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# FARMING

FEBRUARY 1896



**D**ID you ever see or hear of anyone that thoroughly understood the feeding of stock but what they say that salt is one of the things stock of all kinds should always have access to? Loose salt soon wastes, and your stock go without until you find time to replace it.

## Rock Salt

can be laid out in the field or put in the manger and they always have it. It does not waste. Try a shipment.

400 lbs. or over at 50c. per 100 lbs.

(Cash with Order.)

TORONTO SALT WORKS,  
128 Adelaide Street East, - Toronto  
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## AMERICAN AND CANADIAN HORSES

EXPORT TRADE TO SCOTLAND.

GLASGOW, as a centre for the disposal of American and Canadian horses, has proved by far the best market in Britain during the past season, and it is likely to continue so, as from its central position it commands buyers from all parts of Scotland and England.

**MESSRS. MACDONALD, FRASER & CO., Ltd.**  
Livestock Salesmen, Glasgow,

have sold this season either by private bargain, or by public auction, several thousand American and Canadian horses, consigned by all the leading exporters of the States and Canada. From their wide connection among buyers, and the central position of their stables and sale-yard, they are in a position to make the best market value for all horses entrusted to their care.

**Canadian and States Cattle and Sheep.**

Macdonald, Fraser & Co., Limited, also handle carefully, and have done so for many years past, large numbers of Canadian and States cattle and sheep.

Postal address: **MACDONALD, FRASER & CO., Ltd.,**

63 Bellgrove St., Glasgow.

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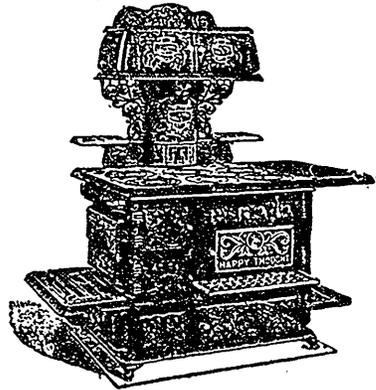
# The Nappy Thought Range

Over 50,000 in use in Canada,  
and every user pleased

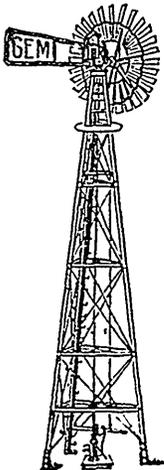
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It is said that the cooking apparatus is the most important article in any household. Then why not have the best? The Happy Thought Range combines perfection of operation with ease of management, it is always ready for work, and has more features of utility and convenience than were ever before combined. Other ranges may be sold for less money, not enough to make the Happy Thought extravagant, but sufficient to show its superiority. If you have any difficulty in getting particulars from your dealer, drop a card to the manufacturer.

**WILLIAM BUCK, Brantford, Ontario.**  
Buck's Stove Works.



## GEM - STEEL - WINDMILLS



Gem Steel Towers  
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(Pumping and Geared)  
Halladay Standard Wind-  
mills  
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Iron and Wood Pumps  
Saw Tables, etc.

We manufacture a full line of both Pumping and Geared Windmills and the greatest variety of Pumps of any firm in Canada. Our prices are made to suit the times. Send for full descriptive catalogue, or make known your wants and we will supply them.

**ONTARIO WIND, ENGINE,  
AND PUMP CO.**

367 Spadina Avenue

TORONTO - - ONTARIO

466

## Choice Seed Oats

**Golden Prolific**

A new, yellow, early oat. Plump grain with thin hull. Straw stiff and of a good length. The Jos. Harris Co., Moreton Farm, N.Y., say: "Since we introduced the Improved American Oats six years ago, we have failed to find anything to equal them until we tried the Golden Prolific last year, which yielded 114 bushels in this county." Price, \$1 per bushel; ten bushel lots, 80c. per bushel.

**Improved American**

Large white plump grain, with an abundance of straw. Price, 75c. per bushel; 10 bushel lots, 60c. per bushel.

**White Maine**

A large white branching oat, thin hull, and heavy grain. Price, 75 cents per bushel; 10 bushel lots, 60 cents per bus.

**Lincoln**

A good white early oat, not so rank a grower as others. Price, 75c. per bushel; 10 bushel lots, 60c.

**JOHN MILLER,**

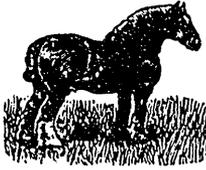
**MARKHAM, ONTARIO.**

Also a few fine young bulls and heifers still on hand for sale.

HORSES AND SHORTHORNS.

# THORNCLIFFE STOCK FARM.

I have on hand the best young **Clydesdale Horses and Mares** on this continent. Bred from the well-known sires, Prince of Wales, Darnley, Macgregor Energy, Lord Montrose, The Ruler, Carruchan Stamp, Knight Errant, and other celebrities.



593

**SHROPSHIRE.**  
Orders can now be booked for Shearling Rams, Ram Lambs and Ewes, sired by the celebrated prize-winning English ram, Bar None. Also rams and ewes of this year's importation.

**SHORTHORNS.**  
Choice young Heifers and Bulls by the celebrated Cruickshank bulls, Northern Light and Vice-Consul.

My stock in the above lines were very successful at all the large shows last year. Call and examine stock before purchasing elsewhere. Terms reasonable.



**ROBT. DAVIES, PROP., TORONTO, CANADA.**

## ROBERT NESS

IMPORTER AND BREEDER OF  
**CLYDESDALES**

From the best studs in Scotland. English and French Carriage Horses, Shetland Ponies, and Ayrshire Cattle.

**WOODSIDE FARM,**

484

**HOWICK, Que.**



**CLYDESDALE  
STALLIONS**

DIRECTLY IMPORTED FROM  
BEST SCOTCH STUDS

**SURE GETTERS**  
Guaranteed Sound  
Reasonable Prices

Geo. G. Stewart, Howick, Que.

## Clydesdales For Sale

A grand pair of mares by Lord Rollo (imp.), dam Nellie (imp.), by the Monarch of the Glen. One a sweepstake mare at Montreal in 1893, and has a fine yearling filly. Also choice Ayrshires of all ages.

**THOMAS CAIRNS,**  
Athelstan, Que.

## SHORTHORNS.

## SHORTHORNS

Of both sexes for sale at prices to suit the times. Herd founded in 1855, by the late Mr. Douglas. 13 young Bulls. Also stock bull, Baron Evenlode = 1705 =. Write for particulars. Address

**JAMES DOUGLAS**  
CALEDONIA, ONT.



246

## SCOTCH SHORTHORN CATTLE AND BERKSHIRE PIGS

For Sale—Choice young cattle of both sexes of the most select breeding. Also young Berkshire pigs from sows selected from the herd of J. C. Snell, Edmonton, Ont. Write for prices. **W. WARD,**  
Birchton, Quebec.

Farm one-half mile from station, C.P.R.



249

## "THE BRIARS"

SUTTON WEST, ONT.

100 Head of Registered Shorthorns including bulls of various ages. Chance for breeders to buy colts to finish. Inspection invited.

**F. C. SIBBALD.**  
J. CARSON, Agent, Yorkton, Assa.

## SHORTHORNS.

## SHORTHORNS, SOUTH DOWNS, BERKSHIRES

All stock is first-class, and registered. You will find our prices right, and all stock as represented. Always pleased to show stock, or to answer correspondence.

**H. B. JEFFS,**  
Bond Head, Ont.

300

## H. I. ELLIOTT

Breeder of Scotch Shorthorns and Southdown Sheep  
Imported King James at the head of herd.

335

**Riverview Farm, Danville, Que.**

## SHORTHORNS

Four bull calves of finest Booth breeding. The dams are imp. Lady Ann, daughter, and granddaughter. Lady Ann sired by Mr. Booth's renowned Paul Potter, her daughter by a Warlaby bull, her granddaughter by a Booth bull. The sire of these calves is of finest Polwarth and Warlaby blood. Two roans, two red and little white. Price, \$100 each. Also several heifers.

**D. ALEXANDER,**  
BRIGDEN, ONT.

## SIMMONS & QUIRIE

### Shorthorns and Berkshires.

The herd is headed by the Matchless bull, Royal Saxon = 10537 =, by Excelsior (imp.) = 2693 = (51233), with Barmpton M. = 18240 =, sired by Barmpton Hero = 324 =, as reserve. Among the females are representatives of the Strathallans, Minas, Golden Drops, Mysies, Elviras—all pure Scotch breeding, except the Elviras, which are Scotch crosses.

Farm 7 miles from Ilderton Station, G.T.R. Stock of all kinds for sale. Apply to  
The herd of Berkshires includes many prize-winners, and are an exceedingly choice lot.

**C. M. SIMMONS, Ivan, Ont., or**  
**JAMES QUIRIE, Delaware, Ont.**

449

## SHORTHORN BULL CALVES

By the same sire as **SCOTTISH LEADER**, who won first prize at Toronto, Montreal, and Ottawa fairs. If you want a really fine animal, good color, fit for service, see these.

**JOHN DAVIDSON,**  
ASHBURN, ONTARIO

332

**For Sale** Eight particularly good Shorthorn Bulls from 8 to 16 months old. They are large smooth sappy fellows in fair condition. Got by pure Cruickshank bull Perfection = 9100 =. Terms and prices to suit the times.  
**DAVID MILNE.**

Ethel, Ont.

SHORTHORNS.

**W. C. EDWARDS & CO., Breeders and Importers.**

**PINE GROVE STOCK FARM,**  
Rockland, Ont.

Special bargains on young bulls of superior merit and select Scotch breeding. Also thick young heifers at the right prices. Two imported Cruickshank Bulls for sale; also Ayrshires, Jerseys, Shropshire Sheep, and Clydesdale Horses.

Pos. Office, Telegraph Office, and Steamboat Landing, Rockland, Ont., on the C.P.R.

JOS. W. BARNETT, Manager.

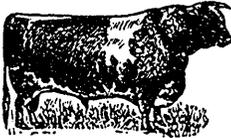


**LAURENTIAN STOCK and DAIRY FARM,**  
North Nation Mills, Que.

Ayrshires, imported and homebred; herd headed by imported Emperor of Dromore 5434 C. A. H. R. and 1868 S. A. H. B. Jerseys, all of the celebrated St. Lambert family; herd headed by Lisgar Pogs of St. Anne's 25704, A. J. C. C. Berkshire Pigs. Young stock of all the above breeds for sale. Post Office, Telegraph Office, and Railway Station, North Nation Mills, P. Q., on the C.P.R.

A. E. SCHEYER, Manager.

**- CARGILL HERD of SHORTHORNS -**



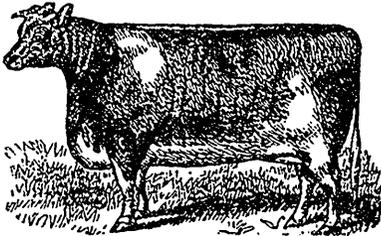
This herd has now at its head the imported Nonpareil bull, **Royal Member**, and the Lancaster bull, **Rantin' Robin**, by Roan Robin. The cows consist of importations from the herds of **Duthie, Marr, Crombie, Campbell, Main**, and others, numbering eighteen. All are of choicest Scotch breeding, and good individuals. We also have a number of good **Canadian-bred cows**, **Strathallans, Isabellas**, and others. We have a number of good young heifers for sale at reasonable prices, together with a few young bulls.

For particulars, address

444

**H. CARGILL & SON, Cargill, Ont.**

**- Arthur Johnston -**  
GREENWOOD, ONT.



Offers **13 Extra Good YOUNG SHORTHORN BULLS**

and an equally good lot of

**YOUNG COWS and HEIFERS**

We are also breeding Registered Berkshires of the best English strains. Send for 1895 catalogue. "**No Business, No Harm**," is our motto.

CLAREMONT STATION, Ont., C.P.R., or  
PICKERING STATION, Ont., G.T.R.

486 Greenwood Telegraph and P.O., Ont.

**Shorthorns For Sale**



Choice young bulls and heifers, including the first-prize herd of calves at the last Industrial. All sired by the grand imported show bull, **Aberdeen = 18949 =**. Also a few registered Southdown rams. Write for prices, or come and see stock.

JOHN MILLER,

227 Markham, Ont.  
Stations—Markham, G.T.R.; Locust Hill, C.P.R.

**SCOTCH SHORTHORNS FOR SALE.**

Choice young bulls and heifers by **Abbotsford 19446**, sweepstakes winners at Western Fair. Drop a card for full particulars.

256

H. & W. D. SMYTH,

Half mile from Exeter Station.

Hay, Ont.

**SHORTHORNS**



**GOOD YOUNG BULLS and HEIFERS FOR SALE**

Prices reasonable. First-class colors and pedigrees. Farm one mile south of Clinton Junction 489

**W. J. BIGGINS**

Elmhurst Farm - - OLINTON, ONTARIO

**BULLS FOR SALE.**



I have for sale two good young Shorthorn Bulls. Color, red. One 24 and the other 8 months old. Registered in D.H.B. Principally Booth blood. Price reasonable.

**OXFORD DOWN SHEEP** always for sale, of all ages, and both sexes, of best type. All registered.

The oldest established flock in Canada.

**HENRY ARKELL,** Arkell, Ont.

Telegraph—Guelph.  
Railway—Guelph.

40 Telephone—Arkell.  
Railway—Arkell.

**JERSEYS.**

**. . . FOR SALE . . .**

A grand Jersey Bull Calf dropped January 16th, 1895. Sire, Massena's Son (17608), whose dam made 9 lbs. 3 oz. of butter, and gave 9099 pounds of milk in 1 year and 15 days. Dam, Croton's Twinkle 3rd (91892). Official test 5.8 per cent. butter fat. A bull of grand constitution, sure and active, docile, and easily handled.

WM. W. EVERITT,  
Dunedin Farm. Box 552, CHATHAM, ONT.

**CATTLE CLUB JERSEYS**

Of the richest breeding. The most popular strains and highest testing families are represented. They have also made a record in the show ring during the last three years. Come and see them, or write for prices. We have grand bulls and heifers on hand.

HUMPIDGE & LAIDLAW, London, Ont.

**THE MANOR FIELD FARM  
OF JERSEYS**

Combines blue blood with vigorous constitutions, and undeniable dairy qualities. The St. Lambert bull, Kaiser Fritz 21173, bred by D. S. Dodge, Connecticut, U.S., heads the herd. Write for prices on young stock.

WILLIAM BACON, Prop.,  
Orillia, Ont.

548

**Brampton Jersey Herd**

FOR SALE—Pure St. Lambert Yearling Bull, \$40.  
Also purebred and high-grade cows and heifers bred to Sir Ollie.

B. H. BULL & SON, Brampton, Ont.

**JERSEY COWS AND HEIFERS.**

The highest testing strains.  
Rich breeding and good colors.  
ALSO TAMWORTH FIGS.

454 JOHN PULFER, - Brampton, Ont.

**HEREFORDS.**

**Ingleside  
Herefords . .**

THE BEST ALWAYS CHEAPEST

**CHOICE BULL CALVES  
FOR SALE**

**YORKSHIRE AND TAMWORTH  
SWINE**

All Ages and the Right Sort.

Satisfaction Guaranteed . . . **H. D. SMITH, Ingleside Farm,  
Compton, Que**

**GUERNSEYS.**

**GUERNSEYS**

THE GRANDEST OF ALL DAIRY BREEDS.  
FOR SALE—Two choice bull calves; also some grand  
IMPROVED YORKSHIRE BOAR PIGS

Fit for service, showing stock pedigrees. Prices are right. Come and see, or write.

W. H. & C. H. McNish  
Elm Grove Farm, 511 - LYN, ONT.

**AYRSHIRES.**

A RARE CHANCE TO SECURE

**A Stock Bull**

I have decided to sell my stock bull, "Dominion Chief," 1214. Sired by imp. "Royal Chief," dam imp. "Jess." "Dominion Chief" is a grand bull, and fit to head the best herd in Canada. Will sell cheap, taking quality into consideration.

Also a number of young Ayrshire bulls, fit for service.

Write for particulars and prices.

JOHN H. DOUGLAS,  
WARKWORTH, - - ONTARIO.

**DOMINION PRIZE HERD  
PUREBRED**

**AYRSHIRE CATTLE**

RECORD FOR 1898

**54 Prizes 54**

**37 FIRST II SECOND**

WITH

Gold, Silver and Bronze Medals

MONTREAL, TORONTO, LONDON AND OTTAWA

This herd has always taken the lead; they are of large size, and of good milking strains.

JAMES DRUMMOND & SON,  
Petite Cote, Que.

292

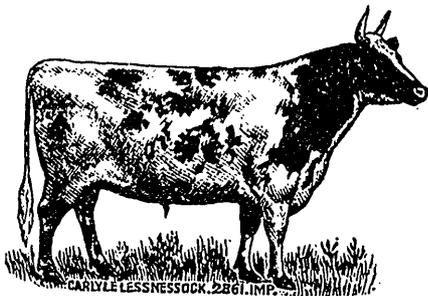
**Menie Stock Yard**



Ayrshire Cattle and Berkshire Pigs. First-class pedigreed stock always on hand and for sale. First-class milking stock a specialty.

Wm. Stewart Jr.  
Menie, Ont.  
Hoard's Station,  
G.T.R. 534

## AYRSHIRES.



## MAPLE GROVE AYRSHIRE STOCK FARM

R. G. STEACY - Importer and Breeder - LYN, ONT.

Largest importer in United States and Canada of the most noted Milk, Butter, and Prize Record Ayrshires procurable in Scotland. Head of herd is Carlyle Lessnessock, whose grand dam was never defeated in a milking contest in England and Scotland, competing against all other dairy herds for years in succession, and awarded more prizes in gold medals, cups, and money, than any Ayrshire ever exhibited with the 20 head of imported females of noted individual records. I am in a position to offer none but performers at reasonable prices.

Registered rough-coated Scotch Collies from imported stock.

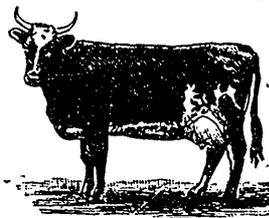
## JOHN NEWMAN & SONS

LACHINE, QUE.

### Breeders of High-Class Ayrshires

We have a number of choice imported prize-winning cows in the herd, together with the best milking strains obtainable. A number of choice young bulls by our prize-winning bull, Glencoe, which we will sell at reasonable prices. Call and see our extensive herd. Immense choice. First-class quality.

560

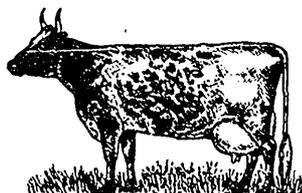


## ALEX. HUME &amp; CO.

IMPORTERS AND BREEDERS OF AYRSHIRES AND YORKSHIRES  
Hoard's Station, G.T.R. Burnbrae P.O., Ontario



Choice young bulls from excellent milking and showyard stock. Two-year-old heifers bred to our imported bull. Several fashionably bred light-colored heifer calves, about a year old. Young calves of several crosses from extra deep milkers that have been bred for the dairy for twenty years (ready to ship). Young pigs now ready to ship.



## AYRSHIRES

A few fine young stock bulls for sale.  
One by the same dam as the Columbian winner (Tom Brown).

Also some good young females.  
197 Come and inspect our stock. Prices to suit the times.  
ROBERTSON & NESS - Howick, Que.

### AYRSHIRE BULLS from Imported Cows FOR SALE

Two, calved in August, from heavy milking dams of show-yard individuality.

THOS. BALLANTYNE & SON,  
Neidpath Farm, Stratford, Ont.

### GLENGARRY STOCK YARD.

My herd traces direct to stock imported by the late Thomas Brown, of Montreal. I have now for sale four very fine young Bull Calves, from six to eight months old. One of these calves is from my prize cow Glen Rose, and Glen Rose has proved herself to be as good in the show ring as her brother, (Tom Brown), who took First Prize and Sweepstakes at the World's Columbian Exposition, Chicago. Write for prices.

478 JOHNA. McDONALD, Jr., Williamstown, Ont.

### Choice Ayrshires.

My stock bull is Imported SILVER KING; the dam of Silver King is Nellie Osborne (imported), who took 1st as milk cow and champion medal at World's Fair, and his sire is Traveller, the champion Ayrshire bull of Scotland. Young stock of both sexes for sale, sired by this famous young bull.

Please address D. McLACHLAN,  
Petite Cote, Que.

535

### :: AYRSHIRES ::

Eight choice bull calves by several of the most noted Ayrshire sires of the day, together with my two-year-old bull, Earl of Percy; also a few choice cows and heifers. Prices reasonable.

F. W. TAYLOR,

Wellman's Corners, Ont.  
Hoard's Station, G.T.R.



### AYRSHIRES

Purebred, of different ages and both sexes. No inferior animals. Write for particulars.

A. MCCALLUM & SON,  
Spruce Hill Dairy Farm. 566 DANVILLE, QUE.

JAMES COTTINGHAM, Riverside Farm,  
Ormsdown, Que.

Breeder of  
AYRSHIRE CATTLE.  
My herd is headed by the prize-winning bull, Sir James (5051); sire, Rob Roy (3971). Stock of both sexes for sale at all times, including some choice young bulls and heifers. 337



### AYRSHIRES

Always for sale. Some choice young bulls and heifers bred from the Glenhurst herd.

John Sandilands, Williamstown, Ont.

### FOR SALE

Choice young Ayrshires, of both sexes, sired by imported bulls Silver King and Glencairn. Write, or come and see them.

DANIEL DRUMMOND  
Petite Cote, Que.

187

AYRSHIRES.

# Isaleigh Grange Stock Farm

OUR STOCK OF PUREBRED

**AYRSHIRE AND GUERNSEY CATTLE,  
SHROPSHIRE SHEEP, AND  
IMPROVED YORKSHIRE SWINE**

are now in the pink of condition, and having at our recent annual auction sale disposed of a lot of our surplus stock we are better prepared to attend to our correspondents. Our list of prizes, medals, and diplomas, together with the Gilt Edged Stock which have merited the honors granted them at all the leading exhibitions, places Isaleigh Grange Stock Farm at the head of all competitors. Our farm is 7,000 acres in extent. Visitors will be welcomed at all times. Correspondence invited.

**J. N. GREENSHIELDS, Proprietor.**

**T. D. McCALLUM, Manager.**

185

**DANVILLE, - - QUEBEC.**

## AYRSHIRES FOR SALE

Four cows, grand milkers, and a heifer; all are in calf to Grand Duke, a son of last year's Toronto sweepstakes bull and cow, also two bull calves.

549

**R. E. WHITE, Perth, Ont.**

## CORNWALL STOCK FARM

**AYRSHIRE CATTLE  
BERKSHIRE PIGS**

Traveller of Parkhill at the head of herd, while my herd is descended from cows purchased of Mr. David Benning, are modern in type, and are of the choicest milking strains. Write for prices of young bulls and heifers.

**DAVID LEITCH,**

CORNWALL, G.T.R.

Grant's Corners, Ontario.

## AYRSHIRE CATTLE.

The bull Tom Brown and the heifer, White Floss, winners of sweepstakes at World's Fair, were bred from this herd. Young stock always for sale.

Also Leicester Sheep and Berkshire Pigs.



**DAVID BENNING, Breeder,  
WILLIAMSTOWN, ONT.**

## HOLSTEINS.

FOR PRICES ON  
**HOLSTEINS**

WRITE TO

**F. A. FOLGER,**

393

RIDEAU STOCK FARM

BOX 577

KINGSTON, ONT.

## GEM HOLSTEIN HERD.

**6 MONTHS' CREDIT GIVEN . . .**

**BULLS** all registered Holsteins, quality the best, and fit to head any herd. We have them all ages. Write for particulars to

**ELLIS BROS.,**

Bedford Park P.O., Ont.



## FAIRVIEW FARM

**E. PANNABECKER**

Breeder of Grand Milking Registered Holstein Cattle. A specialty in females of all ages at present.

244

**HESPELER, ONT.**

## HOLSTEINS WIN IN THE PUBLIC TEST

The winning kind are the sort we keep. We can sell you descendants of cows that have won in public tests, making large records. We own cows that have made the largest records of any in the country—public records, too. Young stock for sale, all ages, both sexes, and pairs not akin. State the age and sex you require, and we will give full description and records.

Poland Pigs for sale, 1 month and 6 months old. First quality.

**A. & G. RICE,**

490

Brookbank Stock Farm,

Currie's Crossing, Ontario, Canada

## MAPLE HILL

# Holstein-Friesians.

Am offering the finest lot of heifers to be found in Canada. At the recent Industrial my herd won first in every section for heifers, and sweepstakes for both male and female. These heifers will be bred to Sir Pieterje Josephine Mechthilde, the richest bred bull in Canada, and Netherland Consul, the silver medal bull of 1895. Write, or, better still, come and see them.

550

**G. W. CLEMONS, St. George, Ont.**

## SPRING BROOK STOCK FARM

**Holstein-Friesian Cattle and Tamworth Swine.**

Have a choice selection of young bulls ready for service. For individual merit and breeding are unsurpassed. Excellent choice in females of all ages. A fine lot of Tamworths on hand. Write at once for prices.

**A. C. HALLMAN,**

Waterloo Co.

413

New Dundee, Ont.

## A RARE BARGAIN IN HOLSTEINS.

On account of failing health, I feel compelled to reduce my choice herd to at least one-half before winter. They must go at a sacrifice. Write for prices, and I will astonish you. Some very choice young cows due to calve in December, yearlings in calf, and calves, of the greatest individual merit and breeding, second to none in this country. Address,

339

**H. BOLLERT, Cassel, Ont.**

## HOLSTEINS.


**CHOICE  
HOLSTEIN-  
FRIESIANS.**

Bulls, heifers, and cows all ages of the best milking strains, which I will sell at reasonable prices. Drop a card for particulars.

S. K. BECK,  
South Cayuga, Ont.

**PUREBRED HOLSTEINS  
AND  
TAMWORTHS**

Carmen Sylvia, the sweepstakes cow over all breeds in milk tests at Toronto and Gananoque, was bred by me. Pietertje, Jewel, Sir Henry of Maplewood, and Mercedes strains. Catholine 5th's, Sir Aggie Clothilde at the head of the herd. Tamworths from imported stock.

Brockville, on THOS DAVIDSON,  
G.T.R. and C.P.R. 577 Spring Valley, Ont.

**THE GROVE HILL HERD OF  
HOLSTEINS**

Headed by a son of the famous silver-medal bull, Netherland Statesman's Cornelius. Our motto: "The best are none too good."

B. MALLORY, Prop.,  
Frankford, Ont.

554

**HOLSTEIN-FRIESIANS**

Richly bred Netherland, Peel, Johanna, and Moore strains. Stock of all ages, male and female, for sale at lowest prices.

519 JOHN MCGREGOR, Constance, Ont.

**HELBON STOCK FARM**


Holstein-Friesians of the highest producing strains, founded on the best imported families of NORTH HOLLAND.

A few choice females of different ages and a yearling bull on hand at reasonable prices and easy terms. Also Improved Large Yorkshires of Sanders Spencer and Walker-Jones' breeding. Also choice Oxford Down rams.

J. W. LEE, 430 Simcoe, Ont.

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**LINCOLNS.**

The Largest Flock in Canada!

Our breeding ewes, 150 in all, are from the best English flocks. Our last importation was made from the flock of Mr. Henry Dudding, and were all personally selected. If you want a ram or a few ewes, send along your order. If you want shearlings or lambs of either sex, we can supply you with the very best.

520

J. F. GIBSON, Denfield, Ont.  
W. WALKER, Ilderton, Ont.


**SHROPSHIRE**

Our flock, the oldest Shropshire flock in Canada, was founded in 1881. Importations made from time to time, selected in person from best English flocks. This season's lambs, along with a number of shearling rams and ewes of this year's importation, for sale. Orders can now be taken for pick.

JAMES COOPER & SON,  
492 Kippen, Ont.

## SHEEP.

**Oxford Downs.**

We can suit you. Drop us a card for prices and particulars.

TURNER Burford  
& JULL - Ontario.


**41 FIRST PRIZES 41**

Won by our flocks, and 5 by our ponies at Toronto, Montreal, Ottawa, and Markham. Shorthorn bulls and heifers, ponies, and Shropshires of the highest class for sale. Write us

JOHN MILLER & SONS

Brougham, Ontario

**WHITESIDE BROS.**

The Glen, Innerkip,  
Oxford Co., Ont.

Shropshires—Yearlings and lambs. Berkshires—Breeding stock, both sexes. Also Ayrshires

In writing mention this journal

31


**Hillhurst Farm**

Oldest Stud of Hackneys in America.

1864.



1895.

Shorthorn and Aberdeen-Angus Cattle.

Dorset Horn and Shropshire Sheep.

Shearling Rams and Ewes.  
Ram and ewe lambs of the best blood and quality.

483

M. H. COCHRAN,  
Hillhurst Station, Que.

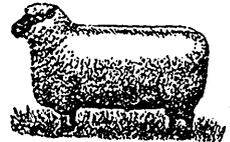
**OXFORD DOWNS**

FOR SALE. — A fine lot of ram and ewe lambs, bred from imported sire and dams.

Prices to suit the times.

SMITH EVANS,  
491 GOUROCK, ONT.

BREEDER and IMPORTER


**FAIRVIEW SHROPSHIRE.**

Late sales having reduced my flock to the number I wish to carry over, orders for the coming season only can now be booked. A fine lot of lambs (ewes and rams) are growing well, so that customers can be supplied as usual with typical animals in a few months from now. Breeding flock also is in good shape. Once more I must thank many customers for their kind words of appreciation of ordered stock sent them, and promise to deal fairly when you come, or send again.

JOHN CAMPBELL, Woodville, Ont., Can.

**LINDEN OXFORDS**

Our flocks are composed of imported sheep, or directly from imported stock; all sired by winners at English Royal.

HINE & FINLAYSON,  
Dutton, Ontario, M.C.R. Glencoe, G.T.R.

SWINE.

**Berkshires AND  
Yorkshires**

I am now receiving orders for spring pigs. Some choice sows of both breeds due to farrow in March and April. Pairs supplied not akin.

Three choice young Ayrshire bulls for sale Write me for prices. Satisfaction guaranteed.

Also some choice Light Brahmas, S. L. Wyandotte, and B. P. Rock fowls. Eggs in season \$1 per setting.

**M. H. PARLEE, Sussex, N.B.**

For the Finest Strains

of **LONG**

ENGLISH  
BERKSHIRE  
PIGS

Apply

**Bow Park**

Co. (Ltd.)

**BOW PARK**

**BRANTFORD Canada.**

**TAMWORTHS**



A few extra prize-winning boars Sows of different ages, bred to my best boars. Grand August and September pigs- of both sexes from prize sows.

**JOHN C. NICHOL**

- **Hubrey, Ontario.**

**LARGE ENGLISH BERKSHIRES**

Of the choicest strains. Some fine April pigs. A grand lot of fall pigs. All ready to ship.

**Stock Guaranteed.**

Write for prices to

**J. H. SEIFFERT,**

Port Elgin Stn.

**NORTH BRUCE, Ont.**

**IMPROVED LARGE YORKSHIRES**

Choice young sows due to farrow during winter and early spring. Boars fit for service, and pigs from fall litters for sale. Our herd is headed by Dominion Sweepstakes Boar at Toronto, '94 and '05.



**J. M. HURLEY & SON, Belleville, Ont.**

Box 442.

Kingston Road Stock Farm. 392

**IMPROVED CHESTER WHITE and TAMWORTH SWINE**

We have now ready for sale 60 choice young boars and sows, not akin—from four to six months old—from the choicest blood in Canada. Prices very low for the next 60 days. Pedigrees furnished. Reduced rates by express. Write for prices.



**H. GEORGE & SONS, - Crampton, Ontario**

**GOLD MEDAL HERD OF BERKSHIRES**

Young boars and sows of spring litters, bred straight from imported stock. Sires weigh from 650 to 840 lbs. Size and quality combined. Orders booked for September and October pigs at eight weeks old, and for sows bred to imported boars.

426 **J. C. SNELL - Snellgrove, Ont.**

SWINE.

**MAPLE LEAF FARM.  
IMPROVED LARGE YORKSHIRES**

Markham Baron, the sweepstakes barrow over all breeds at Fat Stock Show at Guelph in 1892, was bred by us. A choice lot of young sows old enough for mating. Also young boars. Pairs furnished not akin. Only first-class stock shipped. 202



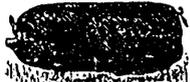
**JOHN PIKE & SON.**

Locust Hill, Ont., C.P.R. Markham, Ont., G.T.R.

**D. A. GRAHAM, - PARKHILL, ONT.**

IMPORTER AND BREEDER OF LARGE ENGLISH BERKSHIRES.

I am prepared to book orders for Spring Pigs. Pairs and trios furnished not akin. Dams weighing 300 to 600 pounds, sires 400 to 800 pounds. Prices right. Poultry, choice breeding pens of B. P. Rocks, S. L. Wyandottes, Brown Leghorns, and Pekin Ducks. Eggs in season, 13 for \$1. Bronze Turkey eggs 15 cents each.



**IMPROVED  
LARGE YORKSHIRES.**

The winners of twenty first prizes at the World's Fair.

A number of young Boars and Sows for sale.

**ALL CHOICE STOCK.**

**JOSEPH FEATHERSTON,**

**PINE GROVE FARM.**

326

**STREETSVILLE,  
P.O. and Telegraph, Ont.**

**LARGE ENGLISH BERKSHIRES**

The sweepstakes herd at the Western Fair, London, 1895. Headed by my famous boar, Bright Prince, assisted by two grand yearling boars. Some choice sows and boars for sale. Am looking orders for spring litters. Write me for prices before you order. My motto, "A good pig at a fair price." Also choice Shropshire sheep and Silver-Laced Wyandottes for sale.



