Putnam will be present at the tent of the superintendent of Farmers' Institutes, where he will distribute a quantity of circulars and other information concerning the Ontario Agricultural College. Persons wishing information concerning the college are invited to call on any of the above-named gentlemen during the time of the exhibition.

### Farmers' Institute Department.

Reports concerning the work of the Farmers' Institutes in Ontario will be published weekly under this head; also papers prepared for this department by Institute workers. Secretaries and officers having announcements to make are invited to send full particulars to the Superintendent.

### FARMERS' INSTITUTE AND LIVE STOCK ASSOCIATIONS' TENT AT THE INDUSTRIAL EXHIBITION.

Arrangements have been made by Henry Wade, Registrar of Live Stock, and F. W. Hodson, Superintendent of Farmers' Institutes, to occupy a tent, as an office, on the grounds of the Toronto Industrial Exhibition from August 30th to September 9th. It will be located east of the cattle ring and just in front of the horse and cattle sheds, on the site occupied last year.

Officers and members of Farmers' Institutes, of live stock, dairy, poultry, fruit growers, and kindred associations, exhibitors of live stock, poultry, agricultural products, etc., are cordially invited to make this tent their headquarters during the time of the exhibition. Associations connected with agriculture are at liberty to use the tent free of charge, for holding public meetings, for which ample accommodation will be provided. The superintendent will be pleased to meet there Institute officers and members, also members of kindred associations, to discuss the best means to advance the work of the Farmers' Institutes in their respective districts. A table and writing materials will be available at any time.

### FARMERS' INSTITUTE MEETINGS IN ONTARIO FOR 1898-9.

The list of regular and supplementary meetings of Farmers' Institutes to be held in Ontario during the season of 1898-9 was issued August 26th. A copy of the lists comprising each division has been sent to each president, vice-president, and secretary therein, and a copy of each of the subjoined letters accompanied each list.

PARLIAMENT BUILDINGS,  
Toronto, August 26th, 1898.

To the Secretary of the Local Farmers' Institute:

Dear Sir, Please find enclosed the list of Farmers' Institute meetings, both regular and supplementary, to be held in your division during the coming season. Please critically examine each of these lists. Great care has been exercised in planning the routes, etc., in connection with these meetings, yet we are conscious that it is difficult to arrange each trip in each district as well as it could be done by a resident in the respective district, therefore, I respectfully request you to carefully examine the lists now enclosed. If you find that any improvements can be made in arranging any of the meetings or connections in your Institute district, kindly notify me at once and suggest the changes you think desirable for economy or convenience, but do not suggest changes that are not

absolutely necessary, as any changes made will not only increase the necessary office expenses but will also retard the issuing of the Farmers' Institute Bulletin for 1898-9.

Please notice that the lists now sent you are provisional only, and are subject to change, therefore, do not advertise your meetings on the strength of them. Kindly return these lists as soon as you have examined them. If I do not hear from you between now and September 15th I will conclude that the arrangements as outlined are satisfactory to your Institute, and will at once give the lists to the government printers for publication.

I have sent a copy of this letter to your president and vice-president. If you think it necessary kindly call them together at your and their earliest convenience, and discuss this matter with them. There should be no necessity to call the full board of directors together, as this is a matter under the control of yourself and the other members of the executive.

Yours very truly,

To the President and Vice-President:

Gentlemen,—The above is a copy of a letter I have to-day sent to your secretary. I also enclose you a copy of each list of meetings referred to. Will you kindly examine them and write your secretary or meet him at your earliest convenience either privately or in an executive meeting? When you are through with these lists kindly hand them or post them to your secretary, and he will forward them to me with those he now has. I wish all the provisional lists now sent out returned. Kindly give this matter early attention, and oblige,

Yours very truly,

In order to overcome any chance of postal error duplicate copies have been sent to each secretary. If an officer in any part of the province fails to receive the above-mentioned lists he is respectfully requested to notify me at once.

F. W. Hodson,  
Superintendent.

Parliament Buildings, Toronto.

### AN ABRIDGED REPORT OF ENGLISH AND EUROPEAN EXPERIMENTS WHICH ARE OF VALUE TO CANADIAN FARMERS.

DAIRYING.

A New Method of Making Butter.