Sunnyside Stock Farm. 453 **T. A. COX, Brantford, Ont.**

**BERKSHIRES**

Our Berkshires made a clean sweep of all the first prizes at the late Toronto Industrial Exhibition, including first prize for boar and two sows; boar and four of his get; and sow and four of her produce. We have some fine young pigs for sale farrowed this fall; also boars and sows about five months old. Write for prices.



**J. G. SNELL & BRO., Edmonton, Ont.**

Brampton and Snellgrove Stations. 455

**POLAND-CHINAS** at Williscroft.  
**ARE THE RIGHT KIND.**

Brood sows for sale. Boars ready for service. Young sows ready to breed. Lots of pigs two to three months old; good long pigs with heavy bone. Prices right. Mention FARMING.



493

**R. WILLIS, Jr., Glen Meyer, Ont.**

**LARGE ENGLISH BERKSHIRES**



3 Extra fine Breeding Sows, 1 and 2 year old this fall, sired by Perry Lad, and Enterprise. 1 grand show Sow that has won 17 first prizes. 1 one-year-old Boar, winner of 5 first prizes. 1 two-year-old Yorkshire Boar, winner of 5 first prizes this fall. For sale by

433 **Dennis Hawkins, - Woodville, Ont.**

## SWINE.



## E. D. GEORGE

POTNAM, ONT.

Importer and Breeder of  
Ohio Improved Chester White Swine

The largest and oldest established registered herd in Canada. I make this breed a speciality and furnish a good pig at a fair price. Write for prices. 292

### OAK LODGE HERD

## IMPROVED LARGE YORKSHIRES

**ONLY  
ONE  
BREED  
KEPT**

But the very best of that breed. A large herd to select from, and prices very moderate. Write for prices.

J. E. BRETHOUR,  
Burford, Ontario.

### KEEP YOUR EYE ON THIS SPACE



One mile north  
of Claremont,  
on C.P.R.

**CHOICE COTSWOLDS**—Our flock have won at the principal exhibitions, 2 diplomas, 17 first and 8 second prizes. Our rams, two shears won first and second at Toronto. Shearling ewes third, and ewe lambs third. We have some fine ram and ewe lambs fit for any flock, and stock rams and show ewes at very low prices. Also some fine young Berkshire boars. All stock guaranteed as described. Visitors welcome. 247

C. T. GARBUTT, Claremont, Ont.

## CANADA WILKES

A first-class specimen of the most fashionable strain of Poland-Chinas in the world at head of herd.

Send for illustrated catalogue of

The Corwin herd, which now consists of over one hundred head of both sexes, and all ages. Pairs and trlos furnished not akin, as low as from any herd in Canada, quality considered.

Correspondence solicited, and personal inspection invited. Address,

CAPT. A. W. YOUNG,  
Tupperville, Ont.

309

### Pine Grove Herd

## Duroc-Jersey Swine

A grand lot of choice pigs ready to! Also three choice young boars fit for service. Very low. Write for particulars.

CHARLES ANSTICE  
Springford, Ontario

## CHOICE PIGS

Of June, August, and October farrow for sale at hard-time prices. Nothing but first-class pigs shipped on order. Satisfaction guaranteed. Registered Pedigrees Furnished



R. B. McMULLEN, Goldsmith Ont.

## TAMWORTHS FOR SALE



Special offers for 60 days. The entire herd will be sold at bargains. 7 May sows bred to 3 May boars, 5 Sept. sows, 5 Sept. boars. 4-year-old sow bred, 2 three-year-old bred. Pedigrees in all cases.

All stock guaranteed.

410 J. L. REVELL, Putnam, Ont

## G. BENNETT & PARDO,

CHARING CROSS, ONT.

Breeders and Shippers of O.J.C. Chester Swine.

A choice lot of young stock from 2 to 6 months old. All are prize-winners, and registered stock.

Also a choice lot of White Leghorns, White, Golden, and Silver Laced Wyandottes; Plymouth Rocks, Partridge Cochins, Brown, Red, and Indian Game; and Bronze and Wild Turkeys. 409



## PLEASANT VIEW HERD

of REGISTERED  
TAMWORTHS



For sale, a few yearling sows, young sows ready to be served, two young boars fit for service, and one imported boar, Birmingham Hero. Very low prices. Write for particulars.

412

E. B. KOLB, Berlin, Ont.

## NITHSIDE FARM HERD of BERKSHIRES

Three choice young boars, eight months old, with registered pedigrees. Price, \$15 each. Four young sows, seven months old, bred to a No. 1 boar, with registered pedigrees. Price, \$15 to \$18 each. These are No 1 sows from prize-winning sire and dam. Also young boars and sows, three months old. A few Silver Grey Dorking Cockerels left. Satisfaction guaranteed.

E. E. MARTIN,  
Paris Station, G.T.R. 464 Canning, Ont.

## RIVER BOW STOCK FARM

Six Shorthorn bull calves by Chief Captain, a son of Indian Chief.

Poland China Pigs of all ages, of the best winning strains.



Duroc-Jersey Pigs from the best imported stock. Pairs furnished not akin, and nothing but the best stock shipped.

B. SNARY & SONS  
Croton, Ontario.

SWINE.

**POLAND-CHINAS**

My herd is composed of the most popular strains of prize-winning blood from imported stock. A choice lot of spring pigs from imp. Black Joe ready to ship. Also a twelve-months-old sow due to farrow in August (a show sow).

**OLIVER DRURY,**  
Fargo, Ont.



345

**Chester Whites**

Sows in farrow, and  
Mammoth Bronze Turkeys,  
AT ROCK-BOTTOM PRICES.

75 **JOS. CAIRNS, Camlachie, Ont.**

**MOUNT PLEASANT STOCK FARM**

**Large English Berkshires**

Herd took 21 firsts, 10 seconds, and 4 third prizes in 1895. Queen Esther, 4237, the famous prize-winner, is due to farrow in March by Cressman's Bagputze 3109. This boar took 7 firsts and 1 second in '95. Choice boars and sows of all ages for sale. Registered pedigrees. Satisfaction guaranteed. Write for prices.



**W. H. SPENCER, Morpeth, Ont.**

**LARGE ENGLISH BERKSHIRES**

I have a large number of pigs of good length and fine quality, bred from the best imported families. Send order for a pair not akin, or a single pig of this most profitable breeding sort.



**GEO. THOMSON,**  
Bright, Ont.

**LARGE ENGLISH BERKSHIRES**

Best Strains of

Selected from the herds of J. G. SNELL & BRO., Snellgrove, and T. TEASDALE, Concord.

Boars and sows of all ages, not connected. Sows in farrow. All first-class stock. Address,

**Wm. McALLISTER,**



**VARNA, ONT.**

**RED TAMWORTHS.**



My breeding pen is almost all imported. The noted English herds are represented. Young stock of both sexes for sale at all times. Also some aged boars. Prices to suit the times. Parties wanting Tamworths should write.

**ANDREW DUNN,** - - Ingersoll Ont.

477

**MAPLE LEAF STOCK FARM...**

**Improved Yorkshire Pigs**

of the best strains of breeding.

**Large English Berkshires**

Large thrifty pigs are my type, that is the way I breed them. All ages now on hand.

503 **THOMAS WATSON, Springvale, Ont.**



**THE SWEEPSTAKES  
HERD OF**

**TAMWORTHS**



has won the highest honors for the last three years. Boars and sows of all ages by the Industrial and London first prize-winner, Glen Sandy.

**WALTER. T. ELLIOTT, Hamilton, Ont.**

SWINE.

**BIG BARGAINS** For thirty days in Chester White Swine of the choicest breeding. Also Dorset Sheep, at greatly reduced prices.

**R. H. HARDING, Mapleview Farm, Thorndale, Ont.**

**PRIZE-WINNING HERD OF OHIO IMPROVED CHESTER WHITES**

Ten choice sows, bred to our first-prize boars. Thirty choice pigs from imported sire and prize-winning dams. Write for catalogue and price list. Satisfaction guaranteed.

**WM. BUTLER & SON,**  
DEREHAM CENTRE, Ont.

**OHIO IMPROVED CHESTER WHITES AND ENGLISH BERKSHIRES.**

My stock of Ohio Improved Chester Whites are imported from the celebrated herd of L. B. Silver & Co., Cleveland, Ohio. I also have a choice stock of registered Berkshires.



504

**GIDEON SNYDER, Jarvis, Ont.**

FOR SALE.

**STALLIONS**

**For Sale or Exchange**

The Imp. Eng. Thoroughbred Norwegian (351) and Yorkshire Coach Horse Ambassador (1661).

Have won seven first prizes in London and Toronto, and never suffered defeat. Both horses are sure and good breeders. I will show any number of colts from either horse; but having had them four years, I will sell cheap, or will exchange for either a first-class young draft horse, or one of their own class. No use writing if you have not a top horse. This announcement will appear but once. Address

**FRED ROW, Belmont, Ont.**

**Jersey Sale**

The entire herd of A.J.C.C.H.R. Lee Farm Jerseys. Forty head of registered bulls, cows, heifers, and calves; same number of high-grade young cows and heifers. Must be sold within 90 days. Excellent chance to start a herd cheap. Come and see or write.

**E. P. BALL,**

Lee Farm, Rock Island, Que.

**JERSEYS  
FOR SALE  
CHEAP.**

2 highly bred Bulls fit for service. Pedigreed stock.

**J. D. STEWART,**

RUSSELDALE, ONT.

**Sale of Durham Cattle**

I have given up farming and will sell on March 14th, 1896, my entire herd of Durham Cattle, Mysies, Wimples, Missies, Butterfly's, Marchioness, etc. A number of them good show cattle. A grand lot of calves by an Indian Chief bull. Full particulars in catalogue, which will be ready about Feb. 15. Send for one.

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**WHITE AND BLACK MINORCAS.**  
**BARRED PLYMOUTH ROCKS.**

My birds have won highest honors at the largest and best exhibitions in the United States and Canada, including *Madison Square Gardens*, New York, 1895, and the Ontario at Port Hope, 1896. No man in America has stock superior to mine. My Plymouth Rocks have also won highest honors at the Crystal Palace, Dairy, and other large shows in England. Send for illustrated catalogue and price list. Eggs \$3.00 per setting; two settings \$5.00.

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**PROFITS IN POULTRY!** Our Eleventh Annual Poultry Guide and combined catalogue tells how to earn these profits. What others are doing you can do. One hundred and forty-eight pages of valuable, practical matter.

**INCUBATORS AND BROODERS!**  
 The Improved Reliable Is Warranted to Hatch 80 per cent. of the fertile eggs. Hundreds of recent testimonials. Sixteen popular kinds of THOROUGHBRED FOWLS FOR SALE, also full line of Poultry Supplies. Price of Guide 10c. In stamps—worth one dollar.

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Breeder of the old "Reliable Strain" of White Leghorns. Large size, large lobes, correct combs, and pure white plumage. My pens for 1896 are headed by three grand cocks, absolutely white in plumage. Eggs, \$1.50 per 15. A choice lot of cockerels for sale.

**BARRED PLYMOUTH ROCKS  
 INDIAN GAMES**

Winners at Toronto Industrial, 1895. Specially fine young birds for sale cheap. Write for prices.

546 **W. T. GIBBARD, Napanee, Ont.**

**WHEN  
 IN WANT OF**

Barred Plymouth Rocks, Silver Grey Dorkings, Black Spanish, and Pekin Ducks, of the HIGHEST quality, at the LOWEST figure, write

**J. L. CORCORAN,**

TORONTO, ONT.

N.B.—Postcards not noticed. 508

Mammoth Bronze Turkeys, R. C. White Leghorns, Light Brahmans, Silver Spangled Hamburgs, Houdans, Aylesbury Ducks. First and second premiums on Leghorns and Turkeys, Montreal and Ottawa.

WRITE FOR PRICES.

**JAMES A. STEWART, Jr.**

MENIE, Ontario.

**Colored Dorkings**

Cock, 2nd; Hen, 3rd; Cockerel, 2nd and 3rd; Pullet, 1st and 2nd at Toronto Industrial Exhibition, 1895. My stock also won 1st Cockerel; 1st Hen; and Pullet at Madison Square Gardens, New York, 1895. Young and old stock for sale at all times. Egg announcement later. No Dorkings are superior to mine. Prices reasonable.

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**EARLY BIRDS ? ?**

WE HAVE THEM

SEVEN DOLLARS a pair is all we ask for our early hatched BRONZE TURKEYS. Won Diploma at Toronto Industrial, 1895, for best pair of Turkeys, any breed.

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*The "Toronto"*

**INCUBATOR AND  
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Won the SILVER MEDAL, the highest prize awarded, at the Toronto Exhibition, September, 1895, hatching more chickens in the showroom than all other competitors combined. Three American and three Canadian machines competing.

Catalogue and price list mailed on application. Address the manufacturer,

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**Mammoth Bronze Turkeys**

Silver Grey Dorkings

Black Minorcas Brown Leghorns

Barred Plymouth Rocks

Particularly choice birds from the same matings as those that won the highest honors at the leading shows of 1895. Pairs and trios furnished not akin.

**T. & H. SHORE . . . White Oak, Ont.**

**ARE YOUR  
 HENS LAYING?**

If not, our Ovamead will make them! Trial size, enough for ten hens for three months, 50 cents, postpaid.  
**OVAMEAD MFG. CO., Box 116, DETROIT, MICH.**

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**FOR SALE . . .**

- 4 Silver Spangled Hamburg Cockerels
- 3 Black Hamburg Cockerels
- 2 White-faced Black Spanish Cockerels
- 3 Red Cap Cockerels

Can supply a few Red Cap Pullets. The above stock are prize winners and from prize stock, in four different shows this fall.

Will exchange for good Red Cap cockerel or Buff Cochins, & S.G. Dorking Cockerel wanted. Am booking orders for eggs from 12 different kinds of fowl. Write for prices and state what you want. **C. J. WRIGHT, Dixville, Que.**

**MAMMOTH BRONZE TURKEYS FOR SALE**

For the next thirty days will sell a choice lot of turkeys at greatly reduced prices. A fine Ayrshire Bull Calf 10 months old for sale at a low price.

For a description of birds and price write **W. H. CREWS, Box 232, TRENTON, Ont.**

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ALL VARIETIES.

**A. J. GEORGE, 52 Clarence St., LONDON, Ont.**

Stock for sale. All birds as represented or satisfaction given. Buff Cochins, pair fowls \$3.50, trio chicks \$5. Partridge cockerel and two hens, trio \$4.50. Brown Leghorns, pairs \$2 trios \$2.50, breeding pens \$3.50.

**FREEMAN'S . . . .**

**POULTRY FOODS**

Cost less than 3 cents a month per hen.

Fowls fed upon these foods, in connection with boiled potatoes or whole grain, or a little Indian meal or bran, made into a mash, have been known to begin to lay within a week after its use. It should be fed daily, one quart mixed with six or eight quarts of common meal or other food, in a mash. It should never be fed dry or alone.

When Granulated Bone or Oyster Shell is used, it should be kept in a box tacked against the side of coop; fowls will not take more than they require.

Orders shipped by express C.O.D. if not accompanied by cash.

**THE W. A. FREEMAN CO., LIMITED HAMILTON, ONT.**

**Bronze Turkeys**

I have some grand young gobblers and hens. You can depend upon them, and the prices are right. Also Jersey cattle and Yorkshire pigs.

**LEVI BOWLES, Springville, Ont.**



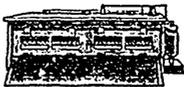
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Its a beauty, larger and better than ever, nearly 100 pages 8x10 on best book paper. Fully illustrated with finest engravings of special designs. A veritable Encyclopedia of Chicken information. Sent postpaid for only 15 cents. Address,

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P. S.—Incubators and Brooders. Hot water, pipe system, the best in the world, a fine 32 page Catalogue free.

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The best, most practical, and most successful machine in existence. No night-work or added eggs connected with its use. Send a 2-cent for illustrated circular.

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**BRONZE TURKEYS, PEKIN DUCKS.**

SEVERAL pairs Bronze Turkeys and Pekin Ducks (see illustration in Poultry Department) for sale cheap; winners at Toronto and eight other fairs this season.

**BERKSHIRE SWINE.**

I have also a few young Berkshire Boars (eligible for registration) at \$5 each; one Boar eight months old (registered), \$15—Snell's stock.

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**BLACK MINORGAS**

All imported stock from such well-known English strains as the following; Pitts, Mogridge and Garlick, Butterfield, and Abbott. Winners wherever shown. Montreal exhibition, 1895, four 1sts, four 2nds, three 3rds. A few first-class cockerels and pullets for sale. Egg announcement later.

**F. W. MOLSON,**

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**BRONZE TURKEYS. FOR SALE.**

An extra fine lot of Bronze Turkeys from prize-winning stock at Toronto and other shows, at prices to suit the times. If desired can furnish pairs or trios not akin.

**JAS. TOLTON, Walkerton, Ont.**

**Incubators & Brooders**

Best in the world, hot water, pipe system. Will hatch chicks when others fail. Catalogue Free. Shoemaker Incubator Co., Freeport, Ill. U. S. A.



Large Improved White Leghorns (finest stock in Canada), and ten other breeds. Eggs for hatching, 15 for \$1. 95 out of 100 warranted to hatch. All kinds of bee supplies for sale; also Italian Queens. Berkshire pigs, large English breed, from 500 to 800 lbs. **N. H. SMITH, Tilbury, Ont. Lock Box A.**

**BROWN LEGHORNS**

A grand pen composed of one cockerel and eleven pullets (unrelated) for sale. These birds are prize-winners, and are excellent layers; nearly all are laying now. The first \$9.00 takes the lot. They would soon pay their price in eggs. These birds are dirt cheap, and I sell them only to make room for my Plymouth Rocks.

**ARNOLD MARTIN, MALVERN, ONT.**

POULTRY.

# \$200 IN GOLD !!

Will be offered by the undersigned in the various classes at the New York Poultry Show, next February, for special prizes for birds fed and put into show condition on Spratts' Patent Poultry Foods.

Send for catalogue to  
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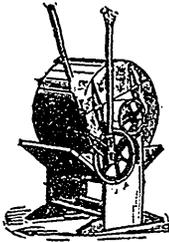
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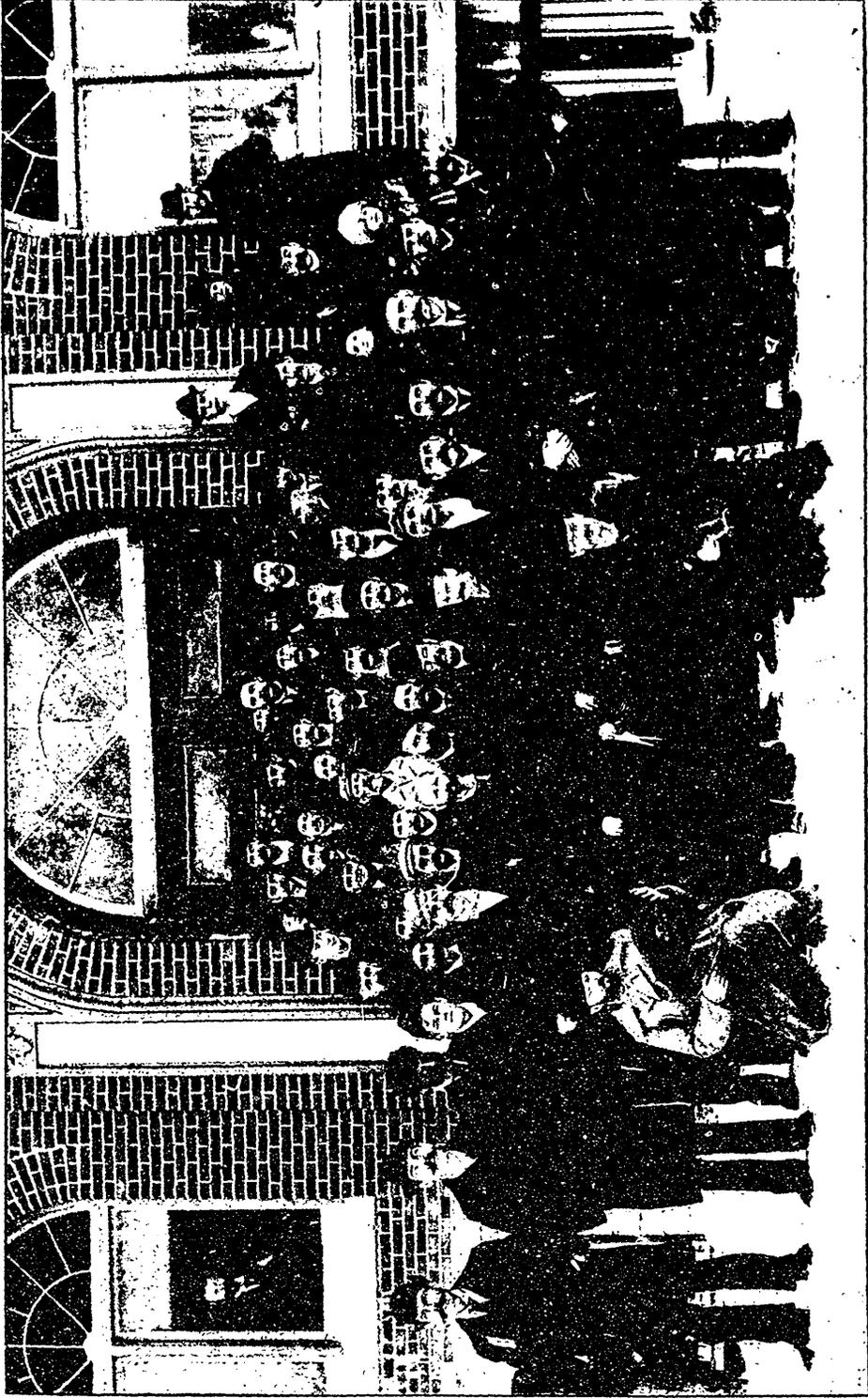
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Group of some of the Exhibitors at The Ontario Poultry Association's Annual Exhibition  
Held in Port Hope, January 6th to 11th, 1896.

(See page 323)

# FARMING

Vol. XIII.

FEBRUARY, 1896.

No. 6.

## The Disposal of the Corn Crop.

The question of the disposal of the gigantic corn crop in the Western States is a burning question at the present time. The price that can be obtained for it is wretchedly poor. Fifteen cents a bushel is the general price, and in some parts even less is offered. At these prices speculators are buying up all that they can obtain, and are holding for a raise. Those farmers who can be doing the same, but the number of men able to do so is small in comparison with those who are in need of money for present needs, and who must dispose of their corn for what it will fetch.

Of course, a great many are feeding their corn to cattle and swine. This seems to us the best method of disposing of it where it can be followed out. There should be a fair profit even at present prices, and if, as we anticipate, the demand for beef improves in the spring, those who will dispose of their corn in the shape of beef will receive profitable returns. It would, therefore, be wise for others to follow this method of disposing of their corn, provided always that they can secure the animals for feeding at reasonable prices, as can be done in so many localities. We venture to say that there will be more money made out of corn by following that plan than by holding it for a rise.

As a general thing, we farmers seldom make much money by holding our grain for a rise. When we estimate the losses incurred by waste, depredations of insects and vermin, and the loss from money lying idle, we generally find that it would have been better either to have fed it or to have sold it at the prices offered, low though they were. The outlook for those holding their corn in the Western States can certainly not be said to be cheerful, because the quantity held is very large, and, even should there be only a moderate crop this year, there will still be too much to cause any great inflation of prices. It is said that the amount of corn stored in the cribs is so large that it would take a total failure of the crop this year to bring prices up to a basis that would pay the owners of grain for storing what they now have on hand.

## A Demand for Females of Beef Stocks.

An encouraging feature that has developed in connection with the trade in thoroughbred cattle of beef stock this winter is the increasing demand for females. During the last few seasons this demand has been very quiet, buyers being satisfied to carry on their herds with a minimum introduction of fresh blood, and that, as a rule, confined to males only. Now the inevitable result has come. Those who have been carrying on their business in this manner find that it is impossible to continue further without depreciating their stock, and so are coming into the market to buy. There are also a number of shrewd men who are buying in preparation for the improvement in beef cattle, long delayed, but not far off. These factors must cause an improvement in thoroughbred beef cattle, and, as a matter of fact, prices are already somewhat stiffer, both for bulls and females, than they were last year. The demand for bulls is also improving, and it is noteworthy that they are being bought at an earlier date than they have been for some time. The boom in beef will soon be here.

---

## Accommodating Ourselves to Circumstances.

Happy, indeed, is the man who can, without worrying or trouble, accommodate himself to circumstances as they may befall him. The world, unfortunately, does not contain many of this kind of men, the majority of mankind being addicted to grumbling when adversity or hard times overtake them, even though they frequently bring this unfortunate condition on themselves through their own negligence or culpability.

From time immemorial farmers have been set down as inveterate grumblers, it being said of them that they are seldom contented with their crops, even when they have been good, and, to illustrate this, the following story is told of an English farmer who, for several successive years, had been unable to save all his hay in good condition on account of wet weather, and had used

the damaged hay to feed to his heifers. It happened that a fine, dry summer came, and every farmer saved his hay in prime condition. A friend meeting the farmer referred to, who was a great grumbler, said, "Well, this year, at any rate, you cannot complain about things." Yes, I can," he said, "there will be no heifer hay this year." The story, we believe, is a true one.

Whether farmers, as a class, are more inclined to be grumblers than other people is open to question. There is, however, this to be said for them, that their business is one which is more dependent on the weather, temperature, and the seasons than that of any other class of men, and it is, therefore, a great deal out of their control. In bad seasons, then, it is not altogether the farmer's fault if he has poor crops, and in consequence falls behind.

To-day the cry all over the land is "hard times." Prices for farm products are low, as a rule, hay being an exception, and of it but few farmers have any to spare. "Will there ever be any great improvement in prices, and when will it come?" is a question that every one is asking of his neighbor, the reply received being favorable or not according to the temperament, or, it may be, the political bias of the one giving the answer.

Our opinion is that prices will improve, although the improvement may be slow in coming, but there will be no boom unless something unprecedented turns up. Times have been just as dull, again and again, in previous years. "History," it is said, "repeats itself," and so do hard times. Years of inflation are regularly followed by years of depression, and *vice versa*. So will it be again, and to the end of the world.

What, then, can farmers do when hard times prevail, in order to make their business a profitable one? In the first place, they must try to accommodate themselves to circumstances. This, as we have said above, is a thing that most men very much dislike. It must be done, however, and the quicker it can be done the better. Accommodating ourselves to circumstances can be done in various ways, no one way being applicable to all collectively. For instance, one man may be farming in too expensive a manner, and yet may have been making money in good years, because he was raising good stock or some farm product for which there was a good demand, which still continues, but the prices are considerably lower. Here the policy would be to curtail all expenses, short of depreciating the product, and to watch for such lines as are in popular demand, and to raise such.

Another man has been raising nothing but grain

all his life, and finds to his cost that there is no profit in it. He should be encouraged to try dairying or cattle raising or feeding, from all of which he will be able to make a good living, and, if he is intelligent, even more than this. Of all those, however, who are following the profession of farming, there are none that feel the hard times worse than those who have been blindly farming on in the old ruts in which their fathers walked, totally oblivious, or wilfully blind, to the great changes and advances made in modern farming to suit the times. Of these men it may be said that they refuse to accommodate themselves to circumstances, preferring their own ignorance to the lessons which they might learn from their more advanced neighbors. The numbers of such men must, however, decrease every year. With the need for intelligent farming becoming every year more pronounced, these lag-gards must join the ranks of the progressive farmers, or else drop out. Keen competition and low prices must bring this about, while the spread of knowledge through the agricultural press, colleges, and farmers' institutes among the rising generation, will greatly tend to decrease the numbers of out-of-date farmers.

It must be recognized by all farmers that they must prepare to meet the new conditions of affairs in the world. There must be improvement all along the line, and that improvement must be made without increasing expenses. This can be done in many ways. For instance, the farmer's wife who is making an inferior class of butter that sells at a low figure can easily, with a little care, make a first-class product that will fetch the highest price. The best will always sell, while poor stuff is a drug on the market. If the demands of the market are catered to, and first-class goods are produced, it matters not how hard the times are; the farmer who shrewd enough to cultivate that market will have no reason to complain that farming is a failure.

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### A Cycle of Wretched Seasons.

The unpromising conditions under which British farmers have labored during the last few years are well shown by Dr. Frean, agricultural editor of the *London Times*, who, in his review of agriculture in Britain during the past year, says:

"One-half of the closing decade of the nineteenth century is now completed. In not one of these five years have farmers enjoyed a normal season, if, indeed, there are any features in our British weather which may reasonably be called normal. In 1891 we experienced a severe frost,

a memorable blizzard, and, at midsummer, tropical heat, followed by torrential rains, which rendered the harvest not only unduly costly, but so protracted that even in the south of England grain was still out in the fields in November. In 1892 the mischief arising from a spring drought was aggravated by the severe frosts of the second and third weeks of June; then came the almost ruinous fall in the prices of sheep at the autumn sales, and persistent rains that well-nigh spoilt the grain harvest. The terrible drought of 1893 and the privations incident to the fodder famine that succeeded it in the following winter are events of too recent occurrence for their effects to have yet disappeared. Matters seemed likely to set themselves right in 1894, and at midsummer the prospect was a tantalizing one, but it ended in bitter disappointment. Continuous wet weather blotted out all hopes of the best harvest which had been promised to the farmers of the present generation, and, though the bulk of the produce was great, the quality throughout was inferior. To fill up the cup, the average price of English wheat declined in October of that year to 17s. 6d. per imperial quarter—by far the lowest average ever recorded. The great frost in the early months of 1895 and the persistent drought which followed it would alone render the past year memorable, but it is quite as likely to live in history as the year in which England lessened her extent of wheat by half a million acres, and, for the first time on record, allowed her area of the bread cereal to fall below a million and a half acres—that is, to an area barely exceeding that of the county of Lancaster or Norfolk."

### A Group of Poultry Exhibitors.

This month we use for our frontispiece a half-tone engraving made from a photograph of some of the exhibitors at the annual exhibition of The Poultry Association of Ontario, held at Port Hope, Ont., from January 6th to 11th, 1896. For the benefit of our readers, I will endeavor to designate several of the gentlemen, so that they may be known. The photograph was taken in front of the town hall.

Immediately in the front of the group (wearing glasses) is Mr. Henry White, the past president; to his right (wearing a 'Tam o' Shanter) is Mr. Thomas A. Browne, permanent secretary; while the gentleman to his right and with hat in hand is Mr. George G. McCormick, the treasurer. To his right is Mr. Richard Oke. The gentleman to the extreme left of the picture is Mr. W. H. Langdon, the genial and successful superintendent; standing at his left is the well-known and

good-natured John Saunders (the humorist of the party); standing on his left is the father of the association, Mr. Allan Bogue; to his left, wearing the fur cap and with a moustache, is that well-known poultry judge, Mr. L. G. Jarvis, superintendent of the poultry department at the Ontario Agricultural College; next to him, and partially hidden by Mr. Oke's head, is Mr. Joseph Dilworth; and then comes Mr. Charles F. Wagner (wearing glasses), who judged the pigeons. Next to him is Mr. W. J. Bell, the turkey breeder, from Angus; and then comes Mr. William McNeil. To his left, and immediately behind Mr. White, is Mr. John Lawrie, the Dorking man, of Malvern; the gray-whiskered gentleman to his left, and a little behind, is Mr. John Cole. Immediately in front of him is Mr. W. R. Knight. To his left, and with the black Fedora hat and black tie, is the writer of this article (editor of the Poultry Department of FARMING), Mr. Thomas A. Duff. To the left of Mr. Duff, and a little to the front, is Mr. Charles Massie.

To come to the front again, and between Mr. White and Mr. Thomas A. Brown, is Mr. Alf. Brown, of Picton; to Mr. White's left is Mr. William Fox; to his left, and with such a spotless shirt front, is Mr. Thomas H. Smelt, of Woodstock, one of our foremost judges, and a gentleman from his shoes up; to his left, and with the pipe, is Mr. M. T. Burn, Tilsonburg.

On going up to the third row, and behind Mr. Jarvis, is Mr. G. S. Oldrieve, of Kingston; at his right hand is Mr. William Barber, the Cornish-Irishman. Behind Mr. Barber is Mr. J. E. Bennett, otherwise known as "Plymouth Rock Joe"; next to him, and behind Mr. McNeil, is Mr. T. J. Senior; to his left is Mr. J. H. Baulch. Almost behind Mr. Bennett, and next to the young man in the corner, is Mr. H. B. Donovan, publisher of the *Canadian Poultry Review*, Toronto; at his left is Mr. Jacob Dorst, of Wyandotte fame; to his left, and partially hidden, is Mr. C. J. Daniels; then comes Mr. R. H. Essex. With the big fur cap, and to the front and left of Mr. Essex, is Mr. Fred Field, the sweet singer of Cobourg. Behind him, and standing up well, is Mr. J. A. Betzener. Slightly in front, and to his left, is Mr. A. W. Graham; behind him, and in the shadow, is Mr. R. McCurdy. Right down in front, and holding the Buff Wyandotte cockerels, are Mr. F. H. Brown (to the left of the picture) and Mr. McGill, both of Port Hope.

The rest of the gentlemen in the picture, and whose names I have not mentioned, will, I am sure, forgive me. My excuse is that I have not the pleasure of their acquaintance, nor do I know them by name. This I very much regret.

### A Group of Typical Ayrshires.

The accompanying illustration represents a group of excellent Ayrshires, the property of Mr. John H. Douglas, Warkworth, Ont., of whose bull, Dominion Chief, 1214, we gave a good half-tone last month. Mr. Douglas has been an Ayrshire breeder for many years, and has got together a number of very choice cattle. A description of his herd appears in our special stock reviews for this month.

To the left of the illustration in the front is Dominion Chief, whose sire was the well-known prize-winner, Royal Chief. Dominion Chief has proved himself an excellent stock-getter, and is, moreover, a bull of choice conformation, as may be seen. To the right is Amy of Byron 1861, by Earl of Fife, which won the sweepstakes in Toronto, in 1895, over females of all ages. She was bred by Messrs. Kains Bros., Byron, Ont., and has developed into a grand dairy cow, while she is also breeding well, as she is the mother of the 1st prize bull calf at Toronto, and her last calf is equally as promising.

Just back of Amy of Byron is the imported two-year-old Violet of Park, bred by Mr. Andrew Mitchell, Barcheskie, Scotland, and whose sire is the noted Traveller of Drumjoan, and her dam, Jessie 3rd of Drumrock. She has dropped a fine bull calf and is proving herself a splendid milker, giving nearly 50 pounds per day. As can be seen, she has extraordinary udder development for a heifer, and large teats. Behind Dominion Chief is Alice of Hatton, another two-year-old, imported from the herd of Mr. W. S. Park, Bishopton, Scotland. She is a pretty heifer, and carries a well-set udder, with fine teats. She has, since the photograph was taken, calved a beautiful heifer calf.

The remaining animal in the group is the promising yearling heifer, Queen May, 2815, out of the well-known cow, Fairy Queen of Danjop, which was considered one of the best cows imported by the late Thos. Brown, Petite Co'e. Her sire is Dominion Chief, and she should therefore prove a valuable addition to the milking herd when she comes in.

For FARMING.

### Maple Sugar Making: The Old and the New Way.

Among the improvements in farm machinery and methods in recent years, perhaps the modern sugar camp shows as striking a change from that of fifty years or more ago as any other branch of the farm. Formerly the boiling was done in

potash kettles, suspended from a pole or rail, or placed between a couple of logs. The boiling was done in the open air; the sugar house, if any, being a rude hut or shed to give shelter from the wind and storms. In every well-regulated sugar camp to-day a good sugar house is a necessity. It should be located on a side hill, if possible, so that the sap may be emptied by its own gravity, and should have battened or matched sides, so that it will be tight, unless the doors and windows are open. An excellent arrangement is to divide it into two separate compartments, one open on one side for wood, and the other the main boiling room. A partition with roller door separates the two, so that the dust arising from the splitting of wood, etc., need not enter the boiling room. The dimensions of a house may be adjusted to the needs of each camp. A well-proportioned house, which we know of, is 16 x 32 feet, the woodshed being 12 x 16 feet and the boiling room 16 x 20 feet. A large ventilator is built through the roof over the centre of the boiling room where the evaporator stands, with slates so arranged that they will not permit rain or snow to enter, but allow the steam to escape freely.

The first improvement on the kettle in boiling was a large pan upon a stone or brick arch or furnace, and a few years later the cook pan came into use. Evaporators have now largely superseded these, and they are a great saving of both labor and fuel. The evaporator is made of heavy tin, and consists of four, five, or more pans, placed upon an iron or brick arch. The sap is conducted from pan to pan by siphon connections, which clarify the sap as it passes through (there is no dipping to be done), and is drawn off from the last pan as syrup. Just over the fire-box, where the sap enters, is a large pan with a corrugated bottom, which nearly doubles the boiling capacity. In this pan the sap is run about two inches deep. The rear pans all have plain bottoms, and are so arranged that when there is two inches of sap in the corrugated pan there will be only one and a quarter inches in these rear pans, the syrup-maker's motto being, "The shallower the sap, the more rapid is the evaporation; and the more rapid the evaporation, the lighter will be the color of the product." The rear pans are interchangeable, and by shifting them daily the trouble with the lime or nitre deposit burning on the pan is avoided. The evaporator has a self-acting regulator through which the sap enters, and, after adjusting the regulator to the depth of flow desired, there is no more feeding to be done except to see that there is plenty of sap in the storage. For "sugaring off" a plain pan twelve inches deep is used. This may be used on the



A Herd of Fine Ayrshires  
The property of Mr. John H. Douglas, Warkworth, Ont.

evaporator arch in place of one of the rear pans, but it is better to have a small arch or stove for this purpose.

The majority of evaporators are set on iron arches. A few farmers who have plenty of stone or brick at hand lay a deep foundation and build brick arches. But owing to heavy frosts and the undermining done by the woodchuck, brick arches give considerable trouble, and iron arches have come into almost general use. These arches are manufactured and sold with the evaporators if desired. Evaporators vary in price according to the make and size. The most improved can be bought complete with iron arch for \$50 suitable for 100 to 150 trees. For a medium-sized camp an evaporator and arch costing \$70 is sufficient. Generally speaking, this size is suitable for about 300 trees. There are a number of different sizes made, ranging in price up to \$260 for a 5 x 20 feet evaporator and arch, which is capable of handling the sap from two to three thousand trees, so that one can buy to suit the size of his camp.

The Indians and early settlers tapped the trees by means of a stone gouge, and caught the sap in troughs made out of logs. The first improvement was wooden spouts and buckets, the spouts being inserted in holes bored for the purpose and the buckets placed underneath on the ground, or else hung on a nail. Wooden utensils are apt to become sour, and are not easily cleaned, and it is now considered important that the sap should come in contact with nothing but metal from the time it leaves the tree until it is finished into syrup or sugar; therefore, metal spouts have come into general use. They are either of tin or cast-iron. The tin are more easily cleaned, and they do not require so large a hole, so that the tree is not injured and heals over readily where it has been tapped. The most improved tin spouts are sold for \$1.25 per hundred. Sap pails made of tin are hung on the spouts by means of a wire hook or loop for the purpose, or by a hole punched through the pail just under the wire rim. These pails are provided with covers to keep out the leaves and dirt, as well as water from rain and snow. Wooden covers securely fastened to the pail, so that they cannot be blown off by a strong wind, can be bought for \$6 per hundred. By painting the opposite sides of the cover different colors and reversing the covers as the sap is gathered, these covers become self-registering, and a mere glance will show the gatherer which buckets have been emptied. But a square wood or round tin cover answers this purpose well, and many use them altogether.

For gathering the sap a tank made of galvanized iron or tin, which holds three or four barrels, has succeeded the molasses puncheon or barrel. It is securely fastened on a sled or broad stone-boat. Some empty their sap pails right into this tank as they drive about; others carry the sap from the trees to the tank in gathering pails made to hold four or five gallons. When this tank is filled, it is drawn to the sugar house, and the sap let into the storage tank—another galvanized iron or tin tank, which holds ten, fifteen, or twenty barrels, according to the size of a man's camp.

The surplus maple syrup and sugar produced in Canada is shipped in large quantities to the United States. This is particularly true of the sugar made in the Eastern townships and Beauce county sections of Quebec. As improved methods have been adopted generally in the States, it is important that Canadian producers get the best apparatus obtainable, so that their goods will bring good prices. Notwithstanding the low prices prevailing for most farm produce, it is worthy of note that maple syrup and sugar have brought good prices of late. Much of the maple sugar made in the spring of 1895 sold for eight, ten, and even twelve and a half cents a pound in quantities for shipment to the States, and the outlook is for high prices again this spring. Fine, light-colored maple syrup sells for \$1 per gallon to the consumer, and in some sections even higher prices are realized.

Montreal.

W. H. BARBER.

### Smithfield Show.

(By Our Special Correspondent.)

This show was a very great success. There were large entries in every section, and a larger attendance than we have had for some few years. The valuable addition of the new classes for the block test prizes proved a great attraction, as did also the exhibition of dead poultry.

To deal with the show class by class would take up far too much room if it were done in any very critical manner; hence it will possibly be of greater interest if each breed is dealt with generally, and the first-prize winners and their owners are given.

#### CATTLE.

*Devons.* These handsome cattle are always a great source of attraction, and on this occasion were shown in good numbers and well represented the breed. Mr. T. H. Risdon was first in the young class of steers with a good one. In the class for steers between two and three years, Sir Wm. Williams was to the fore with a beauty, to whom also went the breed cup for the best of the breed. Steers above three and four years were

headed by Mr. T. Cook's very useful steer, and heifers under three years of age by Mr. T. M. Rutland's Buttercup.

*Herefords.* These cattle showed excellent quality and great merit. The best class was that of steers under two years, which had eleven entries with an average weight of 1,374 lbs.—a striking example of what can be done in getting baby beef. The old class for steers and the female classes were only moderately filled. The class for steers under two years old brought Mr. J. Price to the front with a beautiful steer weighing 1,391 lbs. at 620 days of age. For steers between two and three years of age, Mr. J. Wortley secured the premier place with a very grand bullock, to which also went the prize for best steer or ox in the show. The heifer class was headed by Mr. Cook's beautiful heifer, sired by Grove Wilton 21st; this heifer also won the breed cup.

*Shorthorns.* These made a very grand exhibit, and all classes were well filled with very choice animals. Steers were good and the competition very keen between them, whilst the heifer class was a truly grand one; in fact, admirers of the red, white, and roans said that had the Queen's entry, Frederica, been the only entry, the class would have been worth coming to see. This truly grand, typical heifer won for the Queen, with almost universal consent, the following prizes: The Queen's challenge cup, for the best beast in the show bred by exhibitor; the champion plate, for the best beast in the show; the cup, for the best heifer or cow; the breed cup, for the best Shorthorn and first prize in its class.

Steers under two years were headed by Baron F. J. de Rothschild's entry. For steers between two and three years Lord Fitzhardinge's steer was at the top; steers above three and under four years were headed by Mr. W. Sale's exhibit.

*Sussex.* These cattle made one of the best, if not the best, exhibitions we have seen for years. They were well shown, and we are hopeful that this means a new era for these excellent beef cattle. The young class averaged 1,442 pounds, and it is to be noticed that the whole of the first four cattle in this class averaged a daily gain of over two pounds, as follows: 1st prize, 2.33; 2nd prize, 2.63; 3rd prize, 2.39; 4th, 2.06—an achievement not equalled by any other breed. For steers under two years Mr. L. Huth led the way with a steer showing a daily gain of 2.33 pounds. Steers between two and three years were a good lot; Mr. G. Warde's exhibit won 1st. Mr. F. Warde took the lead in the heifer class with a truly grand heifer, to which went the breed cup.

*Red Polls.* These useful cattle were fairly well

shown, and the competition was better than we have seen for some years. The Duke of York was the winner of the breed cup with a very excellent specimen of the breed. He also won for steers not exceeding three years old.

*Aberdeen-Angus.* These cattle made a very creditable exhibit, although we have seen them as a whole better in past years. Competition was very keen, and exhibits were forwarded from not only the Scottish breeders, but from those of England where the breed is making rapid headway. Sir George Macpherson Grant was first for steers under two years with a beautiful animal. Mr. Chitty, Sussex, was the winner in steers above two and under three years. Lord Rosebery had the winning steer between three and four years. Heifers were worthily headed by Mr. J. D. Fletcher's beautiful heifer Miss Fluffy.

*Galloways.* This was a new section this year, and the success that attended it fully warrants its continuance. The competition was fully up to the average, whilst the number of entries was most satisfactory. Mr. Parkin-Moore's young steer, which took premier place, was a good one, weighing at 602 days 1,052 pounds. Mr. H. G. Murray-Stewart had the first-prize steer between two and four years of age. For heifers, Mr. Parkin-Moore again provided the winner in a very excellent animal.

The Highland, Welsh, and Dexter cattle were all well shown, some beautiful and typical specimens of each breed being present.

Crossbreds were a very fine lot indeed, every class being well filled. While the steers were good, the heifers were a truly grand lot, and one of the best classes of the exhibition. White Socks, exhibited by Lord Rosebery, which stood reserve to the Queen's champion heifer, was one of the best show animals it has been my lot to see for many a day. This was the only animal that ran the Queen's exhibit close. So close was it that a referee had to be called in to decide between them.

The favorite cross appeared to be Aberdeen-Angus and Shorthorn. Mr. J. D. Fletcher led in the young steer class. Lord Rosebery had the first-prize steer between two and three years of age. For steers between three and four years, Sir J. Swinburne led the way with a grand bullock. Heifers were headed by Lord Rosebery's grand animal, which scaled at 1,018 days 1,828 pounds.

#### SHEEP.

Sheep, as a section, were, perhaps, as good as were ever seen at Smithfield. The classes of Hampshire Downs, Kents, and Shropshires were exceedingly good; in fact, Kent sheep seem to be

waking up and their breeders coming to the sensible conclusion that, unless they exhibit their sheep so that others may see their qualities, they will never take that prominent place in the world's market that they ought to. The breeds were, of course, exhibited in distinct sections for each breed; but as it would be impossible in this space to go into details, I must deal shortly with the leading breeds of sheep.

Cotswolds were but poorly shown as regards numbers, but were of grand quality. Mr. F. Craddock was the leading winner of the section, winning, as well, the championship for the best pen of long-wool sheep in the show.

Lincolns had very few entries. Mr. J. G. Pears, with typical pens, won the principal prizes.

Southdowns were well and largely shown, particularly in the lamb classes, the Prince of Wales taking the principal prizes.

Hampshire Downs made one of the best exhibits we have seen for years. A grand pen of wethers from Lord Rothschild's flock took the lead here, and secured, as well, the championship cup for the best pen of short-wooled sheep in the show. Mr. T. F. Buxton won for ewes.

Suffolks were shown by Lord Ellesmere and Mr. J. Smith, who divided the prizes between them.

Shropshires were an excellent lot, and Mr. J. Bowen-Jones is to be congratulated upon taking the Breed cup and first in the wether class for a beautiful pen of typical sheep.

Oxford Downs came out fairly strong, Baron Rothschild being the principal winner.

Dorset Horns were but poorly shown.

#### PIGS.

After the absence of one year, pigs were again admitted from certain districts only which were free from swine fever restrictions; hence, although the competition was limited, it was very good, particularly for Berkshires. The principal winners were the Duke of York, for pens of Berkshires and champion for best pen of pigs; for Small Whites (pens), General O. Williams; for Large Whites (pens), A. Hiscock and J. Sanders; for Tamworths (pens), R. Ibbotson and D. W. Philip. For single pigs, A. Hiscock won first for Large Whites and the champion, whilst for single Berkshire Mr. E. Buss easily took the premier position with a most typical and perfectly marked Berkshire.

#### THE BLOCK TEST.

There were two classes for cattle and two for sheep. As regards cattle, the carcasses were fairly useful and showed but little waste, making, when sold, a fair market price. These classes will no doubt, in future years, be of greater value and

importance. As regards sheep, any one who knows anything about the production of mutton can only describe the whole affair as a monstrous failure in one way, for it proved conclusively that these sheep, sent direct from the flocks whose representatives in the live stock section gained the principal prizes, were utterly useless when put on the market for sale, the price made being about 3½ pence per pound; whilst in another way it was a great success, as it conclusively proved that the whole system of the present way of preparing and showing sheep at fat stock shows is a waste and loss to the producer and to the consumer; to the former because he loses, taking the current price of mutton at about 6d. to 7d. per pound; to the latter because he cannot eat the carcasses of tallow. The Southdown topped the sale, and also won premier prize in its class.

### Ontario Agricultural and Experimental Union.

This association held its seventeenth annual meeting at the Agricultural College, Guelph, on Dec. 12th and 13th. There was an unusually large attendance, and great interest was shown in the proceedings.

The president, Mr. C. A. Keil, Chatham, in his address, referred to the past season, which he said had been a most trying one to agriculturists, but it had fully demonstrated the value of growing soiling crops, especially corn. During 1894 there had been 2,000 experiments made, and their work was only limited by their means. He urged more thoroughness in experiments, so as to secure complete returns and correct results. He would have further experiments in subsoiling. In these days the farmer must combine science with practice; he must improve and extend production and decrease its cost. There must be more specialization. He advised smaller farms and more thorough cultivation.

G. E. Day, agriculturist, O.A.C., read a paper on "Rations for Milch Cows," and H. J. Page, St. Marys, followed with one on "Profits in Poultry Raising." R. F. Holtermann, Brantford, director of co-operative experiments in apiculture, reported on "Tests with Five-banded Italian Bees."

The important subject of "Underdraining" was treated of by A. W. Campbell, C.E., St. Thomas. Miss Livingston, Ottawa, gave a practical demonstration of the "Food Value of Milk and its Derivatives." During the evening a supper was given at the college which was largely attended. Prof. Mills presided and gave an excellent address on "How can the Ex-

students of the Agricultural College make the best use of the Lessons Learned during their College Course?" Speeches were also delivered by Mr. C. C. James, Deputy Minister of Agriculture; Dr. Meyers, director of the Experimental Station of West Virginia; Mr. George E. Casey, M.P.; Col. Burch, editor of *The Sheep Breeder*, Chicago; Prof. J. A. Craig, of the State University of Wisconsin, and others.

The report on "Economic Entomology" was presented by Prof. Panton. Thirty-eight counties reported—fourteen more than last year. The seven worst weeds reported were Canadian thistle, mustard, ox-eye daisy, wild oat, ragweed, couch grass, and burdock.

Mr. C. A. Zavitz, experimentalist and director of co-operative experiments, then brought in the report of the co-operative work during the past year.

In white oats, the Siberian, a Russian variety, stood first for three years over the province, and first at the college for seven years. It has a long stiff straw, stands up well, and, what was most important, has a thin hull. The "Bavarian" and "Joanette" came second.

In barley the "Mandscheuri" had given the best results for four years.

In peas the "Egyptian Mummy," and "Prussian Blue" divided honors, having nearly two bushels more to the acre than any other varieties tested.

In spring wheat "Herison Bearded" stood first with 20.05 bushels to the acre in all the tests made. "Red Fern" came second, with 17.5.

"Golden Chaff" proved the best winter wheat, giving two bushels more to the acre than the "Genesee Giant," which was second.

Of corn fodder no one variety would suit all parts of Ontario; what is required is a variety that in each district will produce the largest amount of corn and be ready for reaping before the frost destroys it in the autumn. The "Mammoth Cuban" was the best for central Ontario, "Salzer's North Dakota" for north Ontario, and "Cloud's Early Yellow" for southern Ontario.

In potatoes "Empire State" stood first for two years over Ontario, and first for five years at the station. "Freeman" was a good second.

In grasses "Crimson clover" had proved to be a plant of enormous value. From eleven tests it had produced an average of 4.35 tons per acre, and in thirty-six tests its average length last year was 11.1 inches.

"Small Size Factory Cheese for Home Use," was discussed by Major Beam, Black Creek, who strongly urged the advisability of manufacturing such for local use and markets.

Prof. Craig, of Wisconsin Agricultural College, Madison, Wis., spoke on "Sheep Feeding," which he said should commence with the weaning of the lambs. W. S. Fraser spoke of the advantages of farmers co-operating for killing cattle for home use. Prof. Shuttleworth reviewed the experiments conducted at the C.A.C. on the best method of paying for milk at cheese factories. This showed that the casein should be taken into account as well as the butter fat.

Prof. Hutt presented the report of the Committee on Horticultural Experiments, showing that encouraging progress is being made.

The election of officers resulted as follows: President, Elmer Lick, Oshawa; vice-president, D. Z. Gibson, Willow Grove; directors, Dr. Mills, O.A.C., Guelph; J. N. Monteith, Stratford; R. F. Holtermann, Brantford; T. G. Raynor, Rose Hill; auditors, P. W. Hodgetts, St. Catharines; W. J. Elliott, Seaforth.

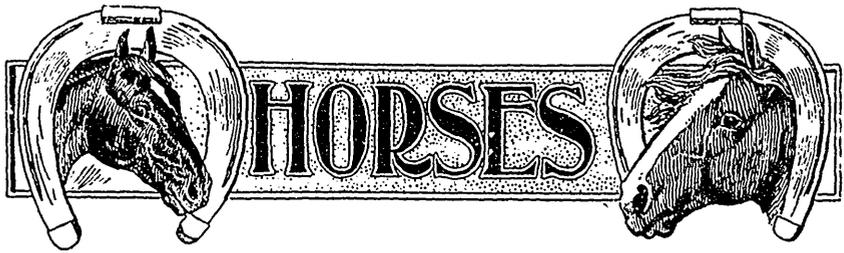
### Bathroom for Farmhouse.

INQUIRER: (1) What would be the cost of building an elevated frost-proof water tank with a capacity of from 4,000 to 5,000 gallons? Where are such tanks constructed, and how are they made frost-proof?

(2) Can a bathroom, with all city conveniences, including water closet, be successfully operated in a farmhouse, provided a sufficient supply of water could be procured for flushing purposes, sewer pipe from bathroom and kitchen sink to empty into a cesspool—constructed at a distance from the house? Have cesspools, to your knowledge, been used much in this country, and with what success?

ANS.—(1) The cost of a 5,000-gallon tank, erected upon a 25-foot substructure, and thoroughly frost-proofed, would be about \$250. Estimates can be obtained from the windmill companies advertising in our columns. Frost-proofing is done in different ways, but usually sawdust packing or dead air spaces are used, although practical builders of this class of work use more scientific methods.

(2) Yes, there is no reason why a farmer with such a tank, operated by a windmill or engine, should not have all the water-closet and bathroom conveniences of the city. It will be, of course, necessary to keep the house warm enough to prevent the pipes freezing. Cesspools are in successful operation in many places, and when placed at a distance from the house, and bell-traps are used they are safe and odorless. Of course, if a stream were convenient to drain into, that would be preferable, but you would lose the use of the sewage for fertilizing purposes.



LADY SUFFOLK was the first trotter to reach the 2.30 list. This was more than fifty years ago. She was a gray mare of Messenger blood.

BARON WILKES has been bought by Col. J. E. Thayer for \$25,000. He is one of the very best sires in the United States. He is thirteen years old.

HOBBLER are very dangerous in races. No hobbled horse should be allowed to start in a race. They are too dangerous to have around.

HORSESHOEING contests are popular in some parts of Britain, and make quite an exciting feature of a show. At a recent agricultural show in Scotland between thirty and forty blacksmiths competed. There were six forges provided, and the horses, all heavy animals, were drawn up, with a man holding each one. There was a time limit, and the shoe had to be made out of bar iron, finished and fitted. There were a great many interested spectators of the novel contest.

THERE are now two distinct types of the Welsh pony. One is thick, strongly built, and powerful, well suited for roughing it on the higher mountain ranges. These are able to carry good loads on their backs, and are much used by shooting parties. The demand for these low, thick-set ponies is very great for underground work in the coal districts. The other type are lighter, and more like small Thoroughbreds. They are quick, active, wiry, and full of courage. These latter are excellent for breeding polo ponies when mated with Arabs or small Thoroughbreds. They also make nice driving ponies, being very docile and tractable.

THE horse is one of a small class of animals that can sleep while in a standing position. It is enabled to do this by a singular arrangement of "check ligaments." Often when sleeping in a strange place a horse will not lie down, but will sleep quite comfortably in a standing position. They rest better, however, when they lie down and have a comfortable bed. It has been stated that in rare cases horses can sleep while on the

move, but this is unnatural, and in some places may be dangerous. Many horses are accustomed to sleep standing in their stalls.

It may not be generally known that there are wild horses in Canada. For many years horses that have escaped from settlers have been breeding and running wild in the regions bordering on the Fraser River, Cariboo, British Columbia. These horses are of fair quality, larger and better than those which ranged on the plains of Texas and Colorado and down to New Mexico in the United States. Their sagacity is great, and they are very wild and cautious. It is difficult to capture one of them, and, although the Indians now and then make an attempt, it is very seldom that they are successful.

THE Oldenburgh horse is a big, stylish coacher, with fine action and showing strong constitution. The breed have a stud book, some volumes of which have been published. Only those are admitted to registry which have been bred in the grand dukedom of Oldenburgh or the adjoining districts. Since 1820 stallions are subject to government inspection, and none are allowed to be used for hire unless approved of by the government committee. The breed is very uniform in type, making a heavy, stylish coacher. Having a large amount of bone, they are also suitable for agricultural purposes.

WHILE the horse must have food good in quality and abundant in quantity, it is sometimes difficult to say just how much that quantity should be. Now that hay is scarce and dear, and oats cheap, it is well to consider what is needed to keep the horse in good health. In Chicago a few years ago, when large numbers of street car horses were at very steady, hard work, the allowance per day of hay was twelve pounds each, always cut. This is a small allowance, but with it the horses kept in good health. The grain ration was usually a mixture of ground corn and crushed oats; one pound of the former to two of the latter. As prices are now, it will pay the farmer to reduce the feed of hay and increase the amount of oats fed to his horses.

A GOOD walker should cover four miles an hour. A running walk should add from one to two miles to this. A fox-trot should be twice the speed of the walk, from eight to ten miles an hour. A good racking horse will go from ten to twelve miles with ease. The fox-trot, or dog-trot, as it has been called, is an intermediate gait between a rack and a trot. The hind foot strikes the ground just as the diagonal front foot is rising from it. The pace is a "side-wheel" gait; both feet on one side come to the ground together. This is quite different from the rack, in which the feet fall alternately, one, two, three, four, in regular order.

Mr. Howell, in a paper on the breeding of Shire horses in the *Agricultural Students' Gazette*, says of the mare: "She should be long, low, and wide, with good flat bone, broad feet, and nice silky hair, and as free from hereditary disease as possible. Young mares, as a rule, produce the best stock. As regards the stallion, he cannot well be too big, provided he is well made in proportion. He should stand seventeen hands high, have massive flat bone, measuring  $11\frac{1}{2}$  to 12 inches below the knee, with short legs, good back and loins. A good second thigh is most essential; well-shaped hocks, ribs well sprung, broad feet, nice pasterns, long, silky hair, good color, and a nice temperament are most desirable. Always be careful to select a good walker, but it is not necessary to have a Shire trot like a Norfolk cob."

STALLIONS are not always as well looked after during the winter months as they ought to be. Every stallion that is to be put to service in the spring should receive careful attention during the winter. A fairly warm and comfortable box stall and a roomy yard, with regular grooming, is the least that should be done to help to keep him in fair health and condition. Daily regular exercise with all the extra care that his value demands would be better. A companion of some kind is generally beneficial. Too many are wintered in a small box stall on a diet consisting mainly of timothy hay, and are not out for exercise for a week at a time. As much variety as possible should be introduced into the feeding of a stallion. Give him plenty of rough feed and vary his grain ration. Roots are a capital winter feed for horses. Give carrots in small quantities, and swede turnips as many as he cares for. Towards spring, mangels will not be amiss, and ground or boiled barley now and then for a change. Bran mashes with a little boiled linseed once or twice a week are good. If he is kept down to a small

grain ration, it is well to mix it always with cut hay. It will be better taken and do more good. Care here will pay the stallion owner.

ECLIPSE, the celebrated English race horse, was a big horse in every sense of the word. He was tall in stature, being 16.2 hands high, lengthy and capacious in body, and large in his limbs. For a big horse his head was small, and partook of the Arabian character. His neck was unusually long. His shoulder was strong, sufficiently oblique, and though not remarkable for, yet not deficient in, depth. His chest was circular. He rose very little in his withers, being higher behind than before. His back was lengthy, and over the loins roached (arched or curved up). His quarters were straight, square, and extended. His limbs were lengthy and broad, and his joints large, in particular his arms and thighs were long and muscular, and his knees and hocks broad and well formed. He had an excellent pedigree, being descended from the Darley Arabian on the male side, and his dam was a granddaughter of the Godolphin Barb. He was named Eclipse from being foaled in 1764, when there was an eclipse of the sun. He was a chestnut horse bred by the Duke of Cumberland. He passed into the hands of Col. O'Kelly, who won a very large sum of money with him in his racing days, as well as eleven King's plates. He died in 1789, aged 25 years.

### Matched Teams.

It has recently become the fashion to offer a prize at our township shows for the best matched team. This brings out generally a large number of entries and keen competition—ponies, roadsters, carriage teams, farm teams, and heavy draft, all compete. The first requisite generally demanded is that the horses should be alike in height, color, and general appearance. More than this is required, and is sometimes neglected even by the judges in this class. They should not only be the same in color, height, and appearance, but their action should be uniform in style and character. Without this, there is an unpleasant feeling to the onlooker when they are moving. One with high Hackney action paired with a daisy-cutting trotter gives a grating to the nerves of the true horseman. Even more than this is required; they should be evenly matched in temper and temperament to give pleasure to the driver. A quick, active, keen horse mated with a lazy, sluggish one makes a very bad pair. The willing horse takes more than his share of the work, and the lazy less. The driver has to

urge the lazy one, and thereby continually irritates the other, who fidgets and gets unduly excited. Here more than anywhere else does the pure pleasure of a well-matched team come in. It is even more important than color or markings, and should be always considered in judging the best matched team. Where the contest is close the teams should be driven by one of the judges to determine these points. It adds much to the value of a team to be thus nicely matched.

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### 1896.

The prospects for horse-breeding are decidedly brighter than they have been for some time past. The markets have not yet had any decided advance, but there is a steadily growing demand in the large horse markets of the continent. Prices are yet low down to what they were in the good old days, but the tendency is now decidedly upwards. But the buyers now want only good, sound animals. There is not yet any demand for inferior animals; scrubs are not saleable. Recently, in eastern Ontario, a buyer picked up twenty teams of good young grade Clydes, not as heavy as he wanted, but fairly good animals of medium size. For a lot of three, bought in one day, he paid \$310, and for another lot \$415 for four animals. The lowest priced of the forty animals was \$80, and the highest \$125.

The panic in the horse trade has been caused largely by over-production. From 1885 till 1892 was a period of expansion in the horse world. Breeding, both in Canada and the United States, was pushed beyond the requirements of the market. Prices were good, and that stimulated many to rush into horse-breeding. Ranches were started in the West, and thousands of mares put into breeding. The increase of horses in the United States for some of these years, as shown by the government returns, exceeded two millions per year. There was no such increased demand; the market was glutted, and the result—we know.

The glut is practically over, as far as heavy draft horses are concerned. There are not now enough offered to fill the demand, and prices are advancing for desirable animals. But they must be heavy to bring good prices, weighing 1,600 to 1,800 lbs. or over. These can only be had from big, roomy mares, and the right kind of well-bred stallions. And they must have quality. Size and quality, to-day, are demanded. By the time that we can get these animals old enough to put on the market there will be plenty of money offered for them. Present prospects are that the demand

will be far beyond the supply. Already good mares, well made and well bred, fit to breed these horses from, are in greatly increased demand. The knowing ones are picking up young mares and getting ready to meet the demand. Some of the shrewdest horsemen in the country are getting together a few good mares. Now is the time to secure young breeding mares.

High-class farm horses are always needed. We want to weed out the scrubs and breed only from the best mares. In farm work the heavy draft youngster is able to help while still very young, if given light work in the busy days of the spring seeding. He can be early accustomed to work, and by his size and strength can do light work, but he should not be overworked or over-treated. After he is two years old he may almost pay, by his work, for his keep, and, if small blemishes come to him, they do not detract so much from the value of the draft gelding as in other classes of horses. They are the animals which promise, at present, the best return to the farmer.

Next in demand are the high-steppers and good, big coachers. Good quality in this line is always in demand, but very hard to get. They bring big prices to the dealers, but need a great deal of careful schooling before they are worth a lot of money. No ordinary farmer can give them the care and training necessary. They can be sold untrained for prices which will pay the breeder, and are good, useful horses if kept for the farmer's own use. Perhaps they can best be bred from half-bred mares. Standard-bred mares of good size make fine mothers and good breeders. For the sire, the Hackney, or high-stepping coacher, is the most popular. There is money in breeding the right kind of these.

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### Market Reports.

The following are culled from the circulars of different horse dealers and commission men in the horse trade: "There is a perceptible falling off in the quality of the horses offering, showing plainly that the supply of good, desirable horses is growing less."

"Few heavy draft geldings are offering; more mares are coming, and the supply of these will not last long."

"Tell your customers to breed all the heavy draft horses they can."

"All the good mares are being sold. Formerly

there would only be two or three mares to a car of draft horses; now the mares greatly outnumber the geldings. This is just the very time when the farmers ought to be breeding good, large horses that will command a price as high as ever they brought before."

"The buyers are unanimous in the belief that well-formed, heavy draft horses and stylish, breedy-looking coach horses of symmetrical build, with plenty of endurance and action, are going to be the high-priced horses of the future."

"There has been a greater demand for drafters for the city and teams for the lumber trade in the last three months than for three years before, and the general complaint by all is that horses are getting scarce. There are no young ones coming on."

"Receipts have been moderate, with a strong demand, for heavy drafters, which are selling at improved prices."

### Clydesdale Points.

Clydesdales have rather a long head from ear to nose, and a wide forehead, full between the eyes, but by no means prominent. The eyes are full and mostly pale blue in color, with little of the white showing. Ears were formerly large and are still so preferred by many, but they have been modified of late, some of the most noted modern sires having short ears. The muzzles are fine and the nostril wide and clean. The neck in the stallion should be nicely arched, the shoulders somewhat sloped, and elbows well thrown back, the forearms strong and muscular, knees big, broad, and well knit, with good flat bone beneath the knee, and with a fringe of light, silky hair. Pasterns should be moderately long, and nicely sloped. This is the great point in the modern Clydesdale—long, strong, sloping pasterns. The groin should be good and his back short and well ribbed home, though a few are slack there. His hind legs must be muscular, with good quarters and broad thighs, and the hocks clean, legs muscular and feathered nicely. Clydesdales should be good, free walkers, with a long, even stride. In walking, the hocks should be carried close and square. Any wide-going or out-twisting is a defect. They are longer in proportion to their height than other breeds of draft horses. Dark bays and browns with white markings are preferred, one or two white socks or stockings and a white blaze on the face being very common among well-bred Clydes.