A patent has been taken out in France for a new method of making butter. In this process the cream is subjected to lactic acid fermentation until the fat globules are inclosed in a sufficiently strong covering of casein, when the cream is heated, carbonic acid introduced into it without sufficient agitation to churn the cream, and it is finally submitted to alcoholic fermentation. This fermentation changes the character of the cream, allowing the fat globules to rise to the surface, while the other ingredients remain behind. Churning in the ordin-

## GAZETTE.—Continued.

ary sense is said to be unnecessary, as the butter fat collects on the surface and it is only necessary to wash it to free it from small particles of casein adhering to it.

## FROZEN MILK.

The *Journal d'Agriculture* states that Casse's system of shipping milk in a frozen state has been adopted by the Danish Dairy Company which has an establishment, one hundred miles from Copenhagen, capable of handling 30,000 litres of milk daily. From one-fourth to one-third of the whole amount of milk is frozen artificially in cakes of about twelve kg. in weight and placed in large cans of about 500 litres' capacity. The following morning the cans are filled with fresh milk and are then closed air-tight and sent to Copenhagen. They can be kept in this way for several weeks, being opened for consumption at will. When it is desired to use the milk it is thawed by placing the contents of the cans in vessels surrounded by hot-water coils. This thaws the milk gradually and creates currents in it which will prevent any of the constituents separating out. A can which had been filled on June 17th was opened in Paris on June 25th. The milk tasted and had all the characteristics of pure, fresh milk. For some reason, however, the keeping quality of the butter made from the cream was unsatisfactory.

(To be continued.)

## AN ODORLESS ONION

The latest product of scientific propagation is the odorless onion. Just how an onion can be odorless and still remain an onion is not explained. To most people the odor is all there is of an onion, and that is enough. The elimination of the characteristic feature of a vegetable of such long and strong standing in natural history ought to be reckoned among the proudest achievements of man. But an onion deprived of that delicious tang and the penetrating scent which goes with it can hardly be an onion. The palate which loves will not recognize it; calling a whitened, innocuous, insipid, plated bulb an onion will not make it one.

No true lover of onions will halt this new invasion of science. He eats his onion at dead of night in silence and solitude. He rejoices in it and sleeps upon it. The incense of his praise fills the room and soothes him to delicious sleep. He rises in the morning after his sacrifice to pass the day in purification, to see no one until the sun hath sunk. It is a luxury and a worship. Shall he yield all this delight for an odorless bulb? Let others do as they will, he will not. An onion without its odor would be ashamed of itself.

## FEED VALUES.

Many stockmen are at some loss to make a close estimate as to the relative value of different feeds. The Massachusetts Experiment Station has concluded that when a ton of corn meal is worth \$10, a ton of wheat bran is worth \$8.50, a ton of gluten meal \$15.20, a ton of wheat middlings \$11, a ton of oil-cake meal \$13.50, and a ton of cotton seed meal \$15.20. When corn is worth 25 cents a bushel, a ton of corn meal is worth about \$10,

and the feeder can afford to pay \$3.50 for a ton of oil-cake meal.

If oil-cake meal is quoted at a price above the figures given here, it is cheaper to feed corn and suffer a small loss from the wide ration than to try to balance it by supplying the proper amount of nitrogenous material to furnish the accepted nutritive ratio.

Just here comes the place where a little learning is dangerous. A feeder may understand that a certain combination of nutritive elements will produce the most pounds for the weight of feed consumed, and without thinking further proceeds to supply a balanced ration regardless of what it may cost.

With oil-cake quoted at \$21 a ton no man can afford to buy it to feed as long as corn is at the present price, because he can make a given increase of weight cheaper by feeding a wide or non-nitrogenous ration than he can by purchasing oil-cake to balance the ration.

Wheat middlings can now be bought at about \$11 a ton, and this is as cheap as corn at 25 cents, and in most places the feeder can make money by selling corn to buy middlings, for with these he can feed a perfectly balanced ration at less cost than he can feed corn alone.—*Farmers' Voice.*

## IRISH CATTLE FOR THE OTTAWA FAIR.

Senator Drummond's Celebrated Herd to be Exhibited.

Among the many special attractions at the Canada Central Exhibition, none will be more interesting to the farmer than the exhibit of Irish cattle to be made by Hon. Senator G. A. Drummond. The cattle are in a class never exhibited here before and are reputed to be about the highest graded cattle in Canada. The bull, "Bantam," was bred by his Royal Highness the Prince of Wales, and is an interesting animal. The herd will be given a special building, which will be placarded in such a way as to attract attention. Senator Drummond will also show a number of imported Southdown sheep.