### Rules of the Road.

It is the custom in this country long established that vehicles meeting on any street or highway turn to the right. Some suppose this is but a matter of custom, but, as a matter of fact, it is a statute law. The Ontario statute says: "In case a person travelling or being upon a highway in charge of a vehicle drawn by one or more horses, or one or more other animals, meets another vehicle drawn as aforesaid, he shall turn out to the right from the centre of the road, allowing to the vehicle so met one-half of the road." Another section provides that if one be travelling faster than another, the one overtaken shall likewise turn to the right side of the road, the passer in this case being required to turn out to the left to pass the leading team, which has the right of the road. Provision is also made for very heavy loads, unable to turn out. The driver is to stop and assist, if requested, the other to pass. Drivers of sleighs, etc., must carry at least two bells attached to the harness. These rules of the road should be rigidly observed. The public safety demands that this should be the case. These rules should be known to all, foot-passengers, cyclists, riders, and drivers, and a good-natured observance of this law by all concerned will insure the safety of the public.

### Health in the Stable.

By W. GREGG, V.S.

#### VENTILATION.

Few farmers are aware of the importance of properly ventilating their stables.

During the course of my practice I have had occasion to visit many stables, and have seen the results of negligence in this respect.

In order to illustrate the importance of proper ventilation in stables, it will be necessary to consider briefly the action of respiration, taking for our subject the horse.

The use of respiration is to bring into contact with the blood a fresh supply of oxygen, and to liberate therefrom the carbonic acid gas accumulated in the blood returning from the various tissues. It may be said to be an interchange of gases between the blood and the medium in which the animal lives.

The horse, when placed in an enclosure properly ventilated, will inhale eighty cubic feet of air in one hour, and during the same time will eliminate from the blood in exhalation four cubic feet of carbonic acid gas and other waste substances. The latter, it will be noticed, is just five per cent. of the amount of air inhaled. What takes place

when the same air is inspired a second time? We find that it contains little or no nutritious substances for the blood, but will eliminate therefrom in exhalation five per cent. more of the gas. It now contains ten per cent. in all. In a third inspiration of the same air we find that it not only contains no nutritious substances, but it will receive no more of the gases or effete material, being charged to its utmost capacity with the latter, and is therefore possessed of functional inactivity, and if the animal be not allowed pure air from which the blood may obtain oxygen we have asphyxia.

A good illustration of the effect of the exclusion of oxygen from the blood is seen when an animal is placed under the influence of chloroform, as the latter drug acts by preventing the oxidation of the blood and produces death by asphyxia.

I give these two illustrations to show that, while respiration may be performed to all appearance in a normal manner, we may have death produced owing to the blood not having received the proper amount of pure oxygen.

Space will not permit my enumerating the various diseases caused by improper ventilation. Suffice it to state that from my own experience I feel safe in saying that seventy per cent. of the diseases met with in my practice have been produced by negligence in this respect; not only by producing the disease itself, but by converting a healthy system into a condition favorable to the same.

The reader should bear in mind that respiration is performed solely for the purpose of purifying the blood, and that the vitality of every tissue of the body is dependent on the latter; hence the importance of a healthy condition of the blood.

It is very important that breeding animals have abundance of pure air during the period of gestation, as the fetus receives oxygen from the blood of the mother.

The latter is received in what is known as the "villi," which attach the placenta to the uterus (womb) of the mother, and the change which takes place in the blood in the villi is similar to that which occurs in the lungs of the mother.

The blood of the pregnant animal does not circulate through the fetus, as is generally supposed, but serves to convey nourishment to the latter and to carry away therefrom all waste matter.

I would strongly recommend that all breeding animals be allowed to run as much as possible in the open air during pregnancy, and I am sure that if this rule were closely observed the offspring of such animals would be much stronger when parturition takes place.

## Simple Remedies.

(Concluded.)

*Baking Soda.* In colics caused by fermenting foods an alkali is indicated, and common baking soda in doses of one tablespoonful often proves of value as an anti-acid. In the case of young calves suffering from indigestion, caused by sour, cold milk, a tablespoonful, or a little less, is of value, dissolved in their milk. Where there is evidence of diarrhœa, lime-water in the proportion of about one to six of milk should be given thrice a day in a warm, sweet, and wholesome state. Lime-water can be easily made by slacking a little freshly burned lime, and dissolving it well with a large quantity of water, pouring off the solution after the undissolved matter has subsided.

*Salt.* How few men understand the full value of salt in animal economy! In small doses it is digestive, restorative, alterative, and antiseptic; in larger doses purgative, and, outwardly applied in solution, refrigerant. Cattle should receive as much as a couple of tablespoonfuls a day, and they will show a much greater relish for their food, and drink a much larger quantity of water (which is quite a valuable point in a dairy cow), than where they are deprived of it. Regularly supplied to horses it prevents the liability to worms, and often prevents indigestion. It is a useful addition to purgative clysters, and in the proportion of about a tablespoonful in a pint of water will frequently expel ascarides in the rectum. For cattle, in combination with Epsom salts in equal proportions, and in half doses of the latter, it makes a more prompt and effectual cathartic dose than the Epsom.

*Water.* Much doubt is often felt in cases where a water treatment is indicated, as to whether the water should be applied cold or in a hot state. Where the inflammation is deeply seated, and where there is congestion, hot water faithfully applied for a lengthy period is in order; where the inflammation is superficial, and in cases of wind-galls, broken knees, etc., cloths kept constantly moist with cold water is the most approved treatment. Ice broken up finely, and mixed with a quarter of its bulk of salt, and applied to the head, proves useful in cases of milk fever, acting as a sedative on the nervous system, and diminishing the rush of blood to the head. In such cases the only chance of cure depends on prompt bleeding and purging, applying some rubefacients, such as mustard mixed with water (never with vinegar), to the spine, and drawing off the milk at frequent intervals with milking tubes. The animal should be propped up with

bags of hay, or some such device, on its sternum, the head and hindquarters being kept elevated, and the teats arranged so that they can be got at.

*Blisters.* Many farmers seem to pin their faith in blisters for an animal cure-all. While undoubtedly of use in many cases of inflammation of the joints, and relieving lameness, spavins, etc., they are apt to be used in too many cases. Mustard made into a paste with water, and applied with brisk friction for ten minutes or so and then washed off, and so applied three or four times during the day, is quite severe enough for ordinary cases where a blister is in order.

Another simple remedy for slight troubles is vinegar. Mixed with either hot or cold water it is a useful stimulant for sprains and bruises, and where cold applications are indicated, as in heat of joints, etc., it forms a simple and useful refrigerant.

One of the most effectual and simple remedies for that oftentimes troublesome complaint of cows, garget, is made of equal quantities of glycerine and tincture of lobelia. The bag should be kept saturated with it till tenderness, swelling, and fever subsides. Conjoined with purgatives and laxative feeding, and tube milking, a cure is almost certain. It has been used in the writer's herd of Jerseys, and often recommended to others with unvarying success. The noted English veterinary surgeon who recommended it first claimed that during the twenty-five years in which he had used this treatment he had not had a single case of suppuration of the udder.

H. WAGSTAFF O'KEY.

Truro, N.S.

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### The Saddle Horse.

Mr. I. A. Potts, of Mexico, Mo., president of the Missouri State Board of Agriculture, in an address on the saddle horse, said: "It may now be in place and proper to give some of the important points that enter into the conformation of the saddle horse. In the first place, his head should be set like an astronomer's, skyward, and have plenty of brain development to go with it. He should have a small muzzle, large and well-extended nostrils, fairly wide between the eyes; eyes large and bright, but mild; ears thin, long, and artistically set upon the head; long arched neck placed high on well inclined shoulders, deep chest, fore legs near together, long arm, short knee joints, large, springy pasterns, short back, good broad loins, well-rounded hips, heavy tail, naturally curved high, good broad flat bone and sound feet, firm, glossy coat of solid color,

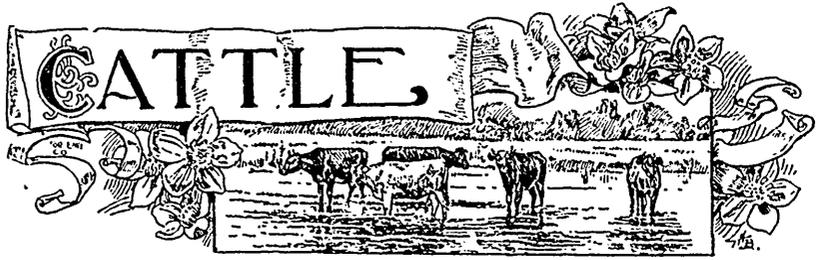
combined with the most approved strains of the Denmark blood, with size to suit your fancy—you then have a model saddle horse, or one that can be easily made one by a little training. This should be commenced early in life—the sooner the better to secure the best results. If you work or use the mother, I conceive of no better time to begin a colt's education than when he follows her, for then there is but little danger of the colt hurting himself or the handler, and he can be easily managed, taught to lead, stand hitched, and be given all the elementary education in such a way that but little time will be consumed or little risk taken. It is important that the colt be taught to walk before any other lesson is attempted, for if this lesson be neglected there will always be an awkwardness about the horse during his life that will be very unpleasant to his handler and unsightly to the public. After your colt has been taught to walk in a proper manner, the next step should be to teach him to trot. If he is inclined to rack or pace too easily it is best to use a snaffle bit or a bridle that has two sets of reins, one attached to the curb and the other to the snaffle bit. When a colt is allowed to trot, it should be but for a short distance at a time. He will then be able to show up in good shape. If you go too far and fag him, he will make a bad exhibit. After your colt is thoroughly broken to walk and trot and old enough to ride, the next lesson should be to teach him to rack. In doing so let him start off in a good trot, sit back a little in the saddle, check him with the curb, at the same time raise his head slightly, which is very liable to start a colt to racking; continue in that way until your colt will rack smooth and frictionless. Do not let him start from a walk to a rack at first, as it is liable to cramp his gait in such a way as to detract from his value very materially. The best and probably the easiest gait to teach a horse is to canter, which should not be attempted until all the other less natural gaits are thoroughly established.—*Breeder's Gazette.*

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### Abortion.

S. R. M.: Will a mare that aborted her foal breed again?

ANS.—It is often hard to get in foal again a mare that has aborted. It is better not to try to breed her for a year. Abortion is often followed by barrenness, especially where the after-birth did not come away at once. Injections of bichloride solution, 1 part to 4,000 of water, milk warm, are recommended after abortion. Consult a veterinary surgeon.



AN association called the American Polled Jersey Cattle Co. has been incorporated at Cedarville, O., for the purpose of promoting the interests of hornless Jerseys. The dehorning of Jerseys has been and is being steadily opposed by leading breeders.

CATTLE from River Plate, South America, are now being sent in considerable numbers to England. The trade began in 1889, when 19 animals were sent. There followed in 1890, 653; in 1891, 4,190; in 1892, 3,500; in 1893, 6,884; in 1894, 9,546; and in 1895, 31,323. These cattle are all slaughtered at the ports of landing.

FROM Manitoba and the Northwest Territories 33,997 head of cattle were shipped to Great Britain last year, as against 19,335 the year before. The total shipments of cattle from Montreal were 96,564 head. Ocean freights ranged between 40s. and 50s. a head. One hundred and thirty-three head of cattle died on shipboard during the season.

THEY have good Shorthorn cattle in Australia, judging from an illustration of one in a late number of *The Australasian*. Blanche Rose 12th, the animal depicted, is an animal of great depth, with shoulders and back well covered, and she carries her width of back well out to the tail, which is smoothly finished off. She has a splendid top and under line, and a magnificent front, with a neat head. Her sire is Baron Gwynne (imp.) 42,720, and her dam Blanche Rose 7th. She is seven years old, and is owned by Mr. J. H. Angus, Colingrove, Angaston, South Australia. Besides winning other prizes, she has the honor of being the champion Shorthorn cow of Australia at the present time.

EXPERIMENTS in steer-feeding at the Ohio Experiment Station during the winter and spring months of 1894 and 1895 indicated a considerable advantage in feeding gluten meal rather than linseed oil meal, at the prices for the two feeding stuffs then prevailing; gluten meal giving apparently as good results, pound for pound, as old-process oil meal, and being considerably lower in price. The

result showed a wide range in the productiveness of different cattle, the 11 poorest steers requiring 50 per cent. more food for a pound of increase than the 11 best ones. Even the poorest steers yielded a handsome profit, however, if the manure made is valued at the market price of its fertilizing constituents, as such constituents are sold in Ohio in the form of commercial fertilizers.

IN his evidence before the Committee on Agriculture and Colonization at Ottawa, Prof. Saunders, director of the Dominion Experimental Farms, said: Tuberculosis is not essentially a lung disease. Out of the seventy-four cases of post-mortem examinations which have been made at the Experimental Farms, in twenty-six of them, or more than one-third of the whole, no disease whatever could be detected in the lungs, nor were the functions of the lungs interfered with in any way, the disease in all those cases being confined to some other organs or glands of the body. In the past, before tuberculin was discovered, the only means of detecting the disease was when it existed in the lungs (unless there was a great enlargement of the glands), and this was usually done by the difficulty of breathing.

THE prolificness of some families of Shorthorns is well known, but that of the family of Missies, owned by Mr. W. S. Marr, of Upper Mill, Aberdeenshire, as quoted by the *London Live Stock Journal*, is most remarkable. Mr. Marr bought the first of the name about forty years ago, and is understood to have bred at Upper Mill over three hundred descendants in the direct female line from her. This looks a large number, but it might have been considerably increased if he had not been tempted to sell females occasionally as the numbers increased. At the recent sale of bulls by Messrs. Duthie and Marr, nine young bulls of this family made the high average of \$415. The noted prize-winning heifer, Miranda, and the bull, Mountaineer, belong to this family.

WITH the sale of the famous old cow, Lady Isabella, to the butcher, for Christmas beef,

## The Science of Breeding.

there passes out of the Shorthorn history of Canada a cow that in her day was well known to fame. She was bred by Mr. J. Outhwaite, Catterick, Yorkshire, England, and held an unbeaten show record in Great Britain and on this continent. She was imported by the late Mr. John Hope for the Bow Park Farm, and cost \$7,600 delivered. Her show career was stopped by injuries received in travelling home from shows in the States. She was bought at the Bow Park sale in 1894 by the late Mr. Wm. Douglas, Onondaga, and was sold by Mr. Jas. Douglas to the butcher, having ceased to breed. She had reached her fifteenth year, and, though not in her old-time condition, dressed 1,200 lbs. of beef.

### Inbreeding.

A writer in the *English Live Stock Journal*, writing on inbreeding, gives an instance which shows that there are laws limiting the extent to which inbreeding can be carried on. A highly intelligent farmer had a herd of good, useful cows of one of the leading breeds. They had been picked up anywhere for their good properties, without much care for the strains of blood they represented; but they had pedigrees, mostly short and of miscellaneous composition. The farmer purchased an untried yearling bull, exceedingly well bred, combining two or three virtually unrelated strains, yet to a certain extent wrought together by cautious inbreeding, and unrelated to his own stock. The first lot of heifers dropped proved such a choice lot that the owner decided to retain the bull as his sole stock bull. A second generation of heifers proved better than the first. Having succeeded twice, he thought he would try again. In the third generation he met with some disappointment. The experiment was not altogether satisfactory. Whilst the general character was maintained, there was a manifest loss of size and constitution, and some good heifers had to be fed off for the butcher. A fourth generation, so far as the experiments went (for, if the writer's memory was correct, only one or two calves ever appeared), tended to indicate that a natural law against such close inbreeding under domestication, at least in the breed of cattle under experiment, limited the use of the law of like begetting like, and the farmer confessed that he had "run to the end of his tether." The puny, utterly degenerate character of the sixth cross convinced him that the attenuated power had broken down. The old sire, for all that, was in full vigor, and his stock from unrelated cows, or from cows of the first generation, were as good and as strong as those of former years.

In spite of the great advances that have been made by breeders of late years in the science of breeding, there are still many things either but little understood by them or totally beyond their comprehension. It requires years of experience in order to learn even what may be called the minor points, and it is little wonder that so many novices, who lack the determination to persevere and succeed, fall out of the ranks from time to time, because they find the breeding problems too hard to solve, so far as bringing success to themselves is concerned. It is an exceedingly discouraging matter to the breeder who has, apparently, taken every precaution to ensure success, by providing himself with the best animals and best care available, to find that, owing to his ignorance of some subtle law of nature, the young stock from his so carefully selected animals do not come up to his high ideal of what they should be. And what baffles him most is that these laws do not seem to work uniformly year after year.

For instance, a cow bred to a bull one season throws a calf that is, in all respects, perfect. The next season, when bred to the same bull, her produce is only second-rate, showing, perhaps, one or more particularly weak points. Where the animal has been badly fed the second year, of course, the explanation would be simple, but when the feed has been equally good during both seasons what reason can be assigned? It may be due to failing potency in the sire in some cases, but not in all.

Some families of cattle, it is true, are noted for the long line of prize winners that they turn out generation after generation; but this is not always the case. Many breeders who exhibit largely will tell you that they do not depend on any particular family for their exhibits of young stock, as one year the calves from certain cows may be the best, while the next year the prize winners may be of a totally different family.

The influence of the male on his offspring is evidently, therefore, a movable quantity. This rule holds good, too, in the human race. One who has investigated the subject says that it will be generally found that the firstborn resembles the father most, and this is especially noticeable when there is great affection existing between the parents. He says that where the father is dark-haired and the mother a blonde, the firstborn will oftentimes be the darkest haired of the children, the color of the hair getting lighter in each successive child as the influence of the mother begins to assert itself. Of course, this tendency does not always hold good.

A correspondent of the *Zoologist* gives a curious instance among cats where the tendency was in the opposite direction. The Isle of Man is famous the world over for its breed of cats, which are devoid of tails. A female Manx cat had six successive litters of kittens by an ordinary tom cat which had a normal tail. In each litter there were three kittens. In the first litter they were all tailless. The second litter contained two tailless ones and one with half a tail. In the third litter the number of half-tailed ones had increased to two, while one was still tailless. In the fourth litter the tailless kittens did not appear. Two possessed half tails, and one had a tail of normal length. The last litter but one had two kittens with normal tails and one half-tailed one, while in the last litter only long-tailed kittens appeared.

It will thus be seen that, at first, the preponderance of the maternal tendency was complete, and that this diminished little by little, till at the sixth litter the situation was reversed, the paternal tendency having the mastery. This is in accord with the views that many breeders of live stock hold in these matters. The whole subject is deserving of every attention by all interested in breeding problems.

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### The Shorthorn Heifer, Frederica.

The excellent half-tone of the champion beast at Smithfield, which we give on the opposite page, is one made from a photograph from life, and shows the great advance that has been made of late in animal photography. For years the question of photographing animals was little understood, and so rare was it to get a good representation of an animal that all, or nearly all, the illustrations appearing in agricultural papers had to be drawn by hand, in order to produce an illustration that would be at all satisfactory to the owners of the animals. That is not necessary now, however, granted that a satisfactory photograph can be obtained, and the half-tone process has, besides, the merit of greater cheapness.

The Shorthorn heifer, Frederica, shown by Her Majesty the Queen, had the honor of winning the champion prize for the best fat beast at the two leading fat stock shows of Great Britain, Birmingham and Smithfield, last year. She is a straight bred Aberdeenshire Shorthorn. Her sire was the Sittyton bull, Volunteer (63501), a son of Gonzo mar, and her dam, Fragrant 9th, that was known in as a "luck penny" by Mr. Dathie, when Mr. Tait, the Queen's steward, purchased a number of

head from Collynie some years ago, among the lot being the crack heifer Princess Josephine, that also carried the championship at Birmingham five years ago. Frederica also won first in her class at the Royal show at Darlington. She is described as being perfect in symmetry, very stylish in character, and as being covered with excellent beef.

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### Carcass Competition at the Smithfield Show.

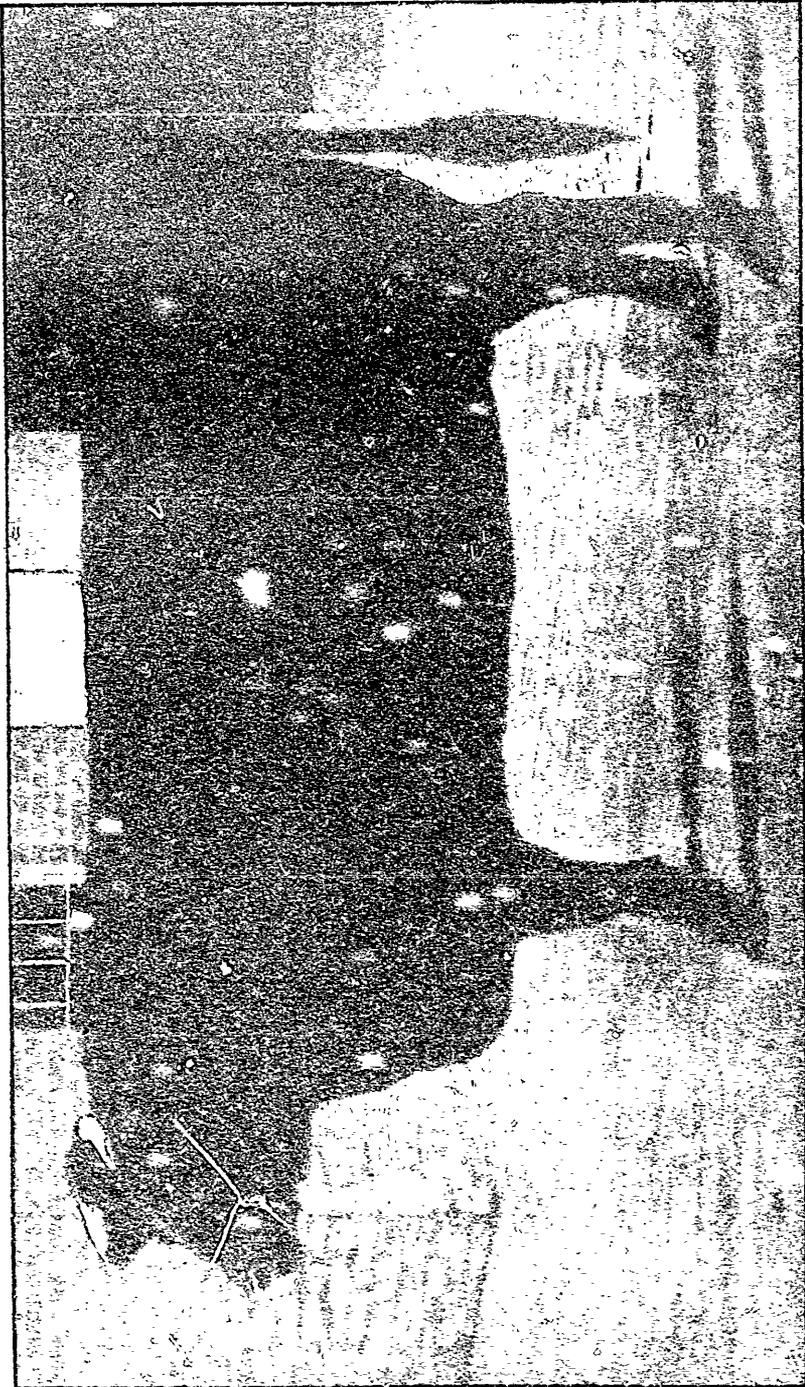
The Smithfield Fat Stock Show had this year, in addition to the usual prizes, a carcass competition. This was done at the request of the London butchers, a very powerful and well organized body. Last year they sent a deputation to the council of the Smithfield Club asking that this be done, and their request was refused. The result was not satisfactory; the butchers left the prize-winners alone, and they had to be hawked all over England and sold at very low prices.

The lesson was a very hard one on exhibitors, but it brought the council very quickly to feel that one lesson was enough. This year there was a carcass competition as the butchers demanded. The result of this is quite a triumph for the Galloways and Highlanders. According to the ordinary way of judging fat stock by the hand and eye, the Galloways and Highlanders did not gain any prizes. In the champion rings none of the Highlanders got a place, and the farthest up a Galloway got was fifth place. When it came to the carcass prizes one Highlander and all the Galloways shown found a place in the prize list, taking all the money prizes. This really is the final and best test for a fat stock show. All the steers in this class were under three years old.

After the Galloways stood the Red Polls, and at the foot of the list came the Aberdeen-Angus. None of the Shorthorns or Herefords got a place in this competition. In the class for yearlings a crossbred steer got first, a Sussex second, and a Shorthorn third place, the latter being owned by the Prince of Wales.

The triumph of the Galloways in this carcass competition is another proof of the excellent killing qualities of the breed.

Not many years ago a test was made at the Ontario Agricultural College of the cost of feeding steers, and the Galloway cross proved himself by far the most economical feeder, and quite out-distanced all the Shorthorns, Herefords, and Polled Angus in the profit made for the value of the food consumed.



Shorthorn Heifer, Frederica,  
Champion at Birmingham and Smithfield Fat Stock Shows. The property of Her Majesty the Queen.

FOR FARMING.

### The Beef Industry.

This has been largely affected during the past few years by other rival industries, and by the practical closing of the English markets. As a consequence, less good beef is being produced in this country to-day, and even good feeding steers are scarce, though there are plenty of inferior quality. This latter class it will not pay farmers to handle, for poor beef is cheap, but the best quality is bringing a good price, and is even being sought for, and the prospects are that it will be so.

In this line of business let quality be the aim, and to secure first-class quality we must raise cattle of beefing strains only for feeding. The practice that many are trying now of converting dairy herds into beef herds will not work. And it is meat of this stamp which is being flooded on the local markets, and which tends to reduce prices.

It is possible for each individual farmer to place himself in such a position that he is not reliant on such stockers as he may be able to purchase from others, or on the markets. As has already been stated, good ones are scarce, and hence the necessity of raising them ourselves.

The raising of a good steer from a calf requires much care and constant attention. The animal's fate will be largely determined during the first six months of its existence. Good calf-feeders are rare and valuable acquisitions to any farm establishment.

A good calf, well fed and cared for, will return for your pains a smiling profit; but once stunt a calf and its usefulness is gone. More feed and attention will be required in its care than would put two good calves into prime condition.

While economy is a good thing it is easy, on the other hand, to practice a false economy. It should be remembered that a double loss occurs when an animal fails in condition. Each pound of flesh costs just so many cents, and in the replacement there is not only the cost of such, but also a secondary loss caused by the enfeebled constitution of the animal.

After a calf has been well reared it should be kept pushing forward and constantly progressing. A standstill is not only a waste of time, but a waste of food also. Store steers too often experience this stage, either before stabling in the autumn or before going on grass in the spring. There is much to be gained by bringing cattle in before the pastures become too scant or the cold and storms affect them. In all the processes of feeding, care, and management, it is the small

things which tell, as well in cattle feeding as in business.

Let *progress* be the watchword of the cattleman, and the production of nothing but a first-class article his ideal.

SUBSCRIBER.

Woodburn, Ont.

FOR FARMING.

### Jersey Cattle.

The growth in popularity of the Jersey cow on this continent, of late years, has been very pronounced. It is not so very long ago that the breeders of this choice little cow were few and far between, and a breeder who invested in one was looked upon by his brother breeders as having lowered himself. These days have passed, never to return, and to possess a Jersey cow now is a mark of keeping up with the times. The World's Fair dairy tests were not needed to convince those who had tried and handled good Jersey cattle that they were certainly in the forefront of the best dairy cattle in the world. As an illustration, however, to outsiders, these tests were very opportune, as they were official and public, and gave no opportunity for interested persons to carp at them, such as is afforded by tests conducted in private stables. These dairy tests at Chicago proved beyond doubt that a good Jersey cow is the greatest dairy cow in the world in every particular.

I have specified a "good" Jersey cow because there are, among this breed of cattle, as among all breeds, many inferior animals, which unscrupulous breeders have foisted off on unsuspecting buyers. I want to urge on all intending purchasers the enormous importance of securing the best animals when they buy. To buy an animal without enquiry as to its milking powers and ancestry, and solely because one has a general idea that all Jerseys are necessarily good milk and butter cattle, is to court discouragement. Each animal should be bought on its merits alone, and not because certain animals in the herd from which the purchase has been made are large producers of the lacteal fluid, or have taken prizes at the leading shows. If buyers would follow this rule there would be less dissatisfaction on their part when, as sometimes happens, the animal purchased fails to come up to their expectation.

And a few words to my brother breeders. Sell every animal on its merits, and don't exaggerate about them. Tell the straight facts of the case, and then the buyer will be pleased with his purchase. Don't sell an inferior animal to a purchaser. If you do, you will repent it. Send

all such to the butcher. If you make this a rule, buyers will soon find it out, and you will win their confidence. There is nothing that kills a breeder sooner than breeders sending out inferior animals. Let us keep up the high reputation that our cattle have, and then there need be no fear of their losing their position as the greatest little dairy cows in the world.

JERSEY BREEDER.

### Gorged with Meal.

Subscriber, Arnprior: A cow of mine got into the feed room unobserved a few days ago, and, finding the meal-bin open, ate a large quantity. After she had satisfied herself she went out and drank a quantity of water, (we saw her at the trough), and was soon after taken sick, and died very soon. We did not know what was the matter until we opened her. We gave her medicine, but it did not seem to help her. What can I do, in case of a similar occurrence?

ANS.—The gorging with meal alone was serious enough, but the addition of so much water aggravated the trouble. Had she been seen in time to stop her drinking, you might have been able to have saved her. While, however, she ought not to have been allowed to drink her fill of water, it would have been right to have given her a little, say, three or four quarts, in order to assist in the digestion of the meal. Dr. Smead, writing on this subject in *Practical Dairyman*, says: "When it is known that a cow has eaten largely of meal or grain, one of the very best remedies is a few quarts of water, not, perhaps, over a gallon at any one time; in half an hour let her have another gallon, and continue every hour until her thirst is quenched. The first time the water is given stir into it a heaping teaspoonful of ginger and a tablespoonful of good cider vinegar, and add the ginger and vinegar every second time the cow is given drink. With this treatment many a cow would be well in forty-eight hours that would have died had the water been entirely withheld. If there is bloating, use warm water injections every hour, and if it is not reduced in six hours give a pound dose of Epsom salts, and continue the injections, also the ginger, until the cow is well on the way to recovery. This I give as a simple, rational farmer's remedy; the veterinarian might prescribe a better one, but the treatment recommended will save a large per cent. when the veterinarian cannot be had."

### Autumn Food for Cattle.

H. C., Kinmount, Ont.: (1) What is the best food to grow for feeding young cattle in the autumn, in addition to pasture? Is rape good for that purpose? Are there other crops equally useful? (2) Give the best method of cultivation and feeding of rape? (3) If corn is the best feed for cows, what is the best method of growing and feeding it for that purpose? I find that if corn is planted thinly, the same as is done for grain or ensilage, the stalks are coarse and hard, and the cows do not eat them well. (4) What is the best method, next to the silo, of keeping corn fodder for winter use? Some say that it can be kept in alternate layers with straw. Do you think this a satisfactory way? (5) Can rape be kept in the same manner for early winter feeding?

ANS.—(1) If the fall food is to be pastured, there is no better crop to grow than rape. But some care is necessary to keep the animals from injury by bloating. If they can go on a pasture at night and on the rape in the day there is no danger, or if they can be kept in and fed at night the danger will be obviated.

(2) In growing rape, drill it in on well prepared ground, in about the same way as turnips are drilled. Then cultivate carefully until the plants almost meet between the rows. Put the rows from twenty to twenty-six inches apart. If one pound of seed is used to the acre, no thinning will be needed.

(3) Corn is probably the best soiling crop for cows in the autumn. There is probably no better way of growing it for this purpose than sowing it in rows with the grain drill, about as far distant between the rows as if growing the corn for the grain. The plants may stand more closely, however, in the line of the row. They produce much food when thus grown, and are not as coarse as if grown for the grain, but they will not produce so much grain.

(4) There is no better way of keeping corn fodder in our climate, out of doors, than putting it in large shocks in the field and drawing it when wanted. It will keep in layers along with straw; but that mode of keeping it involves much labor. If placed upright in the mows on top of the fodder it keeps nicely.

(5) The only way, probably, in which rape can be kept for winter feeding is by putting it in heaps in the field where it grew, and drawing it in as wanted. It will keep thus for some time, as, even though there should be some frost, only the portion on top is damaged.



### **Sacrificing Ewe Lambs.**

The practice of sending good, well-bred, and well-finished ewe lambs to the block is all too common. It does seem short-sighted to send females of this class to the shambles when sheep are not as numerous as they ought to be in the land. Taking Ontario, this province has never had anything like the full number of sheep that the farms could carry. And if this be true of Ontario, how much more is it true of the other provinces both to the east and to the west. There are not as many sheep in the province now as would supply the farmers with mutton as they might have it, and as they ought to have it, upon their tables. Why, if all the sheep at present in the province were slaughtered and served up to the farmers, each family would not have more than six to eight carcasses for the year. Mutton should be used to a far greater extent than it is. Those families on the farm who do not use any mutton do not know what they miss. Those farmers who have no sheep should look into this question. Many excellent graded ewe lambs were sold last fall at mutton prices, and they are thus sold every year.

### **Encourage Breeding Ewes to Exercise.**

Some pains should be taken to encourage breeding ewes to take plenty of exercise, and more especially in the winter, when snow may happen to lie deeply on the ground. Some flockmasters go to the trouble of plowing roads here and there, and strewing a little fodder along them to encourage the sheep to go abroad. But usually this will not be necessary if they can have access, virtually at will, to a good-sized yard, or to an old sod field where the snow is shallow. That is one advantage which western sheep will have over ours. They can pasture out in the fields during much of the winter in those regions of lighter snowfall. If our ewes are encouraged to stay indoors, they, like all other animals kept too delicately, will become averse to going out. They will be much prone to lie in the sheds. They may gain flesh and appear to be in good

health, but when the lambing season comes, then trouble will arise. The lamb will be weak and delicate. Use every precaution, therefore, to prevent the development of sluggish habits in pregnant ewes.