The celebrated "Sherman's Band," of Burlington, Vt., is coming to Ottawa for the exhibition, and it is expected that a big crowd of excursionists will accompany it. The exhibition directors are endeavoring to arrange with the Canada Atlantic and Central Vermont railways to run a special train. The band had a tempting offer to accompany an Oddfellows' excursion to Boston for four days, but preferred Ottawa.

The R. H. Buchanan Co., of Montreal, are going to exhibit hot air pumping engines this year. A special position will be assigned the firm to give every advantage for showing the capacity of the pumps.

Work on the new building is being pushed rapidly and it will be completed in ample time for the exhibition.

The number of entries to date far exceeds that of any previous year.

## LONDON'S GREAT FAIR.

It is scarcely possible that there is any person in this locality but has heard that the Western Fair will celebrate its Silver Jubilee next month, 8th to 17th, and, as we at present enjoy exceptionally low railway rates on all lines, it puts it within the possibility of any of our readers to accept this opportunity to see one of the best Live Stock and Agricultural Fairs in Canada, or, in fact, America. To those who have attended this Fair in past years, suffice it to say that the management purpose making this especially grand on account of their Jubilee, and to the few who have not availed themselves of this privilege, that it will well repay the outlay and time.

The secretary informs us that the exhibits and special features will surpass former years in point of excellence, and the evening entertainments are the best ever offered by them.

The stage and ring performances will be supplemented with a realistic representation of the "Battle of Manila Bay," by Prof. H. and Fireworks Co. The Art Loan of celebrated pictures from private collections, to be

held in the Art Annex erected this year, will be a great feature.

A combination of all these events should be both pleasing, entertaining and instructive.

Programmes and prize lists will be sent free to every applicant.

## BRANTFORD SOUTHERN FAIR.

FIVE DAYS' EXHIBITION—SEPT. 17TH, 19TH, 20TH, 21ST AND 22ND.

The management of the Brantford Southern Fair have arranged to give a five days' exhibition this year, commencing on Saturday, Sept. 17th, and ending on Thursday, Sept. 22nd. So pronounced a success was the "Southern Fair" last year that it at once took a jump into the race with the larger shows of the Dominion.

Four thousand dollars in prizes will be given. Immense new cattle and horse sheds are being built, and by the time the show is opened the buildings and grounds will be among the best in the Dominion. The prize list in the Live Stock Department is very large, and breeders will find this, together with the grand new sheds, a feature of the show deserving their careful consideration.

In the Ladies' Department (which is in charge of a Ladies' Committee) bigger things are looked for than last year, if it were possible. Many new features have been added.

In special features there is a host of new attractions—athletic sports, band concerts, military sports, fireworks, etc., etc.

Low rates have been secured on all railroads, and special trains will be run at the close of evening performance.

There will be a grand auction sale of live stock on the grounds on Farmers' Day. Large numbers of entries have already been made, both with and without reserve, thus ensuring success.

## Publishers' Desk.

**Some Good Stock.**—Attention is called to the advertisement of Mr. H. J. Davis, of Woodstock, on the last page of the cover of this issue. Mr. Davis is offering some good stock at very reasonable prices and should have little difficulty in disposing of it.

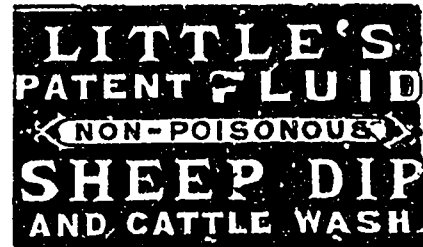
**Seed Wheat.**—Attention is called to the advertisement of the Ontario Experimental Farm, Guelph. Those who desire to obtain the special varieties of seed wheat offered should write to Mr. Rennie at once and secure what they want before the supply is exhausted.

**The Independent Cordage Co., Limited.**—Please note the advertisement of this company in our advertising columns. The demand for twine is such that parties desiring to procure a stock of it for this season's use should not delay sending in their orders. We have much pleasure in recommending the company to the notice of our readers.

**An Excellent Magazine.**—*The Westminster* is one of the most interesting and attractive publications issued in Canada. The illustrated announcement number issued this week, in which the managers make an exceptionally liberal offer to subscribers, is one of the finest specimens of journalism we have seen for a long time. As it will be sent free to anyone applying for it, we have no doubt a large number of copies will be distributed. It is well worth having, and we should like every one of our readers to secure a copy before the supply is exhausted. You can get one by sending your name on a post card addressed to *The Westminster*, Toronto.