### **Sheep in Ontario.**

During the five years ending with 1894 there has been a steady increase in the number of sheep in the province. In 1890 there were 1,339,695 head. In 1894 the number had increased to 2,015,805 head. This is as it ought to be. While the increase is very gratifying, the farmers are not by any means overstocked. There are many reasons why more sheep should be kept. They are easily managed. They do not call for expensive shelter. They can get their food in the fields, ordinarily, for about eight months in the year. They do not require to be milked. They do not necessitate any churning. They gather much on the farm that would otherwise go to waste. They are inveterate weed destroyers. They may be easily and simply fed. They bring profits as large relatively as other stock. They bring returns in twice a year. Their mutton furnishes a delicious, wholesome, and nutritious food, and they serve to enrich the land more quickly than any other kind of animals that we pasture on our farms. The sheep has a golden hoof. Would it be incorrect to say that there is a good deal of gold about the whole animal?

### **Mutton Sheep in the United States.**

Sheep husbandry in the United States is undergoing a very great change. Until within a comparatively recent period sheep were grown in that country for wool, primarily. Mutton was a secondary consideration. This accounts for the immense numbers, relatively, of Merinos in the United States. But during recent years the flockmasters over there are turning their attention to mutton rather than to wool. And this is more especially true since the modifications in the tariff on wool have taken place. In all arable sections, the blood of mutton breeds is being used. The

flocks of grade Merinos are being quickly transformed into grades of unmistakably mutton types, and possessed of more or less of the dark face and feet which characterize nearly all the middle wool breeds. This transformation is likely to continue, and even to increase. Two things only, probably, may serve to check it. First, the tariff on wool may be increased, and also the vicissitudes of range life call for a hardy race which contains many of the blood elements of the Merino.

### Carrots for Sheep.

Belgian carrots have been tried as a food for lambs in Great Britain, apparently with good success, a Mr. Blundell, of Southampton, having experimented with them to test their value as compared with swedes. He gave out carrots in troughs placed side by side with others containing Swedish turnips, and he found, in the course of a day or two, that the lambs had so great a preference for the carrots that they ate no swedes so long as any carrots remained in the troughs. In consequence, he discontinued giving any cut swedes while he had any carrots for use, they having continued in good condition until the 1st of April.

Finding his early Somerset lambs doing so well upon carrots, Mr. Blundell decided upon feeding the Southdown lambs in the same manner, and the result was precisely the same, they having refused to eat any cut swedes when they could get carrots. "I had," he writes, "no means of proving with accuracy the difference in the quantity of carrots and swedes consumed by a given number of lambs, neither did I attempt it, considering their great liking for the carrot quite conclusive; although I believe a lot of lambs would consume a greater weight of swedes than of carrots. The advantages to be derived in feeding lambs upon carrots, I find, consist in the saving of one-half the cost of oil cake and corn, and in the lambs being fit for the butcher earlier, and attaining a greater weight and better quality at a given age than when fed on any other root. In proof of which I have never sold lambs so fat and heavy at the age during a period of more than twenty years as those which I have fed during the progress of this experiment."

### Make Ready for the Lambs.

Make ready for the early lambs. Before we are well aware of it they will be here. It is not a pleasant experience to go out into the sheep-house or sheepyard on a cold morning in winter to find that one or more lambs have been dropped

in the night, and that they are already turned into stiffened corpses. As they lie there stretched out ready for burial, they rebuke the owners for their cruelty. If they could but speak they would accuse them of cruel wrong. But there is another side to the question. A lamb lying stiff and cold on the ground the morning of its birth represents what might have been turned into a few dollars that in the fall would have jingled in the pockets of the owner.

Well, such occurrences may usually be prevented. A little forethought will prevent them. We may not have warm sheds, but we can extemporize somewhat. We can surely fit up one part of the shed so that it will be measurably warm. In doing so, we can use boards, straw, tar paper, poles, anything that will answer the purpose, and when we have so extemporized our lambs will be measurably safe. The ingenuity of the owner will help him to solve the problem of temporary shelter.

When the owner knows the season when his ewes will lamb, he can house them in time to render them safe. It may be that he has an empty stall in a basement barn. In this the ewes may be put which are due to lamb, and there they may be kept until the lambs are two or three days old.

And preparation of food should be made. The ewes should have nice clover hay at lambing time, or some other fodder equally as good. It ought to be saved for them. Much forethought is necessary in the successful management of animals.

### Prolificacy in the Dorset Horns.

That the Dorset Horn is possessed of prolificacy in a marked degree cannot for a moment be doubted. They produce twins freely, and sometimes triplets. Triplets are rather a disadvantage, on the whole, but twins are preferable to single lambs where the dams are possessed of good milking qualities. Owing to the relatively large number of twins which the Dorsets produce now, there should be no difficulty, by exercising due care in selection in breeding, to so increase this property that single lambs would but seldom appear. Likewise, the dams which breed triplets could be eliminated.

But the breeders of Dorsets have to guard against one danger. The tendency to-day is to still further improve the mutton form of the Dorsets. This has its risks. If the mutton form is pushed beyond a certain line, it will, probably, be found that the breeding properties may be somewhat impaired. The Dorset, even now, is a

good mutton sheep; but it has that roominess of coupling which, more especially in the dams, is so favorable to successful breeding. As compared with some breeds, the Dorsets are not so full in the crops. But lack of complete development there is no detriment to good milking qualities. It is rather the opposite; hence it is worth while to consider carefully whether it would not be best to be content with something less in form, and to retain breeding qualities unimpaired.

The extreme mutton form is not favorable to production of milk in great abundance, just as the extreme beef form is not favorable to the same.

The gain, therefore, in one direction would probably be counteracted by loss in the other; hence it may be found that a happy combination of useful qualities will be the best under the circumstances. In the production of early lambs, free supplies of milk are indispensable to their quick growth; hence, whatever is lost in the breeding of Dorset Horns, the loss of free milking qualities cannot be dispensed with.

And the close relation between free milk production and prolificacy must not be overlooked. These are so interdependent that whatever injures the one will injure the other. The extreme mutton form, therefore, would ultimately injure both the breeding and milking qualities. Hence, if we must have improvement in the mutton form to meet the wants of an imperious age, let us try to secure it with the least possible injury to the breeding qualities of this most prolific type of sheep. This would mean that we would secure it very gradually and on certain parts of the body, as the loins, hips, and thighs, without of necessity turning the animals into those blocky forms which produce tallow rather than juicy meat. We want form in which the fat and lean will be nicely intermixed.

When Dorset sires are used on dams of the other breeds we may look for an increase in prolificacy in the progeny, and also an increase in the development of the lacteal system. Under a wise system of management, therefore, prolificacy and abundant milk production may be looked for in Dorset grades. In time they should become possessed of these properties in a degree equal with the Dorsets. But the engraving of these qualities would depend, at least measurably, upon the way in which the work was done. It would involve a careful selection of rams; that is to say, rams would have to be chosen from dams noted for prolificacy, and that had been good mothers. And the less prolific among the progeny and the most deficient in maternal qualities would have to be sifted out.

Whatever, therefore, may be sacrificed in the

Dorsets, it should not be breeding qualities. These are their distinguishing characteristics today. They are their crowning glory. They must be preserved, whatever else may go, and, if they can be increased, the increase will be distinctly a gain.

### Mountain Sheep.

In the accompanying illustration we give a view from life of three fat wethers of the blackfaced mountain breed of sheep, two of which won first and third, respectively, in their class at the recent Smithfield Fat Stock Show in London, England. They were exhibited by Mr. James McDowall, Kirkcudbright, Scotland.

### Good Enough for My Flock.

The man wanted to buy a ram to use on a good-sized flock of well-graded sheep. I was close beside him as he looked over the paddock fence, inside of which a bunch of rams were feeding. But he did not know me, and he does not know me now. The owner of the rams pointed out some of the best specimens and put on the price, which was not at all extravagant, for the rams were very good.

"No," he said, "I'll not buy a purebred; I think I can't afford it, these hard times. I'll go and buy a grade, if I can get one; that will have to do for me." Continuing, he said: "Have you any grades?"

"Yes," replied the other, "but I was not intending to sell them for breeding uses. I intend to sell them to the butcher."

"Well, I'd like to see them," said the man in search of a stock ram. "Where are they?"

"In the next paddock," was the answer; and the two moved on toward the paddock.

I lingered; but when the owner of the lambs motioned to me, I went on after the two. The owner, pointing to the best ram in the lot, said; "There is a good ram, the best one in the lot."

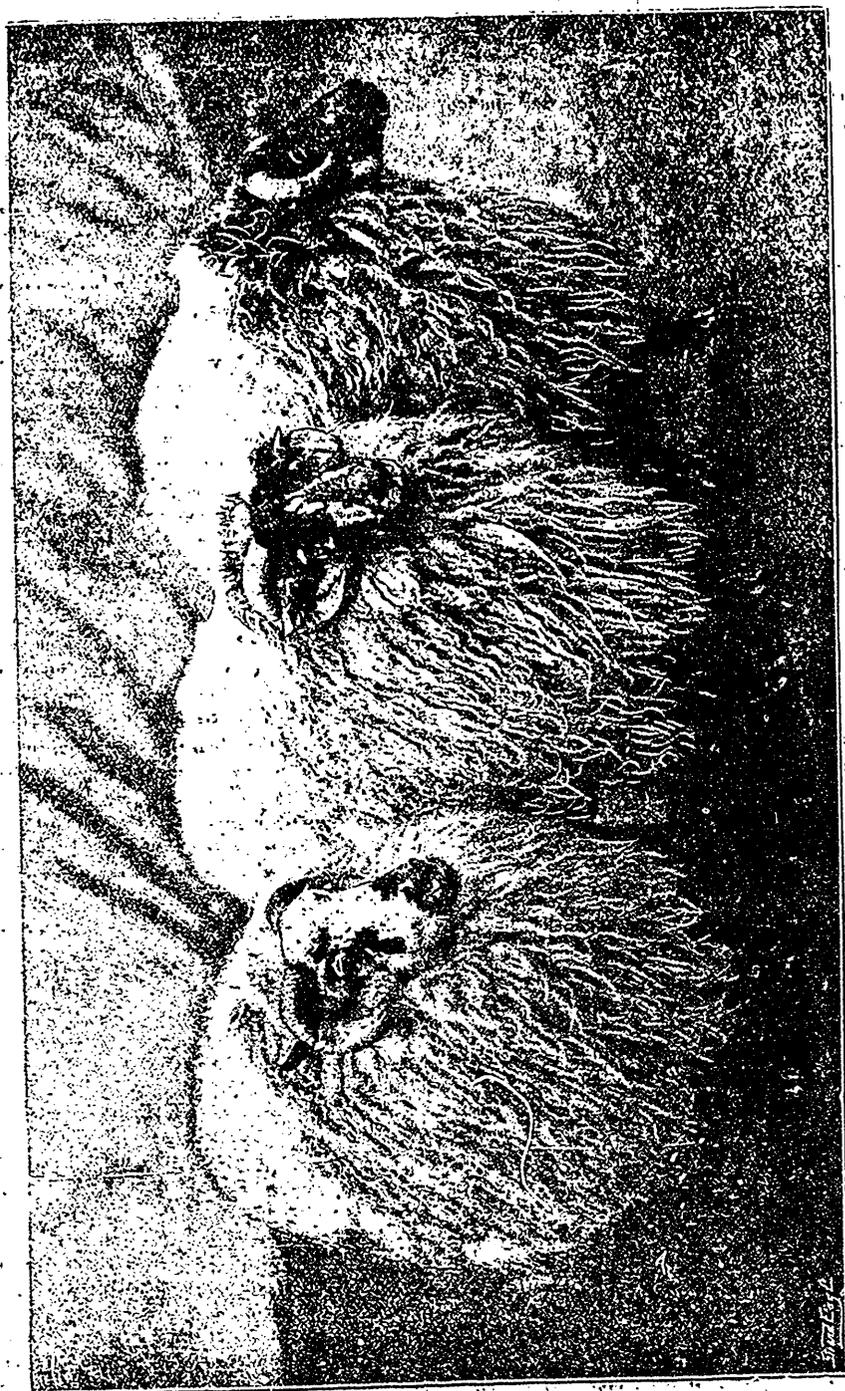
"How much do you ask for him?"

"Six dollars," said the owner; "not much more than meat price."

"I can't pay so much," said the buyer. "I want a cheaper ram." Pointing to another, he said, "How much for this one?"

"Well," said the owner, "you can have him for \$5. I could get that much from the butcher for him to-morrow."

"Can't you make it \$4.50?" said the buyer.



**Fat Mountain Sheep, Wethers.**  
Owned by Mr. James McDowall, Kirkcudbright, Scotland.

"No," said the other, "I can't sell him for less than meat price."

"Well, I'll take him."

"You should know your own business best," said the seller, "but the other lamb at \$6 is much the cheaper for you. He is almost purely bred." And so he was, if my judgment is worth anything.

"I'll take this one," said the buyer, "he's good enough for me. I can't afford to pay \$6 for a ram, these hard times."

I was grieved, but as my opinion was not asked I did not say a word, but many thoughts ran through my mind. At length I accosted the stranger as follows:

"Beg pardon, sir, but how many breeding ewes have you?"

"I have fifty," was the answer. "And they are good ones; but you know they are not purebred."

I said no more, but I thought many things, and these are some of the things that passed through my mind as I mused:

"The people perish for lack of knowledge," I said to myself. "Here is a man with fifty sheep. He could have got a purebred ram for \$15. Had he taken him he would have been almost absolutely sure of fifty good lambs, which, next fall, would have been worth to him at least \$4 apiece for meat. The lambs would have been good ones, as the ram would transmit his own good qualities with almost infallible certainty because of his purity of breeding. He would have had a lamb almost pure in blood for \$6; but, to save one dollar, he took a lamb much inferior in breeding and in individual qualities. The chances are that the ram he bought will not beget good lambs. It is scarcely possible that he should. He is not a high grade, and his individuality is inferior. He is a big upstanding fellow, with nothing in his favor but size. He is lacking in quality, and he stands on long legs. The chances are that his lambs will be a very mixed lot, and that they will not bring more than \$3.50 next autumn. If that be true, the buyer of that ram will just be out \$15 more on his first lot of lambs than if he had bought the purebred ram at \$15. But since he is satisfied that the mongrel he bought is good enough for him, he must abide the results. It is not what is good enough for us farmers, but rather what we ought to get. Our aim should be to grow the best that we can in every line. And we are certainly wiser if we use every reasonable effort to achieve such a result. If a greater outlay in a ram is almost certain to bring a greater relative return, why should it not be made?"

## Do Sheep Reason?

Do sheep reason? Notwithstanding my great admiration of the ovine species, I am compelled to answer this query in the negative. A Victorian farmer the other day sustained a serious loss through forty valuable ewes being suffocated in their endeavor to pass through a set of bars in one of the fields on the farm. This example indicates that had the sheep in question not been entirely void of reason, they would not have crowded one another to death in the manner specified. A case of this kind seems parallel to a theatre panic, when human beings rush wildly for the door. But a little reflection will show that the cause in each case is of a totally different nature. The sheep, in trying to pass from one field to another, had no other object in view than getting into a better pasture; whereas people rushing from a theatre are making a last effort for life. Behind the sheep there was nothing urging them to their doom—behind the people there was a raging fire. I once witnessed a flagrant act of stupidity committed by a flock of sheep on an unfenced railroad in the Western States of America. They were grazing on the prairie, close by the line—some on one side, some on the other. A number were actually on the track, but at the sound of the whistle the sheep parted to either side. Suddenly, and before the cars had passed, one section of the flock, observing their neighbors on the opposite side, began to rush through between the wheels. The train was a pretty long one, and before it could be pulled up, the line was strewn with over a hundred mangled carcasses. That scene convinced me that sheep are entirely void of reason.—*The Australasian*.

## Ration for a Breeding Ewe.

John Anderson, Mitchell, Ont.: What would you consider a good ration for a breeding ewe on an average Ontario farm? The reference is, of course, to the winter season.

ANS.—Access to a blue grass pasture in the early winter until the ground becomes covered with snow. Such a pasture should not have been eaten closely in the summer. With plenty of such food, the ewe will want little else for the time being. When confined to the sheds, the fodder should be fine and well cured, and should embrace a variety where practicable. It is not particularly important what the fodder is, providing it answers the above conditions. Some succulent food should be added, as, for instance, ensilage or roots. One pound a day will answer a good end in regulating digestion, but more would

probably be better. If the ewes keep in good flesh, they will want nothing more in the shape of food until after the lambing season. If they should lose flesh, give a light feed of oats daily. After lambing, feed lightly for a few days, then bring them up gradually to a heavy grain ration. This should consist largely of oats or bran, or a mixture of the two. The balance of the grain ration may be peas, wheat, corn, or rye, according as one or the other of these may be cheap.

### Adaptation of Sheep.

**Inquirer:** "Would you kindly tell me through FARMING if sheep are as well adapted as cattle to intensive farming; that is, keeping as much stock as possible on a given area? Also if a flock of purebreds can be successfully grown under such conditions, and if the breeds differ in suitability to this method."

**ANS.**—The breeds of sheep differ greatly in the degree to which they are suited for the different kinds of farming. There are some suited for what our correspondent calls "intensive farming," others for farms having more or less arable land; and then there are breeds especially adapted for mountain lands. In classifying the breeds of sheep the classification most satisfactory is that which divides them into the breeds suitable for the lowlands, those adapted to the uplands, and those thriving best on the mountains. The lowlands may be said to represent intensive farming, and in a general way may be said to be suitable for the heavier breeds of sheep. Lincolns, Leicesters, and Cotswolds are heavy sheep which in a general way require heavier feeding and folding than the other lighter breeds. Such sheep included among the breeds adapted to intensive farming or lowland farming are invariably large sheep, requiring a great deal of food, but producing the greatest quantity of both wool and mutton per acre. The food that they need must be obtainable without much exertion, and in order to realize the greatest profits from them they should be liberally fed from the time of birth until sold. The Downs and the Dorsets are more properly adapted for rolling lands. They will surpass the Leicesters, the Lincolns, and the Cotswolds under those circumstances, but it does not follow that they would not return a profit if kept on lower and richer lands. I believe it to be true, however, that under the conditions where intensive farming may be most successfully pursued the Lincolns, the Leicesters, and the Cotswolds will return more profit per acre than any of the other breeds. In the same way when the mountain ranges are approached, the sheep which are known as mountain sheep will surpass any of

the others. I believe that the natural conditions which are dependent on altitude have a great deal to do with the thrift and healthiness of a flock, and I would certainly advise our correspondent to consider carefully the characteristics of the different breeds, especially in the degree to which they adapt them for different altitudes and different methods of farming.

### Sheep Scab.

**H. B., Antigonish, N.S.:** "Would you please let me know what causes scab among sheep? I read recently a recipe for killing ticks, which advised dissolving soap in hot water and adding an equal quantity of kerosene. Would the oil be likely to remove the wool from the sheep? I put some on a horse to kill the lice, and it caused the hair to drop off."

**ANS.**—Scab is caused by an insect which harbors in the skin of the sheep, causing irritation which eventually produces the scab. The parasite lives under this scab and spreads over the skin, causing the sheep to rub to such an extent as to remove the wool. It can always be known by removing the scab and examining some of the underlying material under a magnifying glass. The small insect which indirectly produces scab can be easily seen in this way. Thoroughly dipping the sheep is the most effective way to cure those that are affected. The best plan for our correspondent to follow in ridding sheep of this disease is to at once separate the affected ones of the flock from the others and burn all the litter that has accumulated where the sheep have been kept. If any of the prepared dips cannot be obtained, the best mixture is made by taking one pound of sulphur and one pound of tobacco to every four gallons of water. The tobacco should be steeped until all the strength has been taken out of it, and the sulphur added at the time the water and tobacco are mixed. The dip should be used at a temperature not under 110 degrees Fahrenheit. At this season of the year it is impossible to dip sheep, but the disease may be checked by pouring the dipping fluid into the fleece as soon as the weather is such as to permit this. Before attempting to treat the sheep for scab, it should be definitely decided that this is the trouble. It may be that ticks or dirt in the fleece is causing the sheep to rub so as to remove the wool, and is giving the sheep the appearance of having scab. The appearance of the small insect under the scab is the best indication of the presence of the disease. In regard to using kerosene for killing ticks, I cannot speak from experience, but would certainly not advise using it for killing lice or ticks on any animals in a pure state. The best material that we have tried for killing lice on hogs or other animals is an equal mixture of kerosene and lard.

# SWINE

BREEDERS who want pigs of 1896 to show at local shows must watch their early litters closely now. Don't overdo the feeding; keep the sow's blood cool; let her have all the exercise possible; keep her and the little pigs dry and warm, but do not neglect good ventilation. Above all, beware of dampness and draughts.

A PUBLICAN of Kingswinford, in Staffordshire, England, is the happy possessor of a pig of truly gigantic size. From the tip of its tail to the end of its snout it measures just nine feet six inches long; in height it is almost four feet; its weight is half a ton. This extraordinary animal walks about briskly, and farmers from all parts of the country have been to see it.

MR. ARTHUR S. GIBSON, an excellent authority, feeds wheat largely, a small proportion being used whole, either dry or soaked, the greater part being fed ground and scalded with hot water. He does not cook any grain, but feeds a quantity of roots cooked and added to the grain ration. Mr. Gibson does not use barley meal in his breeding herd at all, as he finds it too heating and also too strong for little pigs.

THE stomach of the pig is very much smaller in proportion than that of the ox or the sheep; but, on the other hand, the intestines are very much larger proportionately. This latter fact explains why the pig is able to digest such large quantities of starchy food, while the fact of the stomach being so small should teach us to feed our pigs often, and not in too large quantities at a time, when they are confined.

RECENT experiments at the Danish Agricultural Station showed that young pigs weighing 33 to 75 lbs. required  $3\frac{3}{4}$  lbs. of grain, or its equivalent in milk or whey, to make one pound increase in weight; while for hogs weighing 150 to 200 lbs. it took five pounds of grain, and for old hogs weighing over 200 lbs. six to six and one-half pounds of grain to produce one pound of increase. It also took nearly half a pound more grain for each pound of increase in winter than in summer.

MR. EDNEY HAYTER, the well-known English breeder of Berkshires, uses the following mixture, principally, for his grain ration: One part wheat, two parts oats; and three parts barley, ground together and sifted, the finer meal being kept for the young pigs and those fattening, while the coarser portion is fed to the brood sows, mixed with twice the quantity of malt dust and soaked for twelve hours, the sow also being grazed. The fattening pigs are fed twice a day on the above mixture, well incorporated with boiled potatoes in the proportion of one bushel of potatoes to two of grain, a little corn being fed whole and dry at 11 a.m., until the last six weeks before their disposal, when they are finished on barley meal alone.

## Salt for Pigs.

There is perhaps nothing that is more necessary to the maintenance of health in animals than sodium chloride, or common salt. In the blood of all animals sodium is found in comparatively large quantities, and, therefore, for the proper maintenance of good health it is necessary that a certain amount of sodium chloride should be assimilated in the daily food. It is found that an overabundance of potassium eliminates the salt in the blood to pass as urine; therefore when feeding foods rich in potassium, such as peas, beans, potatoes, etc., care must be taken to supply a sufficiency of salt. It is, however, almost as dangerous to be too liberal as to be too sparing, as an excess of salt, by inducing a desire for water with which to wash it out through the sweat glands and the kidneys, will frequently produce trouble by throwing too much work on the kidneys. This is especially noticeable in the case of pigs, which have but very few sweat glands, and those congregated around the snout.

In our experience, we found the best method of supplying salt to pigs to be by placing a small quantity of salt and ashes mixed in their pens, or in a small box in the lot. The pigs run in when they can, and will help themselves to a sufficiency. In the case of fattening pigs, however, it is sometimes advisable to mix a small quantity with their food.

### Young Brood Sows.

Don't shut up the young sows, that you intend to keep as brood sows, in a close pen and feed them as you do your fattening pigs. Remember that what you want is bone, frame, and muscle, not fat; a sow that has been always confined and fed heating, fattening food will never make a satisfactory breeder. On the other hand, don't turn them out in a filthy barnyard along with half a score of young cattle and a few colts and expect them to live and grow on what they can pick up, with perhaps a few frozen turnips thrown in. Put them in a comfortable pen, or a warm shed, at nights and in rough weather, and in fine weather let them run out in the daytime. Feed them plenty of pulped and steamed roots, with a little shorts and oil meal mixed in, and give them a few whole peas. Give these on a clean floor among the straw; that will encourage them to take exercise. Treat them kindly, and handle them as much as possible; they will pay you back a hundredfold for all the trouble you take.

### Close or In-and-In Breeding.

"The evil effect of close breeding shows itself sooner in the case of pigs than in any other of our domestic animals, and, therefore, fresh blood is most essential. In practice it will be found that a well-shaped pig can be reared, fed, and brought, in a shorter space of time, to a greater weight, upon a smaller amount of food than a mongrel-bred one; while the bacon and hams cut from the carcass of a well-bred pig are superior in quality and command a higher price in the market. Even in the heavily-stocked markets of the present day there is still 'room at the top,' and to-day there is still a margin in the wholesale and retail markets between the price of ordinary bacon and hams and those classed as 'best quality.'"

While the above remark as to the danger of close breeding, which is copied from one of our exchanges, is very true, still we would add a word of warning as to the danger of indiscriminate crossing. The experienced breeder knows well that nothing requires more careful consideration than the taking of an out-cross into an established herd, and while there is not so much to be apprehended perhaps by breeders of grade pigs, still the best results will be obtained by a careful system of *line breeding*.

The breeding together of animals closely related can only be done with any likelihood of success under very exceptional circumstances; but, on the other hand, fixity of type, which is what we are

all striving for, can only be obtained by the use of males which, while not very closely related, are still bred, to a large extent, on the same lines, and so can be depended on to produce the desired characteristics in their offspring. While both an *out* and an *in* cross may be called for under some circumstances, *line breeding* must be looked on as the breeder's sheet anchor.

### Weakness in Pigs.

A breeder of pigs was recently asked the question whether he considered weak hind legs in pig hereditary. His reply, which will be interesting, was to the following effect: He said, first of all, that he did consider weak hind legs hereditary, and then he went on to add that the same remark applies to the fore legs.

It would, perhaps, be nearer the fact to say that the tendency is to transmit such weakness, but the primal origin undoubtedly has been lack of exercise, and the excessive feeding with feed that was deficient in phosphate of lime. Such a heritage may be helped by proper exercise, attention, and feed. The weakness is one largely of the tendons and ligaments, which may be removed or corrected in whole or in part by supplying the necessary restorative in medicines or selections of feed, and then, in turn, assisted by the application of bandages and liniment to the parts exhibiting weakness.

The bandage should extend above and below on the point of weakness, and care should be exercised in applying it so as not to impede the circulation, yet that it be sufficiently firm to support the parts. The circulation in the legs of swine is slow, and, therefore, is the more easily disturbed and cut off.

### Bacon, Pigs.

In view of the fact that the Danish farmers have succeeded to a very large extent in capturing the English market, not only for their butter, but also for the bacon produced from hogs fed on the waste products of their butter factories, the notes given in another column on their experience in feeding these hogs will probably prove interesting to our readers. As regards their practice of co-operative pork packing, we do not see any need of it in this country. We have now a number of establishments conducted by private firms that cater to the British markets, and that have succeeded in establishing excellent relations with the British buyers; and what is necessary now is concerted action on the part of the pig-feeders of

the country to breed and feed a class of hog that will, in the hands of a skillful curer, produce the highest possible quality of bacon and hams.

In connection with the remarks referred to on the Danish methods of feeding, which are taken from a very interesting article on "Co-operative Creameries in Denmark," in the *Farmer and Stockbreeder*, we would draw attention to the fact that we have in this country every facility possessed by our Danish rivals for producing good bacon. Our dairy products have increased largely in the last few years, and this naturally gives us a large amount of dairy offal for our pigs. There are very few places in Canada where barley cannot be grown to good advantage; and yet, according to the statistics given by Prof. J. W. Robertson, in his address to the breeders at the Guelph Fat Stock Show, while the United States is credited with 46,000,000 pigs out of a total of 102,000,000 in the whole world, Canada can only show 1,700,000; taking the population of the United States at sixty-five millions, and that of Canada at five millions, this gives the latter barely one-half as many pigs in proportion to the population; and yet while Canada cannot grow corn to anything like the extent her neighbor can, she can, and does, grow far better barley and peas, and her bacon, which is largely fed on these grains, is preferred by British buyers to the American corn-fed article.

We have firm faith in the future of the Canadian bacon trade if her farmers and packers will pull together, and we would draw the farmer's attention here also to the remarks on the experience of the Danes in feeding light pigs, and also to Professor Robertson's statement, that last September English packers were paying nine and a half cents per pound live weight for hogs weighing not over 150 pounds and not showing over two and a half inches of fat on the back; while we would suggest to the packers that it might pay them to make a trial of the practice in vogue in some of the largest British bacon-curing establishments of paying a small bonus on hogs that do not exceed a certain thickness of fat, the amount of the bonus varying according to the thickness of the fat in proportion to the weight of the hog.

### Detusking Boars.

F. R. Payne, a Poland-China breeder, of Iowa, gives, in *Swineherd*, his method of detusking boars. It is successful, and is as follows: Never rope or throw your boar for the operation; it is useless, angers the hog, and frequently makes him cross afterward. Again, do not allow the tusks to get

too large. Next, I take the opportunity when the boar is in the act of propagating his species, at the time that he drops into the comatose state—with a pair of sharp pincers, not too large or wide; quickly place the nippers over the tusks, give a circular twist, and off goes the tusk. You can get both tusks on one side at one operation, and wait for another opportunity for the other side. In this way your males may lose these useless weapons and never know how it was done, and be much less dangerous to you, with but little trouble. There is no manner of use in allowing an aged boar to carry these dangerous instruments, both to man and beast, and I know of no better way to remove them than by the above method.

### Another Outlet for American Hogs.

A gentleman in Vienna is thus reported, in the *Breeder's Gazette*, as writing to a correspondent in Chicago: "Some months ago I wrote you that the export of hogs from America would at times be not only possible, but a very paying business, too. This is the case at present, and this will last for at least nine months. The outbreak of the swine plague in Hungary has reduced the living stock to such an extent that prices were paid equal to \$9 per cwt., and today \$10 are asked and readily obtained. Considering that there is a big surplus in America, why should not dealers there try to send over a few thousand and clear a big profit?"

"A few weeks ago a carload of Servian hogs were sent from Salonica to Marseilles—a twelve days' sea journey in the Mediterranean—and arrived perfectly safe. Why should the hogs not stand a journey from an American seaport to Trieste?"

"Kindly put this before some of the big dealers and induce them to make a trial, consigning a couple of hundred to Trieste."

### Pig Feeding in Denmark.

In the good old time, when from 0.5 up to 1 per cent. fat was left in the skim-milk, a very fair eatable cheese could be made, and even now, in these days of 0.001 (?) per cent. fat in the separated milk, cheese is made and used not only as fish-bait. The secret is moisture, and patience to cure them for three or four months. Nevertheless, the Danes find it impossible to make it into cheese, and also turn it into veal or pork. Nothing is allowed to go to waste; if cheese is made, the whey is used for the hogs, or whey

cheese is made from it. It is a significant fact that the price has been set at 1s. 3d. per 100 lbs. by the farmers themselves. Prof. Fjord showed how six pounds of skim-milk equalled twelve pounds of whey (from skim-milk cheese), or ten pounds of mangels, or four pounds of potatoes, or (the standard) one pound of grain (one-half rye and one-half barley), and from feeding hogs on skim-milk from the co-operative creameries is but a step to the co-operative pork-packing establishments. Indeed, the Danish farmers took hold of this idea a little too fast, building too many and too small ones. The consequence is that several do not pay as well as was expected. But the principle is sound, and some very successful ones are running where the pigs bought are not accepted according to weight only, but also according to the class in which the bacon may be classified.

The keynote to success lies in a careful study of the demands of the English consumers. These do not want our large, heavy, all-fat sides of bacon, but small, delicate ones, with alternate layers of lean and fat. Experiments showed that American corn was equal to the usual mixture of half rye, half barley, as far as quantity is concerned, but that the quality is inferior, having a tendency to become "soft." It is therefore customary to "finish off" with barley, or at least with fifty per cent. barley. The advantage of these small pigs, killed early, is a cheaper production. Prof. Fjord showed how it took 3.55 lbs. of "grain" or its equivalent to make one pound of pork (live weight) between a weight of 35 lbs. and 75 lbs., 4.29 lbs. between 75 and 115, and 4.88 lbs. between 115 and 155 lbs. Surely the lesson in progressive cost of production ought to prevent us from persisting in the 300-lb.-killing-time system, of which so many farmers seem so fond. The cost of the last few pounds is out of proportion high, and thus will the value of the skim-milk fall exactly in proportion to the size of the pigs to which it is fed.—*Farmer and Stock-breeder.*

### American Breeds: Victorias.

As far as we can learn, there are two distinct breeds of hogs in the United States known as Victorias.

The older of these originated in Saratoga county, N. Y., about 1850, and the chief credit seems to be due to Col. F. D. Curtis as the originator. These pigs were highly spoken of by writers on agricultural topics a few years back; but, nevertheless, they do not seem to have taken

a very firm hold as a standard variety. Mr. C. E. Leland, of Albany, N. Y., made the following report on them to the Swine Breeders' Convention in 1872:

"The family of pigs known as Victorias originated with Col. Frank D. Curtis, Kirby Homestead, Charlton, Saratoga county, N. Y. They were made by crossing the Byfield hogs with the native, in which there was a strain of the Grazier. Subsequent crosses were made with the Yorkshire and Suffolk, the result being a purely white hog of medium size. The name has no significance, unless it is intended as a compliment to the English Queen. These pigs, if purebred, should have a direct descent from a sow called Queen Victoria, which may be said to be the mother of the family. She was pronounced by good judges to be almost perfect, and was the winner of numerous first prizes.