**The Western Fair.**—The official programme issued by the Western Fair Association this year is the best yet published. The work comprises 52 pages, with chromo cover, and inside printed on fine book paper. It contains useful information for visitors, and a number of illustrations showing the principal attractions, also advertisements of some of the leading business houses appear in its pages. An excellent map of Western Ontario, in color, is also given. The book is in keeping with this old and reliable up-to-date fair. In the number and quality of the exhibits and the attractions to be presented the Silver Jubilee Exhibition will far exceed the excellent exhibits of former years.

Later reports show that the damage done to the works of the Jenckes Machine Co., at Sherbrooke, Que., by fire on the night of the 13th inst. was very much exaggerated. The fire was confined to the machine shop building; and the other departments—foundry,



## The Original

## Non-Poisonous Fluid Dip.

Still the Favorite Dip, as proved by the testimony of our Minister of Agriculture and other large Breeders.

## FOR SHEEP

Kills Ticks, Maggots; Cures Scabs, Heals Old Sores, Wounds, etc., and greatly increases and improves growth of Wool.

## CATTLE, HORSES, PIGS, Etc.

Cleanses the skin from all insects, and makes the coat beautifully soft and glossy.

Prevents the attack of Warble Fly.

Heals Saddle Galls, Sore Shoulders, Ulcers etc. Keeps Animals Free from Infection

No Danger, Safe, Cheap, and Effective.

## BEWARE OF IMITATIONS.

Sold in large tins at 75 Cents. Sufficient in each to make from 25 to 40 gallons of wash, according to strength required. Special terms to Breeders, Ranchmen, and others requiring large quantities.

Sold by all Druggists. Send for Pamphlet.

ROBERT WIGHTMAN, Druggist, Owen Sound, Solo Agent for the Dominion.

boiler shops, etc.—were in operation as usual on the following Monday. A few days later a portion of the machine shop was started up, and the whole is expected to be in running order by the 23rd of August. The patterns, drawings and office records were preserved practically intact, and all orders for work are being accepted as usual. The principal item requiring replacement is the roof of the machine shop, this, however, is well under way. The whole of the work is being pushed with much energy, and the numerous orders in hand will suffer comparatively slight delay.

## Stock Notes.

MR. JOHN LAHMER, of Carrville, Ont., is offering pure-bred Berkshires and Banded Plymouth Rock fowls for sale in this issue. His foundation stock is selected from some of the best herds in Ontario, and the individuals offered are claimed to be excellent types of their breed.

A prominent stock breeder in Quebec lost ten promising calves recently through poisoning by lapping the paint off painted feeding boxes. He advises the use of white-washed boxes instead of painted ones, and cautions breeders against the silly and prevalent practice of painting the feeding boxes.

MESSES. DRUMMOND BROS. of the Parkhill Stock Farm, Quebec, have made some noted sales recently of purebred Ayrshires, among them being a ten-day-old Ayrshire calf, pure white, to Mr. Hare of New Haven, P.E.I. This calf is an exceptionally good one. Its sire was Prince Henry and its dam, Yellow Bess, from the celebrated Johnston herd. The Hon. Senator Drummond has retired and this fine herd is now and has been under the management of Mr. Alex. Drummond for some time.

BUY

**Coleman's Salt**

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,  
CLINTON ONT

## MARKET REVIEW AND FORECAST.

## Office of FARMING,

44 and 46 Richmond street W., Toronto.  
Aug. 29th, 1898.

Trade conditions during the week do not show much change over the week previous. There are signs of a revival, but until farmers begin to market their big season's crop a big fall trade need not be looked for. There has been more activity in trade circles in the west of late which will doubtless help things here. However, the situation here is of the most hopeful kind, and it is not likely that anyone will be very much disappointed when the fall trade opens up.

## Wheat.

The wheat situation does not show much change. At some United States points considerable new wheat is coming forward, though in this country, and at the majority of American points, there is a tendency on the part of farmers to hold their wheat for a while. If there is a concerted action along this line it may have the effect of stimulating prices considerably, though any advance must necessarily be of a temporary character. There is an exceptionally large wheat crop, which will have to be marketed sometime, and if there should be a temporary advance it is sure to be followed by a reaction later on. There is, however, some consolation in the fact that the world's visible wheat supply is the smallest known for many years, having run down to 24,070,000 bushels, as compared with 32,500,000 bushels for the same time in 1897.