"Breeders in the Eastern States have long felt the need of a medium-sized white hog with all the good points of the English breeds without their objectionable features—a breed which would mature early and be covered with a good coat of hair to protect it from the cold in winter and the heat in summer. Col. Curtis began breeding nearly twenty years ago to try to meet this want. At the fair of the New York State Agricultural Society, which was held at Elmira, he exhibited a sow, Princess Alice, and six pigs, which was the first time the Victorias had been presented at a state fair for a competition with other swine. The first prize was awarded to the pigs, and the second to the sow."

The following are the points and characteristics given for these hogs:

Color, white, with a good coat of fine, soft hair; head, thin, fine, and closely set on the shoulders; face, slightly dished; snout, short; ears, erect, small, and very light or thin; shoulders, bulging and deep; legs, short and fine; back, broad, straight, and level, and the body long; hams, round and swelling, and high at the base of the tail, with pleats, or folds, between the thighs; tail, fine and free from wrinkles or rolls; feathers or rosettes on the back are common; skin, soft and elastic; flesh, fine grained and firm, with small bone and thick side pork. The pigs easily keep in condition, and can be made ready for slaughter at any age. We can find no account of any record having been kept for these pigs, which, from the above-description, must have very much resembled the Middle White breed in England.

The other family of Victorias originated about 1870 in the hands of Mr. George Davis, of Dyer, Indiana, from whose pens they have spread over

a large part of the Middle and Western States. They are said to have been produced by crossing the Poland-China, Berkshire, Yorkshire, and Chester White, but to what extent we have not been able to discover.

These hogs appear to have met with a good deal of favor in some localities, and as early as 1880 some very good specimens were exhibited at leading fairs, including the Fat Stock Show at Chicago.

We have, unfortunately, been unable to obtain a scale of points for this breed, but we find them described by some writers as a medium-sized white breed, prick-eared, and of good feeding qualities. As far as we know, there are no breeders of Victorias in Canada at present, although a few of the breed were brought into Western Ontario some years ago.

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## Diseases of Swine.

### LICE.

While lice cannot, perhaps, be properly termed a disease, there is nothing that will occasion the breeder and feeder more annoyance and loss than these little pests, if they once get firmly established in a piggery. When pigs are badly housed and improperly nursed lice are certain to appear, and if they are allowed to increase they will cause far more loss than most people imagine, as it is impossible for an animal that is troubled in this way to make any satisfactory growth.

While, as we say, lice are generally found where hogs are not treated rationally, they are also frequently brought into a herd through animals coming into contact with others so affected. We have ourselves found a great deal of trouble in keeping our pigs free from lice at exhibition time, when they were often housed in pens adjacent to which were lousy hogs, or pens which had been once occupied by them.

There are very many remedies that may be adopted successfully. The most satisfactory we have found is the use of "Little's Sheep Dip," which can be purchased from any druggist. It is easily applied, there being full directions on every can, or bottle, and we have always found that two or three applications would settle most cases satisfactorily.

Another very simple remedy, and one that may also be used to advantage on show pigs to give them a nice skin, is buttermilk, while coal oil, either alone, or mixed with two parts of lard or oil, may also be used to good advantage. Some breeders use mercurial and arsenical ointments, but we do not advise the continuance of such

practices, as the simple remedies already stated will be found to answer the purpose very satisfactorily, and there is always a certain amount of danger in using preparations containing mercury or arsenic.

### INVERSION OF THE RECTUM.

This trouble is nearly always the result of improper feeding and general neglect, although we have seen cases where it has been the result of severe straining during farrowing, and also where it has resulted from an attack of diarrhoea in young pigs.

When the trouble is discerned the animal should be attended to immediately, all that is necessary being to empty the rectum of anything it may contain, cleanse it thoroughly, bathing it for some time with warm water, if it is swollen and inflamed, as is frequently the case, then, having applied a little laudanum, to push it back into place, using the finger for this purpose, which should first be well oiled. The pig should be kept in a comfortable pen and fed lightly for a few days after treatment.

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## Pigs at the Smithfield Show.

The exhibit of pigs at the Smithfield show this year was not by any means as good as has been seen in past years, a fact largely due, no doubt, to the prevalence of swine fever, and which may also be partly attributed to the absence of any classes for pigs last year.

The best display was made by the Berkshire breeders, among the exhibitors being such well-known breeders as Mr. Edney Hayter, Mr. N. Benjafield, and Mr. A. Hiscock, jr.

In the class for young pigs under nine months H. R. H. the Duke of York scored first with a very fine pen, which was also awarded the breed cup and the sweepstakes cup for the best pen in the show, the reserve for the championship being a pen of crossbred Berkshire and Middle Whites shown by Mr. A. Hiscock, jr.

The Tamworths, although not as numerous as the Berkshires, were pronounced the evenest lot in the show, the quality being very fine all through, the principal exhibitors being Messrs. Philip, Herbert, Ibbotson, A. Herbert, and T. Clayton.

There were very few entries of Small Whites, and the Large and Middle Whites were shown together, most of the money going to the latter variety, including the breed cup and first place in each class, although Mr. A. Hiscock, jr.'s pen, which won the cup, were hard pushed in their class by Mr. Denston Gibson's second-prize pen of Large Whites.

In the single pig class, open to any variety of White, the Middle Whites took first and third, a Large White coming in second, while in the similar class for Berkshires under twelve months that well-known breeder, Mr. E. Buss, took first, with Sir H. de Trafford second and Mr. Joseph Saunders third, Messrs. Benjafield and Hiscock having entries that were highly recommended.

The crossbred pigs were a very interesting part of the swine department, the prizes being distributed as follows: In the class for pigs under nine months, first to Mr. F. Coates, for a Dorset-Berkshire cross; second to Mr. Atkins, for a Berkshire-Large White cross; third to Mr. Hiscock, for a Berkshire-Large White cross.

In the class for pigs between nine and twelve months, first went to Mr. Hiscock for a Middle White-Berkshire cross; second to Mr. F. Coates, for his Dorset-Berkshires; and third to Mr. Atkins, for a Berkshire-Large White cross.

We regret that we were unable to obtain an account of the carcass competition, as it would have been interesting to know how the different crosses cut up.

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### Dominion Swine Breeders' Association.

A meeting of the directors of this association was held at the Oxford Hotel, Woodstock, on January 7th and 8th, during the Western Dairy-men's Convention in that city. There was a full attendance of the directors, with the exception of Mr. Joseph Featherston, M.P., who was absent at Ottawa.

The following business was transacted: The president and Messrs. J. C. Snell and G. B. Hood were appointed delegates to the Fat Stock Show committee, and the following alterations were made in the prize list for fat hogs at this show and in the rules governing the same, viz.: Sections were added to all the classes for pigs under six months old. The limit of age for pigs in the older classes was changed from eighteen to fifteen months.

The prizes for Duroc-Jerseys were made equal to those for Tamworths.

It was also decided that all purebred pigs shown must be registered in the Dominion Swine Breeders' Association Herd Book, and that an entry fee of one dollar be charged for each entry made for

the Fat Stock Show, including the sweepstakes classes.

All animals shown in the classes for purebred pigs under six and under nine months old must be bred by the exhibitor. In place of referees, reserve judges were appointed, who shall act as referees if required, and in the event of a protest against any judge the party protesting shall pay that judge's expenses, the amount not to exceed five dollars, the appointment of a new judge being with the executive committee of the show.

After a good deal of discussion, it was decided to allow the grand sweepstakes for the best purebred hog on the ground to remain as previously.

The judges of last year were appointed again for 1896, with the exception of Mr. Anderson, whose place was taken by Mr. J. G. Snell.

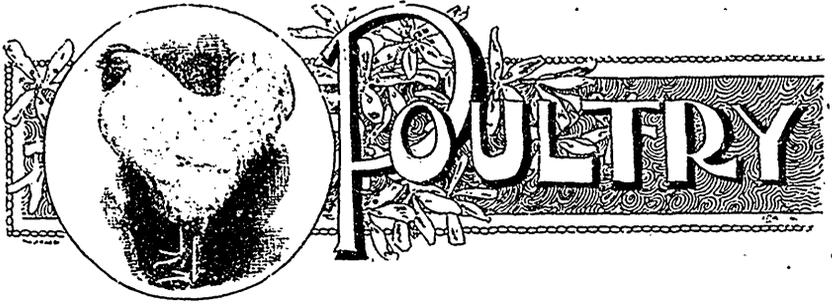
An executive committee was appointed from among the directors, consisting of the president, vice-president, secretary, and Messrs. J. C. Snell and G. B. Hood.

Mr. Hood gave notice of a motion to be brought forward at the next annual meeting, to alter the by-laws so that the delegates to the Fat Stock Show may be appointed for one, two, and three years respectively, instead of all for one year as at present.

The most important business of the meeting was then taken up, viz., the question of how the herd-books shall be conducted in the future, now that the Agriculture and Arts Association is done away with.

The president and the secretary reported the result of their interview with Mr. Wade, and after a great deal of discussion it was decided to adopt the method of publishing transfers of stock now in use by the American Shropshire Sheep Association, and also that on the certificate of registration the pedigree shall be given in full; but in the herdbook itself only the names and numbers of the sire and dam shall be given, together with the names of their breeders.

After the terms offered by Mr. Wade for acting as recording secretary and editor of the herdbook had been thoroughly discussed, as well as those made by other parties, the Executive Committee was instructed to offer Mr. Wade the sum of twenty cents per pedigree to cover all charges in connection with the publication of the herdbook and the issuing of registration certificates, except the cost of printing and binding, and, in the event of his not accepting this offer, the committee was instructed to undertake the work themselves, on behalf of the association.



[NOTE.—The publishers of FARMING desire it to be an aid to all its readers, and, with that end in view, I cordially invite one and all to make themselves at home in these columns. I shall be happy to answer, to the best of my ability, any and all questions relating to the management, feeding, housing, or diseases of poultry, and invite all who experience any difficulty, or wish information, to write, stating what is desired, and giving all the facts in connection with the inquiry. The name of the writer will be withheld if desired. Let us not only profit by each other's successes, but also by each other's mistakes.—EDITOR.]

### A Poultry House for the Farmer.

I am now in a position to give a concise and accurate account of the manner in which I constructed my new poultry house. By way of preface, I might say that my object in building it was twofold. One object was warmth, and the other was to see the lowest cost at which a warm and commodious poultry house could be erected.

A large majority of people seem to think that the construction of a poultry house entails a very large expense; but, when I have finished, I think you will agree with me that, when you consider the warmth of the building and its suitability to our varied climate, I have erected a building in every way suitable to our hot and cold seasons, and at a very little outlay.

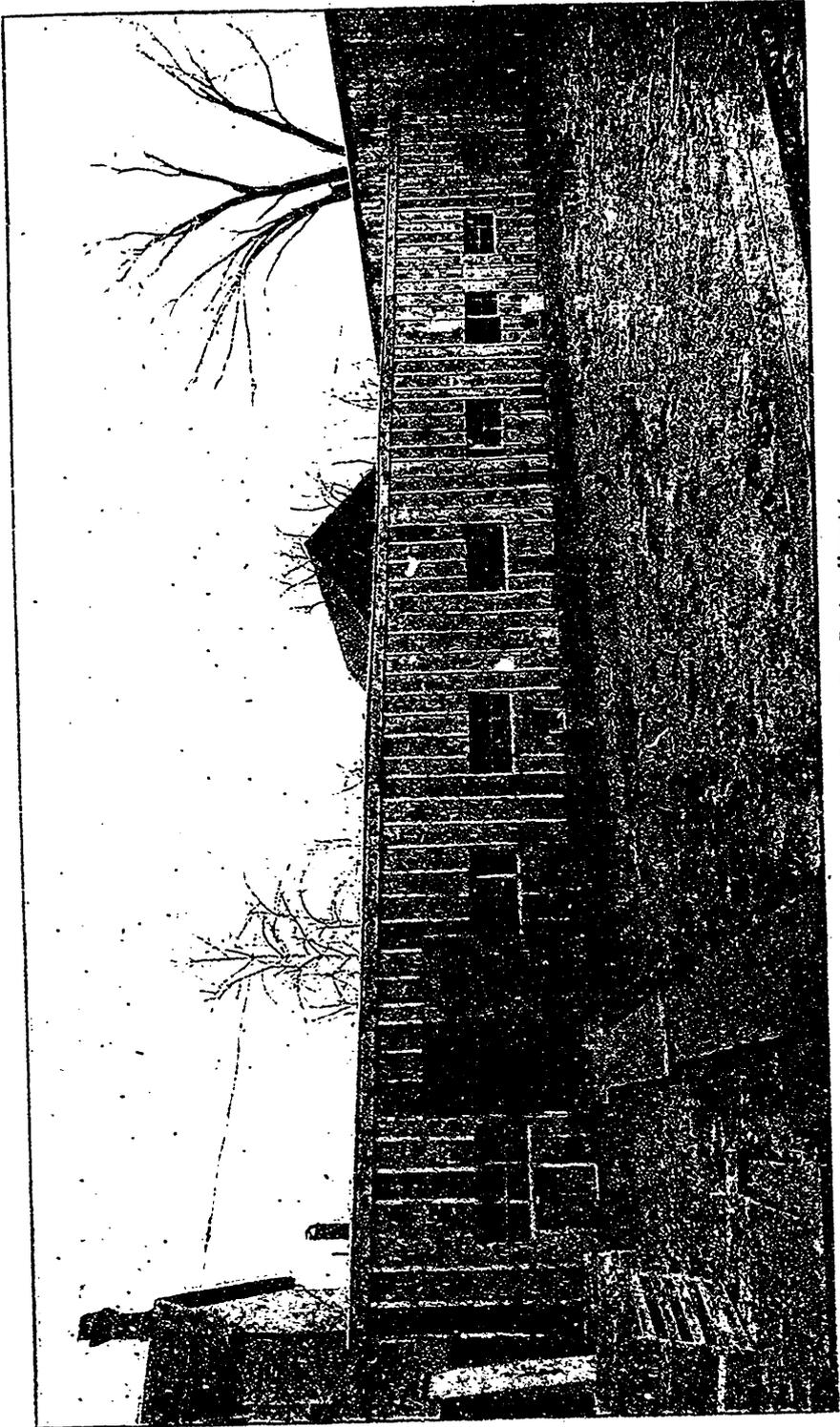
You will observe by the accompanying engraving of the building (made from a photograph) that it is intended more for utility than beauty. It is sixty-six feet long by ten feet wide. Its height in front is eight feet, and at the rear five feet, with what is commonly called a "shed roof."

The manner in which it was constructed is as follows: Posts were put into the ground six feet apart; upon these 2 x 4 scantlings were placed, which answer well enough for sills. Uprights four feet apart were placed upon these sills, and the crown was made of two 2 x 4 scantlings; rafters, three feet apart, were then run from front to rear. Tarred paper was then run on the outside horizontally along the uprights on both front, rear and ends; lapped over about two inches, and then tacked to the uprights. The outside boards (rough) were then nailed on over this

paper, and the cracks battened with half-inch strips. The roof, composed of ordinary decking, was then put on. On top of this decking was placed a single thickness of tarred paper put on horizontally. The whole roof was then shingled with second-class shingles, allowing five inches to the weather. Three ventilators were placed in the roof. After this was completed the inside of the building was looked to and tarred paper was again run horizontally upon the inside of the uprights, and the whole of the inside of the building lined with tongued and grooved sheeting, running in the opposite direction to the outside boards. This left the building boarded and battened on the outside, and lined on the inside with tongued and grooved lumber, with two thicknesses of tarred paper between. You will also observe that this left an air space of four inches between the outer and the inner walls, which, in my opinion, is as serviceable to keep out cold as if an extra thickness of boards was put on and all nailed solidly together.

As you will observe from the engraving, eight windows are placed in the front of the building, about two feet six inches from the ground. These windows are two feet by four feet, and are doubled, sixteen sash in all being used. All are made so that they may be opened at any time or taken out altogether. There is also a small window (3 ft. by 1½ ft.) in the west end. The outer doors are doubled—one opening inside and the other outside. Holes are cut in each pen to allow of the fowls coming into the yard. These are closed by means of slides, which work by pulleys from the inside of the building.

Speaking now from a fancier's standpoint, I have divided this building off into eight pens, and the second engraving (also taken from a photograph) will show how the interior is arranged. Each pen is divided from the next one by a solid partition three feet high, to prevent any chance of the cocks fighting, and the balance of the space is slatted to the roof as shown. A door, on spring hinges, opens into each compartment. You will then observe that I have built in each compartment (at the lowest side) two single pens or coops.



Outside View of Editor's New Poultry House.

These are three feet in width, and are erected three feet from the floor. In each of these coops I keep a single male bird. This renders their preparation for show much more easy, and gives me accommodation for keeping sixteen cocks separately. Under these pens I have my roosts. There is no floor in the pens (other than clean, dry sand), but I have a dropping board, three feet wide, under the roosts. These boards are cleaned off every day, and the manure preserved for sale to gardeners. Another object to be gained by having the fowls sleep under the coops is that it gives them more warmth. We have had some very cold snaps this winter, and up to the present I have not had a comb frosted. If need be, a thick curtain could be hung all night from the bottom of the single coops, so as to completely cover in the space where the fowls roost. This would keep the largest combed fowl absolutely secure from frost.

To return, however, to a house for the farmer, who is keeping fowls for eggs, I would divide this house into five divisions, and arrange the roosts and nests as shown in the third sketch. This is a combination which is very extensively used, and, to my mind, is about as complete as it is possible to make it. The roosts tip up, to allow of easy access in cleaning the droppings board. The bottom of the nests is cleated together and hinged to the wall, and when it is desired to clean the nests all you have to do is to let down this bottom by unhooking it. The bottom extends about a foot to enable the fowls to fly upon it and then enter the nests. In each of these five divisions into which I would divide the house, I would keep from twenty-five to thirty fowls. I do not think more could profitably be kept, as I am of the opinion that this number would retain better health and lay more eggs than any greater number. Outside runs should, of course, be provided. I have a separate yard made of wire netting for each of my eight pens of fancy fowls.

In the left-hand end of this building I have constructed feed bins, and here I keep a bone cutter, various handy tools, and other articles essential to all well-regulated poultry establishments, not least amongst which is a good dog. My dog is a registered collie, and I find her as sharp as a steel trap. By looking at the photograph, you will observe her lying in the doorway.

I give below a statement of the quantities of material used in constructing the building proper, and the cost thereof. Our readers can figure on the interior fittings themselves, according to the manner in which they desire the same laid out. Suffice it to say that each partition costs about

sixty cents, and the roosts and nests, as shown in the sketch, about \$2.

MATERIAL USED.	Cost of same.
1200 feet cull stocks at \$11 per m. ....	13 20
1000 " " boards for roof at \$10 per m. ....	10 00
1100 " matched boards at \$16 per m. ....	17 60
1080 " run ½ in. battens at 35c. ....	3 80
5500 second-class shingles at \$1.60. ....	8 80
9 eight foot posts (5 in.) at 15c. ....	1 35
1140 feet run 2 x 4 scantling. ....	7 60
16 pieces sash 2 x 4 (6 light) ....	6 40
1 piece sash 3 x 1½ (3 light) ....	30
10 rolls tarred paper. ....	6 50
100 lights glass. ....	3 75
75 lbs. nails. ....	3 00
2 pair hinges for doors. ....	30
20 lbs. putty. ....	90
Total for material. ....	\$83 50

I make no allowance for labor, because most of our poultry-raisers are able to do work of this kind themselves. Those, however, who are unable to do it can easily calculate the cost for getting the work done. I think I have made everything plain, but should I have failed in any particular I shall be most happy to give any other information in my power upon being requested to do so. Do not be at all backward in asking questions, as it is always a pleasure for me to aid my fellow-men in any way within my power.

### Ontario Poultry Association.

A full account of the annual meeting of the above association, which was held at Port Hope last month, will be found in the extra pages in the back of this issue. This is a most complete report, and is worthy of the careful attention of every reader of this paper. There are several important thoughts which will occur to the readers of the report.

### Cheap Egg Foods.

Among the many substances that are best for inducing egg-production may be mentioned blood from slaughter-houses. In the winter season it can be kept for some time, and may be fed by mixing it with equal parts of cornmeal and bran to a stiff mess. The reports which have come from those who have used it are largely in its favor. In the meantime, a supply of cut bone should not be overlooked, and hens should have a ration of such at least every other day.

If those who keep poultry would feed less grain, and take time to procure such materials as could be had at a small cost from the slaughter-houses, the expense of maintaining the hens would be much less than when large rations of

grain are used, and the supply of eggs would be more than doubled. It is the sameness of diet (the one kind of food from day to day) that throws the hen out of condition for laying, and entails a loss where one could just as easily procure a profit by going to a little extra trouble to provide a variety of food; in order to afford the hens an opportunity to do their best.

Green food should not be omitted from the list at any time. In winter the best substitute is finely-chopped hay, scalded; and a pound of such food makes a large and bulky meal. Cooked turnips are also excellent, and a cabbage will be eaten clean to the stalk. It is the variety, the

You will, of course, be sure to see that, when kept confined, your birds have a liberal supply of grit and material for egg-shell formation. This is a very important factor in the care and management of poultry.

For FARMING.

### Poultry for Farmers.

I am glad to see that there has been a move made in the right direction, viz., to encourage the poultry industry among farmers. Let me draw your attention to a few things that need remedying. "Fine feathers make fine birds," but whilst



Sectional View of Interior of Editor's Poultry House, showing Compartments for Single Birds.

change of food, which keeps the hens in good working order.

Fowls will eat almost anything, and without injury. There is no rule by which to feed them. Give them anything that they will eat, but change the food often. By "anything" do not mean food tainted, or likely to give the eggs a bad flavor. Do not simply change from one kind of grain to another, but make a complete change, and then return to grain again. If kept on one kind of food for a time, the fowls show their disgust by refusing it. They will not lay until they get something else, as it is required by them, and those who feed a variety of food will make no mistake.

these fine feathers are part and parcel of the birds, I am afraid that there has been too much attention paid to the feathers and head, leg and tail, at the expense of more essential parts. Not but that we ought to try to get these parts as perfect as we can; but I am afraid that the most important part has been lost sight of, viz., the body and thighs. I hear a general complaint that fowls are diminishing in size. Let me draw your attention to one fact that none can deny. In the beginning, when God made fowls, He made them more for food than for beauty, not but that beauty belongs to God's creation, and is to be admired. As I keep game fowls, let me refer to another fact in the early history of poultry culture. Games were

claimed to be kings of the poultry yard, and no doubt are to-day; not for their fighting qualities only, but because they are a dainty dish upon the table. When you can produce a game cock from six and a half to nine pounds, you will imagine that you have got a turkey on the table.

Now, to benefit the farmer there must be something done, and the best thing that could be done would be to get an Act of Parliament compelling dealers to sell poultry at so much per pound. I notice when one goes to the market that chickens are sold by the pair for from thirty to forty cents; the thirty cent birds perhaps weigh from six to eight pounds, whilst the forty-cent ones would go from seven to nine. Now, if birds were sold by weight, specimens could be produced from ten pounds per pair to twenty, which would give the poultry breeder more remuneration for his labor and the purchaser more food for his money. I am informed that there is a nice sum of money given by the government for the Ontario poultry show. Now, if some of this money were devoted to dressed poultry, say, five dollars for first prize, three for second, and two for third, making the thing interesting, and having eight sections composed of Games, 1; Dorkings, 2; Plymouth Rocks, 3; Brahmās, 4; Cochins, 5; Houdans, 6; Minorcas, 7; and Wyandottes, 8; and as many others as you would like, these birds to be judged according to color, quality, and flavor of flesh, then the best variety would come to the front.

F. TROTH.

Toronto.

## STRAY FEATHERS

FOR shipping eggs, I have never found anything to equal the common split baskets, which can be procured at 50 cents per dozen. Put a layer of excelsior at the bottom of the basket; wrap each egg with paper, then with excelsior. Line the sides of the basket with paper, put in the eggs, tuck them in firmly with excelsior, and put the same material on top. Then put four layers of new-paper over all, sew on the cloth cover, mark, paste on the egg label, and the basket is ready for shipment. So packed, it can be sent any distance with perfect safety.

AN excellent and inexpensive plan to add to the comfort of your birds during the long, cold winter nights is to have their perches enclosed in a sort of cupboard that is closed tight on all sides and on top, but open at the bottom. Leghorns and Minorcas will go through the coldest nights without getting even the extremity of the finest

spike of the comb frozen. Such a cupboard should have tight-fitting doors to fold back in the daytime, and should be shut every night when the birds go to roost.—*Canadian Poultry Review*.

A DUCKLING at a week old should weigh four ounces; two weeks, nine ounces; three weeks, one pound; four weeks, one pound and nine ounces; five weeks, two pounds and two ounces; six weeks, two pounds and eleven ounces; seven weeks, three pounds and five ounces; eight weeks, four pounds; nine weeks, four pounds and eight ounces. How much will a chick gain? The egg weighs two ounces; the newly-hatched chick weighs one and a quarter ounces; at two weeks old, four ounces; three weeks old, six and a quarter ounces; four weeks old, ten ounces; five weeks old, fourteen ounces; six weeks old, eighteen and a half ounces; seven weeks old, twenty-three and a half ounces; eight weeks old, twenty-eight ounces; nine weeks old, thirty-two ounces; ten weeks old, thirty-six ounces; eleven weeks old, forty-one ounces.—*National Stockman*.

THE majority of egg foods are composed of those elements that enter into the composition of an egg, and their success depends upon the fact that they supply material which is often overlooked by those who keep poultry. For instance, ground bone, ground meat, salt, and charcoal are ingredients—the first to supply the phosphates; the second, the albumen; the third, that which is often not supplied; and the fourth as a corrective. Hence, two pounds of ground bones, two pounds of ground meat, half a pound of salt, a pound of charcoal, a pound of fenugreek (used as a tonic, and assistant to digestion), with an ounce each of sulphur, bread-soda and ginger, makes a very good egg food, which may be given to six fowls daily, using a tablespoonful. We have given other egg foods, but mention the above as very cheap.

## Geese: Breeding and Fattening.

Rearing goslings is a very simple matter. The goose sits thirty days. If she sits closely, the birds will come out a day earlier; but if the goose is not steady towards the end of the period, the youngsters won't hatch for a day or two later. Geese are very steady sitters for the first three weeks. Sometimes they get wearied during the last ten days, and leave the nest too frequently.

As a rule, geese only leave the nest every second day, but towards the close of the term

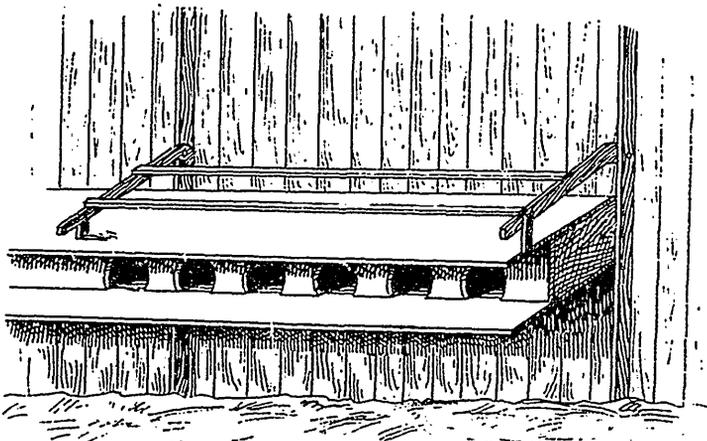
they sometimes come off two or three times a day. When this occurs a vessel of water should be left near the nest, with oats or wheat in it, and if the nest is located in a house the door should be closed when the mother has returned after being fed.

Geese are too strong and fierce to allow any interference. They must be carefully watched, and left alone as much as possible. When their period is up, the approach of the goslings will be noticed by the closer attention of the mother. A few minutes' observation will reveal the fact that she hears them in the shells. The gander will also be alert. Previously he may have been quite stupid-looking, but when the goslings are hatching he will try to be near the nest and display considerable animation.

The goose should be removed morning and evening, and the shells taken away. Some like

When the goslings are a week old the goose can get her liberty, and any shed will do to sit in at night if the weather be fine. Goslings are not able to bear heavy rain or hail for the first two weeks. They must be cared for a bit for two or three weeks; afterwards they will be able to go where they please. The best food for them is oatmeal. Give it as a full feed morning and evening for two or three weeks, and they will do very well on grass afterwards. Of course, they will be all the better for meal or grain, but, as they are heavy feeders, it costs too much for farmers to feed in this way.

Geese fatten rapidly when shut up. The best plan to fatten is to feed liberally on grass, oats, and potato stubbles while these last. When geese are required for table, they should be shut up and fed on cooked food. Three weeks is the proper time to fatten them. The first week they



Plan of Combination Roosts and Nest Boxes.

to "swim" the eggs. It is a good plan. Take a deep basin of water, milk warm, put in the eggs on the twenty-eighth day. All that are fertile will stir. Leave them three minutes in the water, dry with a warm cloth, and return them under the goose. Never "swim" the eggs when the goose is out. She must be in the nest when the eggs are put back. The "swimming" supplies dampness to the shells, and enables the birds to hatch more easily.

Leave the goslings twenty-four hours in the nest. Afterwards they can be removed to a large, roomy coop, and fed with meal. The coop should be large enough to hold the nest. I like to put the nest in the coop four or five days. A few stakes should be put round the coop, and straw wound between them to keep off the harsh winds.

actually fail, but during the second and third weeks they thrive very fast. The house in which they are put up should be dry and well ventilated. It should be kept clean, and dry straw supplied. A small drinking vessel should be kept full of water, and some sharp gravel should be kept in it. Very little grain should be given.

The best food, at present prices, is wheat meal, mixed with a few boiled potatoes. Cornmeal is now almost as expensive as wheat meal. The former makes yellow fat, but the latter produces a beautiful white flesh. Geese fed in this way will be relished by those who could not touch a goose killed from the yard. Geese killed from the yard, or stubbles, are very strong in flavor. A goose, fed as I have advised, will be as nice as a duckling.



### Roots Sprouting in the Cellar.

Are the roots sprouting in the cellar? Then give them attention. As soon as they begin to sprout they begin to lose in nutritive value, for the growth thus made is sustained by nutrition from within the bulbs. Such growth means that the cellar has been kept too warm. The most constant and unremitting attention is necessary in caring for roots in a cellar. The aim should be to secure uniformity in temperature as nearly as may be, and, in order to secure this, the changes in the atmosphere must be carefully noted. In a cellar of any considerable size the investment in a thermometer would be a profitable one.

But, when much sprouting is apparent, considerable injury has been done, and the important matter henceforth is to prevent it from going further. The roots should be picked over and the sprouts broken off, and, of course, all bulbs tainted with decay should be promptly removed. Careful attention to the temperature in the future will hinder further serious injury to the roots. But after they have once sprouted they are never again quite as valuable as they were before such sprouting began.

### Have the Seed Grain Ready.

Have the seed grain ready, for spring is on the way. The sun is waxing warmer. The days are getting longer, and the song of the bird will soon be heard in the trees. With the prevalence of low temperatures and the icy bands on every hand, we are prone to conclude that spring is far away. But it is not far away. Let us take heed or we may be caught napping. Let us see to it that our plans for sowing are all laid, and that our seeds on hand are all cleaned and made ready for sowing. Let us be sure to have our purchases at home, and in the barns or storehouses, ready to sow before the roads fail on the advent of spring. Let everything be ready so that when spring comes we can go down into our fields at the earliest moment that the ground is dry, there to consign to mother earth the seeds

of another harvest. Let nothing be overlooked. The grain should all be cleaned, the grass seeds should be mixed, the seed potatoes should be on hand before they are wanted. Everything should be in readiness for another season's work. Well, it will not be in readiness unless we realize that February is already slipping away. How is it, our readers— are you getting ready for spring?

### Profiting by the Institutes.

The farmers' institutes are nearly over for the season. What have we learned at them? "Very much in every way," says one. "But little of anything," says another. These verdicts are very different, and yet both may be true. But why this difference? It is to be looked for rather in a difference in the men than in the quality of the institute; for these different verdicts are sometimes pronounced by men who attend the same institute. Wherein consists the difference? It does not arise as much, perhaps, from a difference in intellectual vigor and intellectual culture as from a difference in the spirit in which they go to the institutes. When one man goes without prejudice and full of expectancy, he is pretty certain to enjoy a feast of good things. When another man goes blinded with prejudice and only eager to criticize adversely, he comes back unfeasted. He has been busy gathering husks, even though kernels full of meat may have covered the ground all around him.

But the question now uppermost in the mind of the writer is, what use will the farmers make of the knowledge they have gained? Will the methods of advanced practice brought out and discussed at the institute meetings be embodied in the work of the farmers? We believe they will in very many instances.

Some, it may be, will go on in the old way. If they do, it will be to their loss. Think of a man with the scythe trying to compete with a field mower of the most improved pattern in a forty acre field; imagine a person nowadays trying on foot to compete with a bicycle in fleet-

ness of locomotion; fancy a lad trying to dig potatoes with a fork in competition with a digger of the most improved pattern, and drawn by four horses! In all these things a comparison is presented to us of the old and new ways respectively. The old way was excellent in its day, but everything has its time, and to this the old way is no exception.

### Driving the Snow Plow.

Whose duty is it to drive the snow plow if the road is blockaded? It is yours if you have the time, and if a snow plow is accessible. But you say, "Isn't it the pathmaster's duty?" Yes, it is; but if he neglects his duty, then it is yours under the conditions named. "But shouldn't we compel the pathmaster to do his duty?" you say. Yes, he should be compelled to do nothing less. But there are two ways of compelling a man. The wind and sun both tried, each in his own way, to compel a man to take off his cloak one day, and the sun by his gentle shining left the wind nowhere in the race. Go out and drive the snow plow, and if by so doing you don't compel the pathmaster to do his duty you yourself will be pathmaster next year, and then you will not need to compel him.