Prices in London have receded somewhat during the week, especially for futures, owing to the prospects of big receipts. The Chicago market has not varied much during the week, especially for spot wheat. Receipts have been large in Montreal of late, and the market there is quiet. Quotations are 78c. to 80c. for Ontario red winter, and 91c. to 93c. for No. 1 Manitoba hard. Ontario millers report that farmers are too busy to market their wheat, prices ranging from 68c. to 70c., according to location. At Toronto the market has been quiet, but steady, at from 68c. to 70c. for red and white wheat. Manitoba No. 1 hard is quoted here at 91c. Last year Ontario wheat was selling here at 88c., and Manitoba at \$1.10 at this time.

## Oats and Barley.

The London oat market is lower owing to large receipts of American and Canadian oats. Prices are fully 6d. per quarter lower than a week ago. Stocks are decreasing rapidly at Montreal owing to heavy shipping, but receipts are still liberal. Old oats bring from 30½c. to 31c. afloat, and new are quoted at 29c. to 29½c. The market here is steady at from 23½c. to 24c. for new white west, and 26c. to 27c. for old white west. Last year at this time oats brought 22½c. on this market.

There is not much doing in barley. Montreal prices are 37c. to 38c. for feed, and 45c. to 50c. for malting. The market here is quiet at 38c. for outside.

## Peas and Corn.

The pea market is somewhat easier at Montreal, and prices during the week ranged from 60c. to 61½c. afloat. Some holders are asking 62c. The market here is quiet at 49c. to 50c. north and west. Last year at this time peas brought 45c. on this market. The London market is easier.

The corn market here is easier at 38½c. for American. At Montreal the market is quiet at 35½c. to 35½c. afloat. The corn situation in the Western States is more favorable than it was a few weeks ago, with the prospect of a fair crop.

## Bran and Shorts.

Ontario bran is somewhat scarce at Montreal, and is quoted at \$12; Manitoba bran at \$11, and shorts at \$14 to \$15. The market here is somewhat irregular, owing to the scarcity at some points. Local country dealers quote \$12 to \$14 for shorts and \$8 50 to \$9 for bran west.

## Eggs and Poultry.

There has been a good demand from Great Britain for Canadian eggs this season. Up to August 20th the total shipments from Montreal were 33,920 cases, as compared with 16,504 cases for the same period last year, showing the large increase of 17,416 cases. One good feature in this trade is that it has

been a paying one for shippers. The London and Liverpool markets are still firm but quiet. Liberal receipts from the continent have checked the upward trend of prices for a time. Canadian fresh eggs bring from 6c. 61 to 78c. in Liverpool. There is a good demand for Canadian eggs at Glasgow. Choice, fresh candled eggs bring from 12½c. to 13c. at Montreal, and strictly new-laid from 15c. to 16c. The market here for fresh gathered is firm at from 12c. to 13c.

There is not much poultry coming forward. The demand is improving and the market firmer at 50c. to 60c. for chickens, 60c. to 65c. for ducks, and 10c. to 11c. per lb. for turkeys.

## Potatoes.

The potato market at Montreal is quiet at 45c. to 50c. in fair sized lots, and 55c. to 60c. in jobbing lots. The market here is quiet at from 45c. to 50c. out of store.

## Hay and Straw.

There have been liberal supplies of Canadian long hay in London during the week, which have reduced the price to 50s. to 55s. The market at Montreal is about the same, with new baled timothy hay quoted at \$7.50 to \$8, No. 2, with clover mixed, at \$6 to \$7, and shipping hay at \$4.50 to \$5. The market here is quiet at \$7 to \$7.50 on track. Straw brings \$4 on track.

## Fruit.

There is nothing very new in the apple situation. Reports from Nova Scotia show that the crop in the Annapolis will be about double what it was last year, which is not saying very much, as last season's crop was a very poor one. Apples are in slow demand at Montreal. Barrels are selling better than baskets, and bring from \$1.25 to \$1.60, with the Dutchess selling at \$2.