Driving the snow plow is strangely happy work. Have you never tried it? A man doesn't feel the cold much when he is doing it, and the strange part is that he feels it less when he is not the pathmaster. After he has thus opened the road, every team that goes by seems to give him a new pleasure. As he comes home there is sunshine in his features. The thought of people going to the market unimpeded gives him satisfaction that is without alloy.

### The American Linden.

The American linden or basswood is a beautiful tree when planted under conditions favorable to the development of its symmetry. It produces seed abundantly, and yet it does not seem to stand as highly in favor with the nurserymen as some other forest trees. This may be owing to the fact that it has not hitherto been in great demand as an ornamental tree, or as a shade tree among the farmers.

Why it should be so is not easily accounted for, as the linden is a graceful tree, and it provides shade abundant and dense. The foliage of a linden tree is large and plentiful, and the symmetry of the form is usually very pleasing. The linden seems to be susceptible to the attacks of borers more or less when planted out by itself, and this

may have acted as a hindering influence. But we can scarcely believe that this weakness could have much of an influence in preventing the general planting of the linden for shade, as it does not seem as yet to have been planted to any great extent.

This tree grows well in loam soils, and, preferably, in those of a clay loam texture. It luxuriates in damp situations, as, for instance, along the borders of watercourses. But it will also grow well on the upland where the moisture is sufficiently plentiful, that is to say, in soils capable of sustaining a fair amount of moisture. It does not flourish on light sandy soils, nor is it at home on loam soils underlaid with a gravelly subsoil.

The linden is not only a beautiful tree, but it is also of great economic use. It is made into furniture, and is also used in buildings, more especially those parts of them which are not exposed to the weather, as when so exposed it does not retain its soundness as long as some other kinds of wood. But, because of its general utility as lumber, the linden should not be overlooked in making our choice of trees to be planted out for forest uses.

It is a great favorite with the apiarist, and justly so, as no other forest tree produces honey so freely. The presence of the linden during the blossoming season may be easily detected by the hum of the bees as they joyously work amid the branches. The blossoms not only yield honey profusely, but they furnish it of an excellent quality. It would not be incorrect, perhaps, to say that the honey obtained from this tree is not excelled, except by that obtained from the Canada thistle.

In neighborhoods where the linden is at home, and in which at the same time bees are plentifully kept, this tree should certainly be planted out in large numbers. It grows with a fair measure of quickness. We have already mentioned that it is graceful, and it is not at all difficult to start it growing. The chief trouble in this respect seems to be to get the trees. It has been usual hitherto to go to the forest for them. But that mode of getting them is too laborious. Before they can be planted in very large numbers they must be started in nurseries, either on the farm or elsewhere. Those who contemplate planting lindens numerously, and who can afford to wait for them to grow, should gather the seed and grow them in a home nursery. They could thus be cheaply obtained, and in any numbers that may be desired.

If the roadsides were lined with linden trees they would present a beautiful appearance. The shade would be dense in summer, and in winter,

owing to the deciduous character of the tree, it would not do any harm to the highways, that is to say, it would not keep them muddy after rains in the spring or in the autumn; and in the season of bloom the aroma of the blossoms, and the hum of the bees working among them, would be pleasant indeed. The timber thus produced would be of some value, but it would not be as valuable, relatively, as when grown in the forest, as when grown in the open the linden is prone to branch freely, and also to branch low.

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### Sowing Light Lands with Grass.

It is no easy matter to tell what to do with light lands, more especially when they are so light that they will blow. Such lands are not productive of pasture, and usually they are not productive of other things. But there is one crop that they will usually grow measurably well, and by the aid of this crop they may be brought into a condition to grow grass. Rye is the crop to which we refer. It will not avail to sow clover on such soils until some fertility is put into them, and the success will be quicker and more complete if the fertility can be furnished in the vegetable form, for it will then help to bind the loose sand so that it will hold moisture in a greater degree than it was capable of before being so treated.

If a good coating of farmyard manure in the fresh form can be applied just after harvest, and plowed under, and if rye is then sown, it is more than probable that a catch of clover seeds can be had upon the rye, unless, indeed, the season is very unfavorable to a catch of the same. But when farmyard manure cannot be had, the work would have to be approached in another way. It would be necessary to sow rye, and to pasture it with sheep; or, what would probably be better at first, to plow the rye under in order to get the nutriment into the soil in the form of vegetable matter. Then a crop of buckwheat could be plowed under. After the buckwheat, rye would follow, and, on the rye, grass seeds could be sown early in the spring.

The grass seeds could include the following kinds of seed per acre, with the respective amounts of each: Lucerne, five pounds; common red clover, two pounds; white clover, one pound; blue grass, four pounds; and orchard grass, three pounds. The seed could be sown broadcast early in the season, or it could be sown with some kind of a seeder, except the orchard grass and the blue grass, which would have to be sown by hand. The whole should then be harrowed with a light harrow and thoroughly covered. The harrowing will be good for the rye, and also for the grass

seeds. It is almost hopeless, on such a soil, to get a catch of seeds unless they have been carefully covered with the harrow. When a stand of grass has once been obtained, it will be well to pasture with sheep where this may be practicable. The fertility of the land is better sustained when pastured with sheep than with any other kind of live stock. And the pasture will be greatly benefited by top dressing with farmyard manure in the winter season. Such a covering would act as a dressing, and also as a mulch. The sheep would not relish the pasture quite early in the season, but they would ere it got too far advanced for pasturing. In this way the pasture would become thicker, and would fill the ground more and more with its roots, to the benefit of the soil and of the crops that come after the pasture.

When once a stand of clover has been obtained, it is thought preferable by some persons to follow the clover with some such crop as corn, and then to sow as soon as possible again with clover. If the soil and climate are such that the clover is likely to grow with some certainty, then it will be well to alternate clover with some other crop, for the clover would be continually adding to the fertility of the soil, and, what is even more important, it would be improving it mechanically.

Those who have never had such soil to handle may smile when they read the devices that are recommended to get a covering on such soils. They have no idea of the difficulty attending such a work at the first. And these soils always have to be handled with the greatest care; but it is quite possible, notwithstanding, to bring them into a condition of reasonable productiveness.

When grasses have been made to grow on such soils, various fertilizers will be found beneficial to them. For instance, wood ashes are usually grateful to them. Coal ashes, though they do not add to their productivity, bind them together, and so help them to retain moisture. And superphosphate, applied in the spring, will generally exert a marked influence in promoting the growth of the grasses or other crops, as the case may be.

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### Sowing Clover Seed.

As there is no plant grown upon the farm that is relatively more valuable than clover, everything relating to its cultivation is worthy of careful study. At the present time we propose only to consider the question of sowing the seed.

*Time of sowing.* With reference to all the varieties grown in the north, it may be said that, as a rule, they cannot be sown too early in the spring, and that it will not answer well to sow

them in the fall. In fact, it will not do to sow them in the fall to any extent, as the cold of winter will kill them. When sown in the spring, it may answer best to sow them sometimes on the snow. But on land which has no fissures in it—as sandy land, for instance—it does not answer so well when sown on snow as when sown later and harrowed. There is a danger in sowing it on the old snow. It is the danger that it will be washed away when the snow melts in the spring, as then oftentimes it goes off with a rainstorm, which makes much water on the ground. I sown on a light snow that has just fallen after the snow of winter has gone, it oftentimes does well. The snow, as it melts, carries it down into little fissures in the ground, and the dampness, followed by warmth, causes it to spring up. But here also, on sandy land, it will not do so well, as that kind of soil will probably be destitute of the fissures spoken of. Again, on many soils, notably clays and loams, the surface is frequently found in a honeycombed condition on frosty mornings in the early spring. If the clover is then sown, the seed will sink into the ground through the numerous openings on the surface, and a catch of seed will be secured, as the soil will close over the seed and bury it when the frost leaves the ground. When sown by any of the methods mentioned, the clover seed would, of necessity, have to be put into the ground quite early.

But the plan of waiting until the ground has dried, and of then sowing the seed upon it and covering it with a harrow, is growing in favor. When the seed is thus covered, it is found that it can better withstand the influences of severe drought. The objection to it is that it too often defers the period of sowing until dry weather is at hand. This is more frequently the case with clay soils than with those of a different conformation. On sandy soils it is usually the best way to sow clover seed.

*Mode of sowing.* Clover is very frequently sown by hand. The obstacles in the way are, in some instances, windy weather, which prevents the seed from falling regularly, and in others a condition of soil which causes the latter to so adhere to the feet as to render the work of sowing more or less laborious. Sometimes a feeder is used, which is wheeled or drawn over the land. Those machines ensure an evenness in the cast of the seed, and they can be used on a windy day unless the wind is blowing quite strong. But with this implement, as in hand sowing, the labor of walking over the land will be greatly increased unless a time is chosen when the ground is dry. Again, clover seed is now commonly sown with

the grain drill when sown on nurse crops, and at the same time that the nurse crop is sown. Sometimes it is thought best to sow the seed before the drill tubes, and sometimes after, them. The nature of the land should largely determine which method should be adopted. On light soils the clover seed should fall before the tubes, but on heavy soils that method would probably bury the seed too deeply.

*The depth for sowing.* Much controversy has been carried on over this question. It is almost entirely one of conditions. On clays the seed should not be buried deeply, and on light, spongy, prairie soils it should be put in as deeply as the seeds of the spring grain. If it were buried as deeply as this on clay soils, it would never get up above the ground. It is considered good practice, therefore, when the seed is dropped behind the drill tubes to cover it with one stroke of a light harrow. When the seed is sown on a winter crop, and then harrowed, the depth to which the seed is buried is very suitable to the average conditions of a province like Ontario.

*The nurse crops to sow with.* These will vary with conditions. In Ontario there is no nurse crop better than barley. It grows quickly and is soon removed, and it does not shade the plants as much as oats. Next to barley, probably, is winter rye, or winter wheat. Both are cut early, and both, therefore, give the clover a good chance to develop after the grain has been harvested. On prairie soils a catch of clover seed may much more easily be obtained when sown on rye than when sown on spring grains, and more especially in dry sections of the country. The spring crop through its shade renders the clover plants delicate, and then when the crop is removed in hot weather the plants often die.

*The quantities of seed to sow.* On the average lands from ten to twelve pounds will usually suffice per acre of either the common red or the alsike varieties when sown alone; of alsike four or five pounds per acre would be enough. But where the common red and mammoth sorts are sown to plow under, more seed should be used. Where timothy and other grasses are added the quantities of clover seed should be correspondingly reduced.

### Mulching Meadows and Pastures.

The idea of mulching meadows and pastures will probably appear strange to those who may not have thought upon the subject, but it is often done notwithstanding, and with very great benefit. The material needed generally comes from two sources. It either grows upon the ground where

it is used, or it is applied in the form of barnyard manure; other materials may be used, but those which come from all other sources to be applied in the way pointed out are comparatively insignificant: hence they need not be considered here.

The aftermath of meadows may be used as a mulch with much benefit. It may be made to greatly enhance the crop product if only properly utilized. As soon as the aftermath begins to grow it begins to perform the office of a mulch. When rains fall in the autumn they do not evaporate as readily on a field with a coating of aftermath as on one eaten bare, and the result is that a superior growth of grass is obtained from a given quantity of rainfall.

When winter comes, the aftermath arrests the snow that falls, and holds much of it that would otherwise blow away. In prairie countries the advantage thus gained may be very considerable, but in countries where at certain seasons there may be an excess of rainfall the advantage will be unimportant. The mulch will also prevent the frost from striking so deeply, which will, of course, be to the advantage of the plants. In some instances it may mean to them the difference between life and death. And, in the early spring, it will prove helpful to their early growth. The difference in the early growth of grass which has been thus protected as compared with grass eaten bare the previous season is always marked. And the advantage thus gained is likely to be further enhanced as the season advances. When rain falls it does not readily evaporate, and is, in consequence, retained for the advantage of the plants. And the drier the climate and season, the greater will be the advantage of the mulch to the meadows.

We may imagine some instances where a mulch of this kind would do harm. If the autumn should turn out to be rainy, and the growth of the grasses in consequence be very vigorous, and if a heavy snowfall should lie for weeks upon the ground, it would be possible for the aftermath to smother the plants so that they would die. But this seldom happens in cold countries where the frost goes down deeply into the ground. If such a result were feared, it would of course be very much better to pasture off the grass, or at least a part of it, in the autumn.

When pastures are mulched, it is more common to use on them farmyard manure, and, when thus applied, the fresher and more bulky the manure the better the service that it will render as a mulch. The fresher it is when applied the more is the amount of the plant food which it contains, and the more of it, relatively, will in consequence reach the land. The more bulky it

is the better will it serve the purposes of a mulch, for it will then afford more protection. It is at least an open question whether in some instances the mulch has not a greater value than the nutriment in the manure.

The manure may be applied to the pastures in the autumn if it is on hand, and if no better use can be made of it. It may also be applied with much advantage in the winter season. It can then be drawn right from the stables and spread on the pastures. Where the snow is very deep and lying, it may be, in deep ridges in various parts of the field, it may be impossible to draw the manure in the winter, and it may further be impossible to draw it in sections where there is not frost enough in the ground to bear up the horses when drawing it. But, generally speaking, it may be drawn and spread in winter by watching for favorable opportunities, and improving them when they come.

This mode of applying manure should be very suitable to the conditions of the Northwest. There we occasionally hear the complaint that fresh manures with much straw in them will not decay quickly. Applied as a mulch, they should be of great service to the pastures.

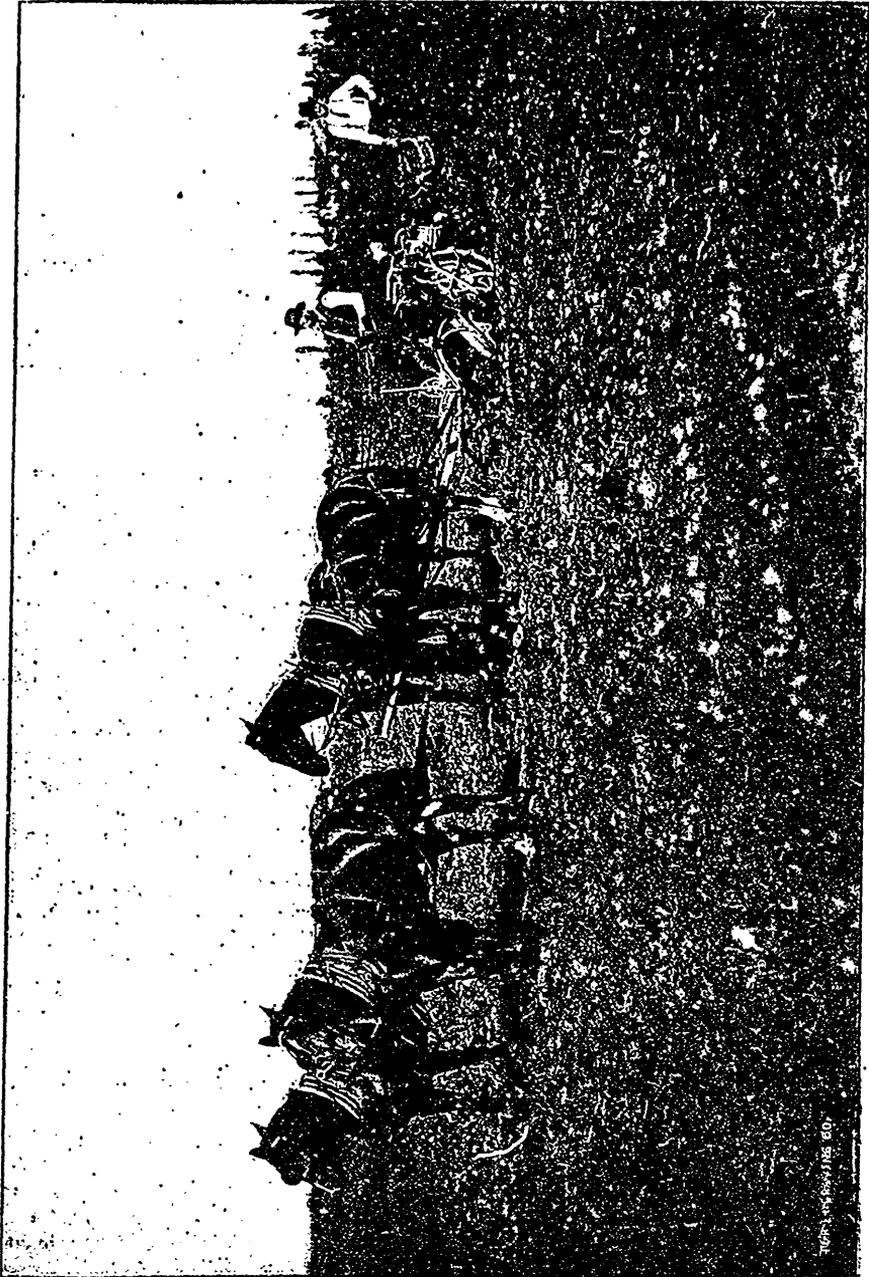
The benefits from applying farmyard manure thus are certainly considerable. Any one who will top-dress pastures can scarcely fail to be pleased with the result. The great obstacle to be overcome is the difficulty of getting manure to apply in this way, as it is generally wanted for other uses upon the farm that are considered more important.

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### The Potato Crop.

Never before, probably, in the history of the country, was a crop of potatoes grown superior to that of 1895. Weather and a combination of favorable conditions conduced to the production of the gigantic crop. Never within the memory of man did potatoes sell for so low a price, and never before were so many tubers left in the ground unharvested. Rumor has it that one grower in North Dakota had a whole section, that is, 640 acres, in potatoes, that he had a splendid crop, and that he only dug a small portion of the same, for the reason that the price would not pay for handling the crop. In many parts of the northwestern states, and even in Manitoba, splendid crops of potatoes were left ungathered. The farmers had no stock to feed them to; hence there was no object in digging them.

Because of these things, a light crop of potatoes will be planted next year. Beware, farmers,



Digging Potatoes on a Western Farm.

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potatoes will be wanted in the autumn of 1896, or my judgment is at fault. While it may not be wise to plant very many, a moderate amount at least should be planted. The man who makes money in the end is usually the man who goes right on in any line of production, following the even tenor of his way.

The machinery that may now be used in planting and digging potatoes is very helpful in growing a large crop. Improvements are being made in this from time to time. The accompanying sketch represents a potato digger at work on a western farm. The sketch was taken from life.



### Contributions for the Agricultural Press.

Many of the articles written for the agricultural press come from the pens of hard-working, practical farmers, who, it may be, have not had the advantages of an early education in the schools. These contributions are frequently filled with defects, viewed from the standpoint of literary finish, or even from that of correct grammatical construction, and yet we could not do without such contributions. They are usually filled with meat, even though the shell in which it is enclosed may be lacking in attractiveness. There are several contributors of this class whose writings have obtained great prominence, and yet their style is more unadorned and homely than the old monotonous gray with which the farmers of former years living in rural sections were wont to clothe themselves.

Contributions from similar sources are likely to continue. In fact, we cannot do without them. It is the marrow of everyday farm practice, after all, that the practical farmer wants, and from what source can he obtain it so easily and so well adapted to his needs as from those who are actively engaged in the everyday work of the farm? We must expect as a result that articles will continue to appear possessed of much value, but yet quite deficient in literary style. We trust, therefore, that a few pointers for the consideration of those writers will not be out of order. It is a matter of some importance that our ideas, however sound or valuable, should be clearly stated, and also tersely stated and in an orderly way. And there are phases of writing of every class which can be improved by many of those who produce them, if they simply exercise a little forethought and due care.

First, such contributions should be possessed of naturalness. Every writer has his own style, and that style is the best for him. To try to cul-

tivate a borrowed style would destroy the charm which even a very homely style may possess. In fact, with some writers the homeliness and imperfections of the style add in some respects to the power of the writings. A big, true heart seems all the bigger though it beat beneath a bosom clad in homespun. Great thoughts seem all the greater when uttered by a man whose grammar is faulty and whose diction may be defective. They seem greater under the conditions named because they are not looked for. And so it is with the writings of some men. They are powerful, first, for the good sense which they contain, and they are more powerful, second, because the plainness of the language and even its defects set out the thoughts, as it were, in even bolder relief than would characterize them if they appeared amid different surroundings. We do not want to convey the idea, however, that imperfections of style are intrinsically advantageous, for the uneducated man would, in the end, become a greater power if he could express good thoughts in elegant English. In any case the style should be perfectly natural. Let a man write as he would converse, that is to say, let him be himself when he writes.

Second, they should be clear; when a man is talking he seldom fails to make himself well understood. When he writes he is frequently obscure. In the one case he tries to be himself; in the other case he too often tries to be some one else. As soon as a writer begins to cherish a contempt for short, plain sentences and simple but expressive words, like Jonah, he goes down into the bed of difficulty, and the din of tempestuous waters follows him every time he puts his hand on paper. He is forever saying at a thing without saying it. How much better it would be for him to sit down and write what he has to say without either a wandering introduction or purposeless prologue to mar the effect of the good things which he says. Eloquence can only come from the lips of the eloquent. Beautiful diction can only emanate from the gifted and educated. But good sound sense can come from any one who possesses it.

Third, they should express thoughts in regular sequence. When a man is shearing a sheep, if he understands his business he does the work in a regular, systematic way. He does not first shear a bit at the neck, then at the thigh, and next on the brisket. He begins at the neck and goes right along down one side from right to left, and then he turns the sheep over and takes the wool clean off the other side. But some writers say what they have to say after the style of the man who would shear the sheep in the way first pointed

out. Order in writing is of immense value, as in other things.

Attention to the three points named would greatly improve the average contribution. And attention to these points is not of necessity difficult. It is not out of the reach of any one. Naturalness, clearness, and order are important essentials in all contributions to the press.

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### The Value of Nitrate of Soda.

John Lemon, Halifax, N.S.: Will it pay to buy nitrate of soda to apply for the growth of ordinary farm crops?

ANS.—Generally speaking, it will not pay as well as some other modes by which nitrogen may be supplied. Where clover can be grown, it will furnish nitrogen much more cheaply than it can be bought in the form of nitrate of soda. And the same is true of peas. But there may be some instances in which, where a special crop is wanted to catch a prospective high market, it may pay well to use nitrate of soda. Gardeners, especially, may sometimes use it with a decided profit.

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### Best Varieties of Peas.

W. Dinnie, Palmerston: What are the best yielding varieties of peas?

ANS.—Varieties differ on different soils, but no variety has been found better adapted to all Ontario than the Prussian Blue. This variety is hardy, is a good grower, a great yielder, and produces straw of a fair quality. The Crown pea is well adapted to strong land, but does not make sufficient growth on stiff soils. The Mummy does well on some soils. It is a large and beautifully formed pea. The blossoms cluster around the top of the vine, but the straw is coarse, and the peas are thought to suffer from the maggot more than some other kinds.

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### Destroying Wild Mustard.

Subscriber, Cobourg: Can wild mustard be destroyed? It is a pest in this country. Is there any way of destroying it that will not involve labor beyond the reach of the average farmer?

ANS.—Wild mustard can be destroyed. Sow winter rye, and let sheep eat it off. Then sow some other feed crop for the sheep, as peas and oats. Come on again with the rye, and follow

with peas and oats. The mustard will in a few years be so thinned that the plants can afterwards be pulled by hand. The food thus grown should yield a good profit, and the fertility of the land will be maintained. Farmers who try this plan will assuredly be pleased with it. If they manage the sheep rightly, they will be thankful for the presence of the mustard.

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### Sowing Small Seed.

H. Glebe, Orillia: Does it make any difference whether small or large seed is sown, providing it is free from fowl seeds?

ANS.—Yes. The inexorable law runs through all animated life that like produces like. This law is not absolutely uniform and unvarying in its action at all times, but it is sufficiently so to base expectations upon it that will seldom be markedly disappointing. It would be possible in a single instance to sow small grain and reap large, owing to exceedingly favorable conditions as to soil, fertility, and weather. But if we were to sow small seeds from year to year, we should come to a point after a while when the average size of the grain produced would be about equal to the average size of the grain sown. In more ways than one is it true that as we sow so shall we reap.

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### Injury from Wireworms.

J. Anderson, Woodstock: Can anything be done to prevent the ravages of wireworms in a field that is to be planted to corn? It is a sod field, and was plowed last fall.

ANS.—Yes, something can be done, although it may not be possible wholly to prevent the ravages of these pests if many of them are now in the land. Commence working the field as soon as the ground is dry in the spring. Run a disc harrow over it. Continue the process every ten or twelve days, and large numbers of the grubs will thus be brought to the surface, and many of them will be picked up by birds. Treating the land thus will go far towards securing an excellent stand of corn. As soon as the corn is planted let the harrowing process commence, and more of the grubs will thus be exposed. The stirring of the land thus frequently should materially reduce their numbers, and the labor is not lost, for it is all beneficial to the land and to the crop.



A COW with a dry nose is a sick cow.

DO not send your cows to feed after horses. Send in the cow to crop the long grass, then the horse and the sheep.

PURE milk is insured to the inhabitants of Havana, in the island of Cuba, by the milkman bringing his cows with him and drawing off at each house the amount required!

ONE method of raising cream is that of scalding the milk. By this process the milk is brought straight from the cows, and strained into tin vessels standing either immediately on the hot plate or in hot water.

Cows that calve in the autumn and are well cared for through the winter will make better cows than those calving in spring. Just as they begin to fall off in milk, the spring grass comes and sets them flowing again.

A POSSIBLE way to test butter is to get a clean piece of white paper, smear it with the suspected article, then roll it up and set it on fire. If the butter is good, the smell of burning will be decidedly pleasant; but if there is artificial animal fat in the composition, there is no mistaking the tallowy odor.

IT sounds passing strange in these days of cheap oats, cheap corn, and cheap barley, and butter at a good price, to hear farmers talking about selling their grain. There are three pounds of butter in a bushel of oats, or corn or barley, when fed to a good butter-producing cow. Can a man sell his grain at any better price in these times than to turn it into butter? Some men seem fearfully afraid of trusting the cow, while they will go it blind on a horse or a hog.—*Hoard's Dairyman.*

CHEESE has been down in price this past season. Several reasons have been given for the continued low price. Mr. J. C. Lovell, a leading provision merchant, in his evidence before a Royal Commission in England, said: "I ascribe

the decline in the price of cheese to the enormous imports of mutton from Australia and the River Plate. With good mutton at from two cents to four cents per pound, workmen would not largely purchase cheese at from six cents to eight cents per pound. So long as the present supplies of cheap mutton were maintained, the price of cheese could not be expected to advance."

LET every dairy farmer keep in mind that wise old Swiss proverb: "A cow is like a cupboard. You cannot get out of it anything you did not put into it." Then let him remember to keep the cupboard well supplied with plenty of good, palatable, milk-producing food. Next let him bear in mind another truth just as great, and that is to try to get the right kind of a cupboard, one that will take, hold, and return your food, thoroughly worked up in milk, butter, and cheese, and nothing else. Some cupboards waste the food after they get it. Others turn it out to you changed into beef, when you want butter. The cupboard must be constructed for straight dairy work if you get the best returns on what you put in.—*Hoard's Dairyman.*

JUDGE a good cow, or heifer, or bull, by its appearance. Get the outlines and characteristics of the dairy type fixed firmly in your mind. Use a bull of dairy type, test your heifers, and dispose of the poor ones (but not to your neighbors) for good cows. Remember that cows must be handled with care. You must be gentle. The more cows love their attendants, the more butter will they produce.

Where are such cows to be had? Every breed has its good cows and its poor cows, the one profitable, the other unprofitable. There is no mistaking a Holstein for a Jersey, but there is a correspondence in form in all excellent cows of whatever breed. The same law of agreement as to the outline of the dairy cow, of all breeds, obtains in the general agreement of form in all cattle of the beef breeds, and the beef men never make the mistake of fooling with general purpose cattle.

## Dairy Markets.

The cheese market, as was expected after the holiday season was over, has advanced somewhat. One or two lots of October and November goods have sold recently at 9 cents, and it is reported that one lot brought as high as  $9\frac{1}{4}$ . This advance is likely to continue, and may possibly go higher. Butter is in fair demand for export, and, as has not been the case for two or three winters, will bring as much for export as for the local market. Besides, advices from Britain indicate that prices for butter will be better during the first three months of the year. About 20 cents is the ruling price.

## The Education of the Patron.

In our last issue we discussed the education and training of cheese and buttermakers. Up to a comparatively recent date the maker was looked upon as the only responsible factor in connection with our dairy industry. But practical and scientific investigation of recent years has shown us that milk is a substance that is very susceptible to all sorts of decay produced by germ life getting into it from without. This fact being established makes it absolutely necessary that milk for cheese or buttermaking should be preserved in as perfect a condition as possible. In order to do this, it must be given special care and attention from the time it is taken from the cow till it reaches the factory.

The patron is the individual responsible for the milk during this stage. Not only has he control of the cow or machine, so to speak, that produces the milk, but he has control of the milk for from twelve to fifteen hours at a time, when it is most susceptible to injury from without. The important duties he has to discharge in performing his part in the co-operation will, therefore, readily be seen.

The patron also should have a more or less intimate knowledge of the qualities of milk and those conditions which affect it. It is important that he should know that milk should never be left any length of time in a badly ventilated stable in which the atmosphere is impure. It is important that he should know that every milking utensil before being used should be thoroughly cleansed and sterilized by boiling water before new milk is put into it. It is important for him to know that airing and stirring milk is necessary to keep it in a pure condition, and that pure oxygen passing through milk will, in a large measure, help to preserve it. In fact, a fairly comprehensive

knowledge of the relation of all kinds of bacteria to milk and its products will greatly help the patron to perform his duties aright.

No farmer or patron supplies milk to a cheese or butter factory for the fun there is in it, or from any novelty there may be about the work of milking and caring for milk, though it would seem from the results obtained as if a great many dairymen had no other object in view than a little recreation. He supplies milk because he thinks there is money in the business, or that there is a fair remuneration for the labor and money invested. To make the most money out of dairying, a large amount of practical definite information is required.

The dairyman needs to know something about the points of a good cow, though in these days of skilful and accurate milk-testing outside appearance does not count for much, even in a cow, if the milk-pail is not well filled. Then a practical knowledge of how to feed a cow is necessary, and how a well-balanced ration can be produced for her. The nature and description of the cow should be studied, so that she may receive the care and treatment necessary to make her do her very best. In this age of low prices and keen competition, skill, knowledge, and intelligence are necessary to success in dairying.

How is the dairyman to secure this ideal training? One of the most important and, perhaps, ready means of obtaining it is through the agricultural press. Every dairyman should take at least one good dairy paper, or an agricultural paper that gives special attention to it. If he has several coming in he will be none the worse, as the more he reads the more skilful will he be, the wider his knowledge and the broader his intelligence. If he is privileged to take a course at some dairy school or agricultural college, he will be much better equipped for his work.

The dairy conventions, farmers' institutes, etc., supply a long-felt want along the line of agricultural training and education. When possible, all such meetings should be attended. The addresses, the discussion, and the rubbing against one another of dairymen and farmers, are invaluable to everyone engaged in the business. In some dairy districts the plan of having some competent man address the annual meetings of cheese factories or local dairy meetings, arranged for the purpose, have effected good results along the line of dairy education. All work of this kind should be encouraged.

A uniform quality of cheese or butter is of prime importance in maintaining our supremacy and in obtaining a market. This can only be brought about by co-operation, and by the cheesc-

maker and the man who supplies the milk having a definite practical knowledge of the business and a special training in the work they have to perform. Every effort and means that will bring this about should receive the hearty support of everyone interested in the welfare of our great dairy industry.

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### Rules for Breeding.

Like begets like, only departing under strange and extraordinary influences.

Nature's laws are unerring, and, when scientifically directed, success is always attainable.

Always couple an animal that has any inferiority with the opposite sex which possess his or her predominating excellencies.

The male should invariably be line bred. His pedigree, form, constitution, and disposition are his chief requirements, and should be as near perfection as possible.

The female should be of milk form and perfectly feminine. Similarity of type in male and female is desirable.

Inbreeding is desirable where positive qualities are well established, and are transmitted with a certainty and strength that cannot be reached by any kind of miscellaneous breeding.

The male should not be confined to dark and foul stables, but should have light and exercise, and be fed with strict reference to strength and vigor.

The female requires light, air, and exercise, with a proper amount of food containing the proportionate elements of growth for the fetus. Cows should have rest from milking the last four to six weeks of pregnancy; both cow and offspring will be more than correspondingly benefited.

The female should not be allowed to associate or have in sight inferior animals while in sexual heat or in early stage of pregnancy, but should familiarize with the best of her kind.

Kind treatment and regular attendance are strictly essential to success.—*Pacific Coast Dairyman*.

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### Flavor of Butter.

Buttermakers have for a long time recognized that the flavor of butter is obtained during the process of cream ripening. It has, however, been the work of the bacteriologist, during the last few years, to show that this process of cream-ripening, or "souring," as it is called in some localities, is simply a cultivation of bacteria, and that the flavor which comes from the ripening is the re-

sult of the decomposing products arising from bacteria growth. This fact has now become universally accepted as demonstrated. The ordinary method of cream-ripening is to put the cream in a warm place, and to allow whatever bacteria there chance to be therein to grow and produce the ripening. Now, the bacteria which are present in cream as ordinarily collected are very great in variety, and from miscellaneous sources. A majority of them come from various matters of filth connected with the barn, the cow stall, and the dairy. No two farmers have identically the same conditions in their barns, and the particular species of bacteria which they chance to have in their milk and cream will vary with these conditions. It thus appears that the barn, the cow stall, the manure heap, etc., furnish the milk with bacteria, and the buttermaker with the special kinds of ferment which he must use in ripening of the cream.