## Cheese.

Contrary to expectations the much firmer market reported last week in London and Liverpool has given place to one of dullness. Buyers there seem to hold back and are not willing to follow up the advance of a week ago. Quotations are somewhat lower and are 39s. 6d. to 40s. for finest Canadian cheddar, 38s. 6d. to 39s. 6d. for colored, and 36s. to 38s. for good to fine. There seems to be a large English home make, and dealers on the other side do not seem to pay much attention to the fact that the total exports from Montreal and New York up to August 20th have fallen off 370,960 boxes. The market on this side, however, continues to advance, and buyers appear to be willing to pay higher prices with the hope of coming out all right later on as there is reason for believing they will. Prices at the local markets last week ranged from 7½c. to 8½c., with a tendency upward as the week advanced. These are reasonable values for August goods, and are fully 1½c. less than last year, when finest western cheese were quoted at 9½c. to 10½c.

## Butter.

The creamery butter market is easier than a week ago. At Montreal at the end of last week as high as 18½c. was reached, but prices have since fallen off fully ½c. to ¾c. per lb. Choice creamery is quoted at Montreal at from 17½c. to 18c., good to fine at 16½c. to 17c. The London market is decidedly quieter. However, as stocks are not heavy, sellers are not pushing sales very much. Choice Canadian creamery is quoted at 88s. to 90s.; fancy parcels, 92s.; fine, 84s. to 86c. The shipments from Montreal are beginning to fall off. Last week the exports were 4,617 packages, as compared with 15,485 packages for the same week last year. The total shipments up to August 20th, however, show an increase of 3,235 packages, as compared with the same period last year. But the total shipments from Montreal and New York show a total decrease of 79,842 packages, as compared with the same period last year. Dairy butter at Montreal is scarce, and brings from 13½c. to 14½c. per lb. Creamery is in fair demand here at from 19c. to 20c. for prints, and 18½c. to 19c. for tubs. There is a good demand for choice dairy, which seems to be scarce, though there is a plentiful supply of poor stuff. Good dairy brings from 14c. to 15c., and medium from 12c. to 13c.

## Wool:

The wool market continues quiet, and there is nothing new to report. Holders in the country seem to be awaiting developments. The prices for fleece for combing here remain unchanged at 16c.

## Cattle.

The cattle situation continues about the same. Good corn-fed beef cattle continue to bring good prices in the west. There was a slightly firmer tone on this market early in the week, but on Friday's market cattle were from 10c. to 15c. per cwt. off.

Export Cattle.—There has been a good supply of these during the week, and, consequently, they have been a little slow, and prices rule from \$4 to \$4.35 per cwt.

Butchers' Cattle.—The demand for these seems to be easier, owing to more mutton and veal being consumed. However, very fine quality were in demand on Tuesday at \$4 to \$4.25 per cwt. Choice cattle bring from \$3.75 to \$4 per cwt.; good cattle, \$3 to \$3.50; and common, \$2.75 to \$3.

Bulls.—Heavy bulls for export bring from \$3.80 to \$4.10 per cwt., but the inquiry is slow. Feeding bulls are steady at \$3.80.

Stockers and Feeders.—Stockers of good quality sold at \$3.40 to \$3.60 on Friday, and poor quality as low as \$3.25. Feeders weighing about 1,000 lbs. bring about \$3.75 per cwt.

Calves.—Choice veal calves sell readily at from \$5 to \$8.50 each, and inferior quality from \$2 to \$4. Veal calves are in good request in Buffalo at from 6½c. to 7c. per lb.

## Sheep and Lambs.

According to Erick Bros.' weekly circular of date August 25th, offerings are being marketed more freely at Buffalo, and trade runs steady on the basis of \$5.65 to \$5.85 for good fat rather bucky grades, with choice ewe and wether lambs saleable at \$6. Higher prices are not looked for, and it is probable that they will be lower as the season advances. There is a good demand for good ewes at \$4.25. The market here has been firm at from \$3 to \$3.50 for export sheep and \$3 to \$3.40 for butchers'. Spring lambs sell from \$2.75 to \$3.50 each or from \$4 to \$4.15 per cwt.

## Hogs.

Have declined very much in price. As soon as there is a show of declining there is a rush of hogs, which brings the prices down still further. However, prices are still on a good paying basis for choice bacon hogs, which bring from \$5.25 to \$5.35 per cwt. Light hogs bring from \$4.60 to \$4.80, and thick fat hogs about \$4.75 per cwt. The London market for Canadian bacon is weaker owing to large supplies from Denmark.

## RIDING THE HENS OF BROODINESS

By MRS. HELEN E. BAILEY, in *Field and Farm*.

For profit in egg production, we must see to it that every hen is strictly kept to business, allowing none but those wanted for the work to sit an unnecessary moment in a broody mood, as every hour means loss of flesh and fewer eggs. Catch of an evening, and confine in some roomy inclosure, give a little more than half the usual ration, plenty of water, grit and green stuff, and in a few days they will be broken of the incubating desire, and after a little begin to lay again; whereas, if half starved to death, as was the custom in our foremothers' day, it will take them fully a month to recuperate. And as each hen is supposed to lay, so each in turn will become broody, and as her turn for isolation comes we can then know to just what extent lice (the large gray louse) may have gotten a hold. Have ready a machine can of kerosene and, when catching, examine carefully; cut off all soiled feathers, and wet places sparingly with the oil, for, if two freely applied, it will cause a painful blister. This will not only be sure and speedy death to the lice, but will kill the lice germ of the nit, which, if infected, you will find thickly adhering to the base of the feather. It is also good for scaly leg, as it penetrates under the scale and destroys the parasite that is the source of the trouble.

## For Better Butter

Cleanliness, ease, and money-making use the

## MAPLE LEAF OURN

Circulars free on application.

WILSON BROTHERS  
COLLINGWOOD, ONT.

## THE 'Century's Period'

THE WESTMINSTER, the great Canadian home paper, makes an extraordinary "End of the Century" offer. Illustrated announcement number just issued. Sample copy free. It's worth having. Send name on post-card. Address,

THE WESTMINSTER, Toronto.

## SEED WHEAT

GROWN ON THE

## Ontario Experimental Farm.

For Price List Apply to

WM. RENNIE,  
Farm Superintendent.

GUELPH, ONT.

## Large English

## Berkshires

and Barred Plymouth Rocks  
Foundation Stock of Berkshires selected from herds of Arthur Johnson and Snell's Gold Medal Herd.

I have for sale:

Young sows bred to a Snell boar.  
Young pigs by Tom Lee, -1131—  
Also pigs of both sexes, sired by (Imp.) British Flag  
-5152—dam, a show sow of Snell's. These are  
lengthy pigs with quality and size, sure to please.  
Prices to suit the times.

JOHN LAHMER  
Carrville P.O.

Richmond Hill, G.T.R. and Metropolitan Railway.

## 5 DAYS THE GREAT 5 DAYS

SOUTHERN FAIR  
BRANTFORD

SEPTEMBER 17 to 22

\$4,000 IN PRIZES  
Great Array of Special Features

The Southern Fair, Brantford, will last for five days this year, beginning on Sept. 17th, and closing on the evening of Sept. 22nd.

The list of special attractions will be larger than last year, and of more varied kind.

For copies of Prize List, Entry Forms, and all other information, address the secretary.

C. W. YAPP,  
President.

G. HATLEY,  
Secretary.

## WINDMILLS

Farmers who require an



Economic Power

TRY THE

Canadian Steel  
Air-Motor

Do not pay dear for your experience with Gasoline Engines etc., etc.

Galvanized or Painted

Ask for copy of testimonial from F. W. Hoodon, Esq., Sup. Farmers' Institutes.

PUMPS, TANKS, GRINDERS, ETC.

Ont. Wind Engine & Pump Co. Limited  
LIBERTY ST. - TORONTO



THE **Prize=**  
**Winners**

ARE THE

**Massey=Harris**  
**Implements**

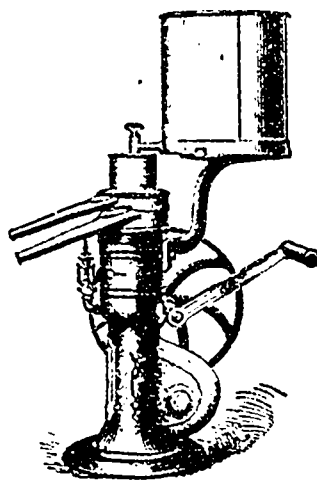
They have achieved the highest honors in competition the world over, and are used by the most successful agriculturists.

**MASSEY-HARRIS CO., LIMITED**  
**TORONTO**

**BINDER TWINE**

SISAL TWINE  
SELECTED MANILLA  
HIGH GRADE MANILLA  
CENTRAL PRISON PURE MANILLA.  
Owing to a large demand, we can offer only limited quantities of our own brands. Plymouth and other brands in stock.

**THE INDEPENDENT CORDAGE CO., Limited**  
**TORONTO**



**National**  
**Cream Separators**

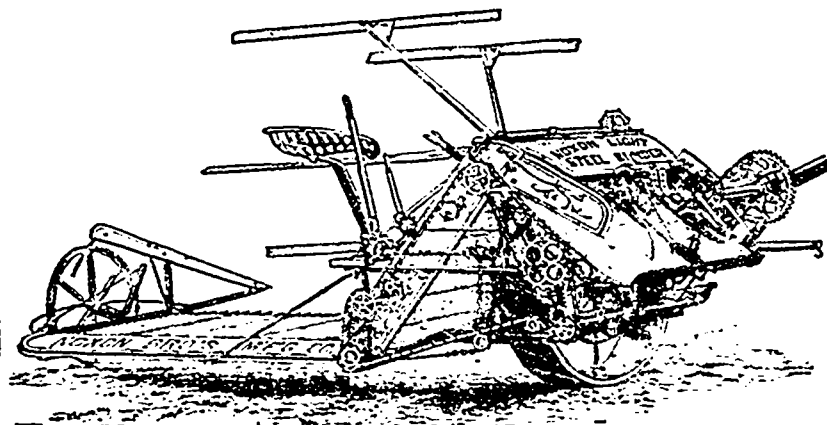
No. 1-330 lbs. \$75  
No. 2-600 " \$125 **HAND or POWER.**

Perfect Skimmers  
Easy to Run and Clean  
Saves Labor—Makes Money  
The Best and Cheapest in the Market

SOLD BY  
**The CREAMERY SUPPLY COMPANY**  
Guelph, Ontario.

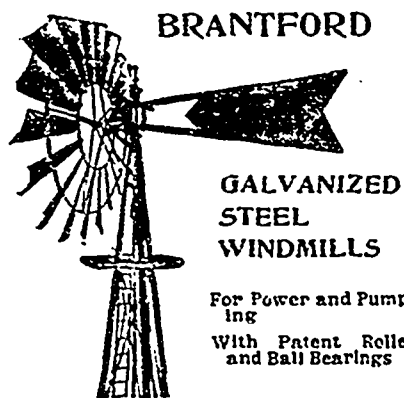
N.B.—We furnish all kinds of Creamery and Dairy Supplies. Send for Catalogue.

**Noxon Steel Binder**



**The Binder THAT DOES IT ALL AND DOES IT RIGHT**

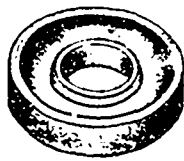
**Noxon Bros. Mfg. Co., Limited**  
INGERSOLL, ONTARIO.



**BRANTFORD**

**GALVANIZED**  
**STEEL**  
**WINDMILLS**

For Power and Pumping  
With Patent Roller  
and Ball Bearings



Makers of the lightest running and best constructed Galvanized Steel Windmills and Towers made.

Write for Illustrated Circulars.



**CREAM . . .**  
**SEPARATORS**

**THE ALEXANDRA**

Hand and Power. Capacity 160 to 2,000 lbs. \$50 to \$350.

**THE MELOTTE**

Hand Style only. Capacity 330 to 850 lbs. Price \$100 to \$135.

Up-to-date Dairy Machinery and Supplies.

AGENTS WANTED.

**R. A. LISTER & CO., Ltd.**  
18 St. Maurice Street, MONTREAL.

**For Sale** 3 First-class Shorthorn, full, red roans. 40 good Yorkshire boars and sows. 6 weeks to 6 months. 20 Lengthy Large English Berkshire boars and sows. 5 months. 1 Shropshire ram lambs, from imported stock. Write

**H. J. DAVIS.**  
Box 290 Wobdstock, Ont.

**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, WINONA, Ont.**

STATEMENT SHOWING CONSUMPTION OF

**ALBERTS'**  
**Thomas-Phosphate Powder**

(Registered)

	Tons	Tons	
1883	50	1890	400,000
1884	300	1891	410,000
1885	2,500	1892	530,000
1886	12,000	1893	680,000
1887	65,000	1894	760,000
1888	130,000	1895	920,000
1889	240,000	1896	1,370,000

1897..... 1,920,000 tons  
1898, so far, the orders promise to reach nearly 3,000,000 tons.

**WALLACE & FRASER**

Masonic Temple  
**ST. JOHN, N.B.**

Canada Life Bldg., **TORONTO**