Bacteriologists have shown that it makes a great difference in the flavor of the butter whether one or another species of bacteria chance to be present. A long series of experiments has been conducted in my laboratory along this line for the last year, during which period I have tested a very large number of our common bacteria as to their influence upon butter. It has been shown that a large number of species which are liable to be in cream are inert in their influence on the butter. Other species are directly injurious, producing bad flavors, while others still are advantageous, giving rise to a desirable flavor. The buttermaker, however, has no means of controlling the species of bacteria which are delivered to him by the milk producer, but he must allow his cream to ripen under the influence of whatever bacteria chance to be present in the cream which he buys. Recognizing this fact, bacteriologists have been for some time trying to get hold of the proper species for producing the desired flavor, and then to find a means of using it in such a way as to make it practical for the buttermaker to inoculate into his cream, and thus produce a uniformly good product; and I have found that the bacteria discovered by Professor Starch gives the best result. I now cultivate this bacteria all the year round, and sell it to all butter-producing countries made up in a powder, which will keep quite well.

The method of its use is quite simple, viz.: Take 2 gallons of skimmed milk and warm it to 180° Fahrenheit and keep it at this temperature for two hours; then cool the milk quickly to 90° Fahrenheit, and add all the powder in the bottle to the milk, and stir it well. Then place the milk in a water bath of 90° Fahrenheit, and

leave it for 18 hours; the milk must only be covered with thin butter-cloth. After this the milk will be thick, and has to be cooled down in ice-water, and left alone without stirring it; only the top of it has to be skimmed off before use. Then the stuff is ready for ripening the cream, which has to be done as usual in the dairy; only I must point out the best result is obtained if the cream is sterilized beforehand, which is almost always done here in Denmark in the best dairies. The 2 gallons will be sufficient for ripening 40 gallons of cream, and you can calculate that 5 per cent. of the fermented milk is required for ripening the cream. Of this fermented milk you must take 1 quart for making the ferment for the following day, which is done in the following manner, viz.: Take 2 gallons of fresh skimmed milk, and heat up to 180° Fahrenheit, and keep at this temperature for two hours; then cool down to 90° Fahrenheit, and add the quart of sour milk and leave it for six or seven hours, then the 2 gallons and 1 quart of milk are ready for ripening the cream. You can go on like this for a month before a fresh lactic ferment is required.—*Alpha, in Dairy World.*

### Cure for a Stamping Cow.

A writer in *The Country Gentleman* gives the following cure for a stamping cow:

The milker should sit well under the cow, holding the pail firmly between his legs, taking a firm hold of the left hind teat with the left hand, keeping his left leg pressed firmly against the cow's right leg; commence milking, and when she raises her leg from the floor deliver a sharp slap with your right palm on the forepart of the left side of the udder, just above the teat; repeat this every time she stamps, making sure to catch her in the act, so that she will connect the act and the punishment in her mind; she will then soon learn that stamping means punishment. Never deliver this slap while her hoof is on the floor, but always when she raises her leg. This treatment has reference to milking in the stable, or when the cow is so secured that she cannot run far.

### Dairymen's Convention at Woodstock.

The nineteenth annual convention of the Dairymen's Association of Western Ontario, held at Woodstock, January 7th to 9th, was indeed a representative gathering of the dairymen and farmers of Western Ontario. At the Wednesday

meeting there were estimated to have been from 900 to 1,000 present at the afternoon and evening sessions. Intense interest was manifested in the convention, and addresses of a thoroughly practical nature characterized the meeting throughout. The Western Association may justly claim the honor of having held the greatest gathering of dairymen and farmers that has ever taken place in Canada.

Among the prominent speakers who addressed the convention were the Hon. John Dryden; Theodore Louis, Wisconsin; John Gould, Ohio; Prof. Robertson, Ottawa; Prof. Dean, Guelph; J. A. Ruddick, Kingston; A. T. Bell, Tavistock.

In his annual address President Pattullo touched upon some of the more important fea-



Prof. J. W. Robertson  
Dominion Dairy Commissioner.

tures connected with the trade during the past season. He said: "We are now suffering from over-production. The world is making more cheese than our solitary market, Great Britain, will consume at such prices as have prevailed in the past. Still, we have been using the resources of the country to force production in many directions. And in this connection it is worth reminding you that the situation might have been much worse. It would have been, for instance, if United States exports of cheese had continued normal instead of declining. Then, again, the production of cheese in the Antipodes has suffered a check through more than usually severe droughts. These two dangers have thus been minimized during the past year. But still

we have suffered and found profits vanishing for the first time in almost a generation. We have got to low prices which may continue. The lesson is obvious. Let expansion cease, and let all our efforts be directed solely to the improvement of quality. We can neither stop production abroad nor raise prices in Great Britain. But we can defeat competition by superior quality—and thus minimize, if not remove, the effects of increased or over-production.

“The absence of demand for fine Canadian cheese for home consumption is as clear and as deplorable as ever. This is all the more regrettable when we consider the remarkably low prices of the past year. Still, home consumption does not seem to have been stimulated to



**Prof. H. H. Dean**

Professor of Dairy, Ontario Agricultural College, Guelph.

any appreciable extent. There is little evidence of any active or organized effort on the part of the dairy interest to popularize and increase the demand for Canadian cheese at home. In this respect, I repeat, we ought to take a lesson from our neighbors, who now rely solely on their own markets.

“The conditions of the markets this year, and the outlook in our own and other countries, through the increased production of cheese, present and prospective, bring the cheesemakers face to face with the fact that they can now achieve continued prosperity only through a successful struggle for supremacy against new and increased competition. There will no longer be any royal or easy way to success in the dairy business.

What you have done, what you are doing, can be done by others. Unless you realize this and act upon it, you will not long retain the first place which you have held in the past and hold still. You must improve your quality or be beaten in the race. The possibility of being forced back to second place is one which should never be lost sight of. It constitutes a danger far more real than some of your indifferent makers, non-progressive directors, and careless patrons seem to imagine.

“But there is one way in which you should not seek to decrease the cost of production; that is, by grinding down the makers to wages that will leave nothing as the reward of honest effort and successful skill. The tendency of which I speak seems greatest in the older sections, which are in danger of losing their best men through inducements offered them by the newer districts, and by other provinces or countries anxious not only to begin right, but to win in the race for supremacy; and as these are your rivals, they will, in time, surpass you in quality in the British market. In view of this clear and serious danger, the patrons should consider whether it is true economy on their part to demand of directors that they engage the cheapest maker rather than the best ones at a liberal price for making. If the present tendency is to go on, it would be much better to close up our dairy schools.”

The president referred to the cheese-branding question, and urged the widest discussion of its merits, so that a satisfactory arrangement could be arrived at. Mr. Pattullo also touched upon the question of more instruction in the factories, and that of returning the sour whey in the milk cans.

The secretary's report contained a number of valuable statistics relating to the year's work. They show that there are eighty-three patrons and 526 cows to each factory. Estimating the number of factories in Western Ontario to be 350, this gives a total of 29,050 patrons supplying the milk of 184,100 cows to the cheese factories in this district. The average amount of money received by patrons per cow during the season is given as \$23.34, making a total of \$4,296,894 as the value of the cheese industry to the dairymen of Western Ontario. The average price paid per 100 pounds of milk in 1895 was 73 cents; the average number of pounds of milk to make one pound of cheese was 10.76. The average amount of cheese made in each factory was 61¼ tons, making a total of 42,875,050 pounds. The average price received for whey was \$4 13 per ton of cheese, and the average cost of factory buildings \$2,000. About 48 per cent. of the factories are-

owned by private individuals, and 52 per cent. owned and operated by the patrons themselves.

The number of factories that applied for and received visits from the inspector was not as large as in 1894. There was, however, a larger percentage of applications for milk inspection only. The membership for 1895 was 468. The inspector's report showed that during the season he had visited 101 factories, making in all 127 visits. He had tested 2,436 samples of milk with the Quevenue lactometer and 806 samples with the Babcock milk tester, making a total of 3,242 tests. Of these one sample tested 4.5 of 1 per cent. butter-fat; two samples between 1 and 2 per cent.; 65 samples between 2 and 3 per cent.; 687 samples between 3 and 4 per cent., and only three samples over 5 per cent. butter-fat. The richest

The buyers are not blameless either, as they frequently paid considerably more money the day after the market than what they did on the market.

A simple remedy would be for every salesman to sell on the market only, and nowhere else. Another help would be to have syndicates of factories formed and have one salesman to sell for each syndicate. This would give more uniformity in selling, and would do away with a large amount of the jealousy between factories in regard to the prices obtained for each individual lot of cheese.

A profitable discussion took place on the subject. The salesmen considered the buyers as much to blame as themselves for the present lax methods of operating the cheese markets. Mr. Harold Eagle, a large seller on the Brantford market, stated that he made a rule always to sell his cheese on the market to the highest bidder, and he believed that he had averaged from one-quarter to one-half cent per pound higher than before he made that rule.

One salesman stated that he was frequently offered 1-16 of a cent more immediately after the market than had been bid on the market. He thought that if the buyers would combine to buy on the market only the difficulty could be remedied. It was felt that it would not be fair for the regular buyers to bind themselves in this way, as outside buyers would come in between markets and take all the cheese.

Mr. A. F. MacLaren, Stratford, was of the opinion that if salesmen united for the selling of cheese on the board only they would realize better prices. Mr. J. F. Williams, Ingersoll, pointed out that if all factories were compelled to sell on the "call" it would have a tendency to improve the quality, as the cheese would be sold entirely upon its merits, and poor factories would have to improve or take a much lower price than they now get. The president, Mr. Pattullo, closed the debate by pointing out that it was against the interest of the buyer to enter into an agreement to buy on the market only, while it was to the interest of the salesmen to agree to sell on the market only.

A resolution was adopted, pointing out that it would be in the interests of the producers for the salesmen on each market to agree to sell their cheese on the call board, and that the board of directors direct their efforts towards bringing about this end.

Hon. John Dryden, in his address, stated that the government was justly proud of the way the money voted by the legislature to this association had been employed. Several of the speakers



Mr. A. F. MacLaren, Stratford

President, Western Ontario Dairymen's Association, 1896. sample he had received for inspection tested 5.4 per cent., and the poorest sample 0.8 per cent.

A short report was presented by the secretary referring to the work done in connection with the dairy departments of the Industrial and Western Fairs and the dairy test at Guelph. The highest score made by any exhibit of cheese was 96, and the lowest 70. The highest score for creamery butter was 97½, and the lowest 84½, and the highest for dairy butter was 96, and the lowest 88.

An address was given by J. S. Pearce, of London, in which he showed that the cheese markets as conducted last year were a kind of farce, because salesmen used the market as a feeler and did not sell there. Unless more rigid rules were adopted the markets would have to be abandoned.

touched upon the importance of giving more attention to quality. One of the schemes advocated to this end is to organize the factories in western Ontario into syndicates of twenty-five or thirty each, and have a competent instructor over each syndicate who would be subject to an instructor-general under the control of the association. Such a scheme, if it receives the hearty co-operation of the factories, will be undertaken by the association.

#### THE DAIRY COW.

John Gould, Ohio, dealt with this subject in a practical manner. By selection and environment the dairy cow had been so fashioned that she and her progeny had family resemblances and peculiar qualities. She is essentially a cow for the dairy, and should not be used for any other purpose.



Mr. J. W. Wheaton, London  
Secretary, Western Ontario Dairymen's Association.

All the energies of the cow should be directed towards the production of milk, and to do this an artificial state of existence ought to supervene. The greatest care must be taken in regard to the surroundings of the cow. She must have warm, comfortable stables, well lighted and clean, and have suitable food. The chief food recommended was corn ensilage.

#### SWINE HUSBANDRY.

Theodore Louis, of Wisconsin, gave a thoroughly practical address on the breeding, feeding, and caring for swine. The hog was usually treated as the scavenger of the farm. This was wrong, as the hog should have as much care and attention in feeding as the cow, if the best results were to be obtained.

#### CARE OF MILK FOR CHEESEMAKING.

James A. Gray, Attwood, took up this subject. Good cheese could not be made from bad milk. The greatest care should be taken with the milk from the time it is taken from the cow till it reaches the factory. The milk vessels should be thoroughly clean. All milk should be aerated at once after milking, and, if possible, by air being pumped into it. The morning's milk should be aired as well as the night's. Only pure water should be given cows. No sour whey should be returned in the milk cans.

#### FLOATING CURDS.

H. White, Belfast, discussed this subject. The best way to handle tainted milk was to send it home or run it into the whey tank. It is almost impossible to make a really fine cheese out of tainted milk. When the milk is tainted it should be heated to a higher temperature and ripened more before setting, the object being to cause the lactic germ to develop quicker than the germ causing the taint.

#### PRACTICAL CHEESEMAKING.

In a comprehensive paper, A. T. Bell, Tavistock, treated this subject. When the milk was being received at the factory it was well to begin heating it when the vat was partially full, unless any overripe milk had been put into it. Milk should be ripened to such a stage that in from two and a half to three hours from the time the rennet is added to the milk, there should be from one-eighth to one-quarter inch of acid shown by the hot-iron test. Care should be taken in handling curd when cut. Part of the whey should be drawn as soon as the heating is done. In an exhaustive way the whole process of making was taken. R. Johnston, Bright, then read a concise and valuable paper on the handling of overripe milk.

#### EXPORTING FOOD PRODUCTS FROM ONTARIO.

Prof. Robertson, Ottawa, gave a masterly address on this topic. The value of imports into Great Britain in 1894 of living animals for food, dressed meats, butter, cheese, poultry, eggs, and such fruits as Canada could supply, was over \$280,000,000. It should be her policy to induce the consumers there to depend upon her for a large share of what they need of these things. Improvements should be made in her methods of preserving perishable food products in transit. As far as possible, cold storage facilities should be provided. Prof. Robertson gave considerable attention to freight charges, and to the development of the dressed meat trade.

## THE BUTTER-FAT SYSTEM.

This subject was treated in an exhaustive way by Prof. Dean, Guelph. He showed from a number of experiments that the richer milk would not make as much cheese in proportion as the poorer milk. Tastes differed as to the quality of the cheese; hence it was difficult to determine definitely the exact value to put upon cheese made from milk containing a larger percentage of fat. He thought that both the casein and fat should be taken into account in paying for milk for cheesemaking, and this could be done by adding two per cent. to the fat readings.

## WINTER BUTTERMILKING.

This was the subject of a practical talk by J. A. Ruddick, superintendent of the Dairy School, Kingston, in which winter dairying was treated in regard to its supplementing the cheese factory during the winter.



Mr. J. W. Ruddick

Of the Dominion Dairy Commissioner's Staff.

Resolutions were passed advocating increased instruction at the factories, condemning the returning of sour whey in the milk cans, and recommending the system of paying for milk according to quality.

## Eastern Dairymen Meet.

The annual convention of the Eastern Ontario Dairymen's Association was held at Campbellford at the same time as the Western Association. A great many of the speakers who addressed the Western meeting were there also, and therefore a great deal of the same matter was given as at Woodstock.

The convention was a success throughout, and was an improvement on other years, showing that eastern dairymen are as alive to their own interests as those in the west. The prominent speakers present were Hon. John Dryden; John Gould, Ohio; Prof. Robertson and Prof. Fletcher, Ottawa; Prof. Dean, Guelph; J. A. Ruddick, Kingston Dairy School; D. Derbyshire, presi-

dent of the Ontario Creameries' Association, and a number of others. Lack of space forbids further reference in this issue.

## Whey.

Subscriber: If a milk wagon takes a load of milk to the cheese factory, the milk weighing a ton without the cans, how much whey should be returned to the patrons sending that quantity of milk?

ANS.—If all the whey which remains after the curd has been removed could be preserved, there should be at least 85 pounds of whey from every 100 pounds of milk; but as there must necessarily a certain amount go to waste in handling, from 75 to 80 pounds from every 100 pounds of milk, or from 1,500 to 1,600 pounds from every ton of milk, would be a correct estimate.

## Creamery or Cheese Factory.

Subscriber, Wallbridge: At the annual meeting of the cheese company in this place, the question of establishing a creamery was discussed. Some of the patrons have been urging this matter, and now all except one director are in favor of a creamery; but he is so determined that he will not have one built that it seems as if he would carry the day. He claims that there is more money in cheese. He will not take into consideration the advantages of a creamery at certain times of the year, and the benefit we shall get from the skim-milk for rearing calves and pigs. He says that he can raise a better calf and a better pig on sweet whey than I can on sweet skim-milk. Will you give the relative proportions of sweet whey to sweet skim-milk, also of sour whey to sour skim-milk? I might say that it is impossible to get sweet whey at our factory unless someone is there when it is run off.

ANS.—If specific questions were asked, we should be able to give a more satisfactory answer. We are of the opinion that the ideal system of dairying in this country is cheesemaking during the summer and buttermaking during the winter. Hence we believe that, where possible, apparatus for buttermaking should be part of the necessary equipment for a cheese factory, or, better, let five or six cheese factories in any locality unite and put buttermaking apparatus in the most central factory. Co-operation in this way would save expense. During the past decade it has been, as a rule, more profitable to make cheese during the summer, and especially during the hot months. It might be advisable for factories to have appliances so that either cheese or buttermaking could be carried on.

Skim-milk is of more value than whey. The chief food in whey is the sugar of milk; while

skim-milk has the same proportion of milk sugar as the whey, provided the milk were made into cheese, and has, in addition, the casein and albumin, which are muscle formers. The highest value put upon sweet whey is about 8 cents per 100 pounds, while sweet skim-milk is considered to be worth about 20 cents per 100 pounds. The souring of skin-milk or whey lessens their feeding value. We are of the opinion that it is practically impossible to get sweet skim-milk or sweet whey returned from the creamery or cheese factory during the summer, unless they can be taken when run off, or after separating, and, therefore,

the relative values of these by-products are not altered at all by souring.

It would take more space than we have at our disposal to discuss the relative merits of a cheese factory or creamery. In some localities a creamery will do better, while in others a cheese factory only will succeed, and we would advise dairymen to consider well before changing from one system to the other. If "Subscriber" desires more information, and will particularize his questions, we will give all the information we can in our next issue.

**Dairy Tests.**

In response to a correspondent who wishes to know the particulars of the dairy tests at Toronto and Gananoque exhibitions, we give them in full below:

DAIRY TEST AT TORONTO INDUSTRIAL.

Order of Merit.	NAME OF COW.	OWNER AND POST OFFICE.	BREED.	Highest % of fat during test.	Lowest % of fat during test.	Lbs. of milk in 48 hours.		TOTAL SOLIDS.
						Lbs.	Oz.	
1	Carmen Sylvia.....	C. J. Gilroy & Son, Glen Buell, Ont.	Holstein ..	3.3	2.65	122	10	14.515 lbs.
2	Annie of Barcheskie.....	R. Reford, St. Anne de Bellevue, Ont.	Ayrshire ..	3.3	2.2	111	2½	12.906 "
3	Ridcau Gretqui.....	Ellis Bros., Toronto.....	Holstein ..	3.1	2.8	102	10	12.209 "
4	Eunice Clay.....	A. & G. Rice, Curries, Ont.....	"	3.5	2.4	110	10½	12.162 "
5	Lady Dewdrop 4th.....	"	"	2.95	2.6	105	12½	11.521 "
6	Mabel.....	Wm. Willis, Pine Grove, Ont.....	Jersey ....	3.9	3.8	74	3½	9.849 "
7	Trintje.....	McDuffee & Butters, Stanstead, Que.	Holstein ..	2.8	2	67	1	7.666 "
8	Belvoir Pet.....	Wm. Rolph, Markham, Ont.....	Jersey ....	3.7	3.5	59	7½	7.62 "
9	May Queen.....	J. N. Greenshields, Danville, Que..	Guernsey..	4.8	4.15	43	15	5.834 "

DAIRY TEST AT THE PROVINCIAL DAIRY SHOW, GANANOQUE.

NAME OF COW.	OWNER.	Points Scored.	Total lbs. milk.	Percent of fat.	Total lbs. fat.	% Solids not fat.	Total lbs L-M fat.
<b>JERSEYS—4-year-old cows.</b>							
Gipsy.....	Mrs. Jones.....	128.50	52.75	4.53	2.436	9.41	4.957
Satanella.....	".....	126.72	59.00	4.10	2.358	8.75	5.140
Silver Delle.....	".....	120.81	51.00	4.80	2.412	9.24	4.643
Lula Delle.....	".....	110.25	45.75	4.86	2.241	9.22	4.220
<b>AYRSHIRES—4-year-old.</b>							
Maggie Mitchell.....	D. McLachlan.....	108.87	93.25	3.50	3.292	9.14	8.519
Nellie Osborne.....	D. Drummond.....	179.36	92.50	2.90	2.704	9.09	8.444
Jean Armour.....	Wm. Stewart.....	179.27	82.75	3.39	2.756	9.51	7.850
Spotted Mail.....	Jos. Yuill.....	138.97	59.75	3.46	1.956	9.26	5.524
Rose of Bethel.....	W. Stewart.....	127.82	57.50	4.06	2.323	9.24	5.315
<b>AYRSHIRES—3-year-old.</b>							
Lady Heather.....	D. McLachlan.....	141.40	68.00	3.33	2.247	9.37	6.340
White Lillie.....	W. Stewart.....	131.13	62.00	3.63	2.302	9.26	5.772
Lady Graceful.....	Jas. Johnston.....	103.80	46.00	3.66	1.675	9.37	4.300
<b>HOLSTEINS—4-year-old.</b>							
Carmen Sylvia.....	Gilroy & Son.....	261.86	138.00	2.80	3.827	8.81	12.030
Eunice Clay.....	A. & G. Rice.....	205.70	103.00	3.13	3.217	8.23	8.440
Angie Ida.....	McClure & Son.....	204.52	99.50	3.20	3.226	9.19	9.150
Lady Dewdrop.....	A. & G. Rice.....	196.14	96.75	3.10	2.984	8.44	8.152
Oxford Jewel.....	Gilroy & Son.....	192.95	96.75	3.06	2.970	8.96	8.399
Josie Lass.....	McClure & Son.....	184.83	99.25	2.60	2.606	9.44	9.366
<b>HOLSTEINS—3-year-old.</b>							
Emery Beauty.....	Hoover & Son.....	175.13	87.75	3.06	2.666	8.82	7.691
Lady Pieterje.....	A. & G. Rice.....	130.74	57.50	3.13	1.807	8.81	5.025
<b>GUERNSEYS—4-year-old.</b>							
Ada of Eastview.....	C. McNish.....	137.97	59.75	4.33	2.581	9.74	5.810
<b>GUERNSEYS—3-year-old.</b>							
Belinda of Eastview.....	C. McNish.....	127.73	51.50	4.44	2.279	9.84	5.062
<b>GRADES—3-year-old.</b>							
Nance.....	C. McNish.....	186.40	82.25	3.93	3.230	9.06	7.462
Jess.....	D. McLachlan.....	131.81	57.25	3.76	2.250	8.95	5.089

**SWEETSTAKES.**—Carmen Sylvia, owned by Gilroy & Son.

[NOTE.—1 point is allowed for each pound of milk; 20 for each pound of fat; 4 for each pound of solids, not fat; 1 for each ten days in milk after the first 20 days. 10 points are deducted from the total score for each per cent. of fat below 3 per cent. in the milk.—ED.]



# HORTICULTURE

THE importance of having a healthy foliage on one's fruit trees is often overlooked by fruit-growers. On this point Prof. John Craig, Central Experimental Farm, Ottawa, says: "It should be remembered by every fruit grower that, in order to obtain well-developed fruit, the foliage must be healthy and able to perform all its functions; and, further, that it is easier in a rainy season by spraying to destroy the form of the fungus attacking the leaf than that attacking the fruit. This may be due to the fact that the-spraying compound is not as easily washed off the more or less hairy surface of the leaf as it is from the comparatively smooth skin of the fruit. By thus preserving the foliage in a healthy condition, not only is the fruit of the current year more fully developed, but the growth of the season is more perfectly matured and better fitted for the production of good fruit the following year."

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## Winter Flowers.

There are few living on a farm who can cultivate winter flowers at all extensively; as a rule, there is neither time nor means available for the careful cultivation of hothouse plants. But nearly all can cultivate a choice few of the really most beautiful flowering plants.

One of the most necessary elements in the successful growing of flowers is to have a taste for the work, and a genuine love of flowers. Otherwise one is apt to tire of giving the plants the ceaseless attention they require. Perhaps no flowers repay the grower so well as those that adorn the winter house plants. They give a room a homelike appearance such as it cannot have without them; and this is especially appreciated in the winter season, when all nature seems dead. The bright colors of flower and foliage are so attractive when there is nothing but leafless branches and barren or snow-covered earth outside.

Conspicuous among the flowers that adorn our rooms and cheer our eyes in winter is the *Geranium*. It flourishes and blooms in the midst of much ill-usage and neglect, a hardy and beautiful house plant. If the geraniums that have

done duty in the summer garden are to take their place in our windows for the winter, only the strongest should be selected. It is generally admitted, however, that the best winter plants are made from cuttings in August. These cuttings do much better on the north side of the house, not only on account of the protection afforded against the sun, but also on account of the greater amount of moisture to be found there. Geraniums require free watering, and if some kind of fertilizer, such as bone dust or guano, or even soot, is occasionally placed in the water, the foliage of the plant is made much brighter, and the general growth is promoted.

Next on the list of winter plants must be placed the *Begonia*. The amateur has many kinds to choose from, for the name of this plant is legion. *Begonias* vary from those whose leaves are quite tiny to those whose leaves might almost be called gigantic. Perhaps the large-leaved ones are the finest; their foliage shows such interblending of coloring, and contrast so prettily with other window flowers. The *Rex Begonia* is, perhaps, the best known, and the appearance of its leaves, shading from green tints to silvery white, with an underlining of dark red, is too well known to need further description. Other very beautiful varieties are the *Metallica*, the *Manicata*, and the *Rubra*. These are all adapted for amateur cultivation, being hardy and easily grown. Of course, with special care and a hothouse temperature, they grow much finer than in the dry air of an ordinary room. I saw the other day in a hothouse a *Begonia Rubra* that was fully four feet high, and just one mass of foliage and bloom; but we amateurs have to be content with much smaller ones. *Begonias* require a rich soil. It is not sufficient to water the soil only. The whole plant should be occasionally sprinkled with water. But care must be taken not to expose them to the sun while they are moist. The leaves are apt to decay about the edges and in patches after such exposures.

Another pretty plant that somewhat resembles the *Begonia* is the *Leopard* plant. It does not grow very high, but is short and bushy. Its dark-green leaves, mottled with yellow, form a very attractive picture.

The *Nicotiana*, or tobacco plant, is suitable for indoor cultivation, and, although it needs more care than the *Geranium* or the *Begonia*, it is reasonably hardy, and generally blooms well. It fills the room with a very pleasant odor. The only drawback to it is that its blossoms close in the daytime, and open out only in the evening, or about four in the afternoon. If kept in a partially darkened room, however, they will remain open all day.

With these we must have also a few Chinese Primroses, a white, a pink, and a blue one. I know of no prettier window plant in winter than the Chinese Primrose. Its bloom well rewards whatever care is bestowed upon it.

The various kinds of palms present a most handsome appearance, whether, in a greenhouse or in their native tropical home. But in these northern regions they are expensive, and rather difficult to cultivate. There are two plants that somewhat resemble them in appearance, and are quite easily grown. These are the *Cordoline* and *Umbrella* plants, both exceedingly graceful and pretty. They require a great deal of water. The *Umbrella* plant, indeed, is almost a water plant.

The *Calla Lily* is another amateur's winter favorite. A good soil is made for it by putting guano, or some other complete fertilizer, in the bottom of the pot, with sand on top. The bulb is placed near the surface, and, as in the case of the two last-mentioned plants, this one must be kept constantly well supplied with water.

There are many other winter plants which the taste or the experience of amateurs may suggest. There is the *Freesia*, with its pure white flowers, that give out such delightful fragrance. The *Smilax*, too, must not be omitted from our collection, and the *Fuschia*, the *Cyclamen*, the *Hydrangea*, and the *Cactus*—each has its warm admirers. The *Cactus*, indeed, has a journal, published in Baltimore, devoted exclusively to the study of its cultivation. The *Cyclamen* blooms best in February and March, and the *Hydrangea* should be brought up from the cellar about the first of February, and then its best blooming times will be six weeks or so later. Last of all, and by no means least, the winter *Rose* comes in our category. The queen of flowers does not admit an interregnum even in the adverse days of winter. *Roses* require in winter more care than most of the other plants, but their flowers are so beautiful and fragrant that love's labor is not lost if even a rare bud rewards our patient care. It must be remembered that *roses* which have bloomed all summer can hardly be expected to bloom all winter. They must be cut

back and the buds must be pinched off in summer if we would have winter roses.

Thus the lover of flowers may have a very bright and pretty array all winter, with always a plant or two to form a suitable object of house decoration either on the table or in the jardiniere.

### Make Ready for Spraying.

The commandments imposed upon those who grow fruit are four: Cultivate the soil of the orchard, feed the roots of the trees, prune the branches, and spray. The last of these commandments is the least; yet if it is broken there is not much use in keeping the others. The enemies of the fruit and the trees are so numerous and so insidious that they cannot be dealt with in any other way than by wholesale poisoning. Some years, it is true, the conditions are unfavorable for the growth of fungi or the multiplication of insects. Such a year was 1895. Those who did not spray fared almost as well as those who did; so that this coming spring a good many may feel inclined to be indifferent on the question of spraying.

Consider the great annual loss that is sustained every year from the codlin moth alone. For every barrel of sound fruit packed for export, it is within the mark to say that another barrel is partially spoiled and a third almost completely destroyed by this pest. What a saving there would be to fruit-growers if the codlin moth were exterminated!

Reports from all quarters testify to the excellent results obtained from spraying for the codlin moth. Instead of losing half the crop in culls or seconds the fruit-grower by spraying thoroughly and carefully can limit his loss to a margin of 10 or 15 per cent. Sometimes the leaf blight will devastate the orchard; sometimes the rot will corrupt its choicest fruits; yet insects, blight, and rot can all be kept under control. Spraying is a kind of insurance.

During the late winter months the spraying outfit should be prepared and made ready. There will be no time for this in the spring, when other orchard work is so urgent. Two or three neighbors can combine and assist one another in spraying. The preparation of the spraying apparatus and material is somewhat elaborate; it requires several hands to do the work of spraying efficiently, but when everything is working well it does not take long to spray a large orchard; so that many considerations recommend mutual help on the part of neighboring fruit-growers in this department of orchard work. The first care is a receptacle for the poison solution. Most

'fruit-growers use an ordinary wagon with a box or rack, and a fifty-gallon barrel. But if one has a large orchard to go over, it will be found much more convenient to have a larger tank. The spraying must be thorough; the branches must be made wet all over, and the leaves on both sides; and the solution must be kept constantly stirred. Improvements are appearing every year in spraying methods. Last year it was found to be much more favorable to thorough spraying if the operator were elevated higher than the trees, and platforms were erected on the wagon tanks for that purpose. A bamboo fishing pole may be used to direct the end of the hose. The hose should be quite long: in old orchards at least fifteen feet. One man can drive and pump, another is required to direct the hose, and a boy, or an automatic agitator, can keep the mixture stirred.

The construction of a suitable tank and platform, the selection of pump, hose and nozzle, and the fitting of the different parts to one another, all require time and deliberation, which can well be given during the months of February and March.

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### The Plum.

It must be acknowledged that among the fruits of the orchard the plum is one of the choicest. Its luscious taste and delicate flavor, the beautiful color and bloom of which it is capable in its best varieties, give it a greater range of excellence than any other. The cultivated kinds are developed from the wild ones that are still found in temperate climates all over the world. The readiness with which new forms appear makes the classification of plums perplexing and difficult. "The hardest knot, probably, in pomology," says Professor Bailey, of Cornell. There are, however, a few certain, well-defined groups of native American plums. The Canada plum is well known. It is a good-looking tree, with a round head, and bears fruit of a reddish color and pulpy in character. It tastes fairly well, notwithstanding an acrid skin. It is upon this stock that nurserymen graft the finest varieties of plums. The various kinds of native plum are just now receiving considerable attention from fruit-growers. They are vigorous, hardy, and very productive. They have had to fight their struggle for existence unaided, and so are better able to wage their battles than the pampered favorites of cultivation. Of course, they are poorer in quality and inferior in size, but they mature very early, keep well, and present a fine appearance. Indeed,

I can say, without qualification, that the prettiest sight in fruit I ever saw was a collection of Wild Goose plums. Another quality which these native plums have to recommend them is their comparative immunity from fungous diseases and insects. The black knot and the curculio are not nearly so liable to attack them. Among the wild plums that are recommended, the most popular, probably, are the De Soto, the Miner, and the Wild Goose, mentioned above. In planting them, care must be taken to intersperse the different varieties. The blossoms of some of the kinds—the Wild Goose particularly—do not fertilize themselves, and require the agency of bees.

The European varieties have reached a high standard of excellence, and until the advent of Japanese plums were without rivals here. By universal consent the most highly esteemed of these is the Greengage, the *Reine Claude* of the French. It is a rather small, greenish plum, not very attractive in appearance, but very luscious and sprightly flavored. Other varieties approach the Greengage in quality, and very much excel it in size and flavor. Of such are the Niagara, the Lombard, the Imperial Gage, Pond's Seedling, and the Red Gage. The German Prune is recommended on all sides for its general average of good qualities.

Within the last few years a great deal of interest has been taken in several varieties of Japanese plums that have shown themselves to be admirably adapted to our climate—so much so that they constitute the most important introduction of foreign fruit that the last quarter of a century has witnessed. Many nurserymen and fruit-growers have become so enthusiastic over them that they consider comparison between them and the older domestic kinds as out of the question. But, as a matter of fact, all things considered, the common domestic plums are the most valuable types. The Japanese plums ripen early, keep long, are fairly attractive in appearance, and the trees are certainly more vigorous in growth than the other varieties, besides being very productive and comparatively immune from the enemies that are so destructive to other plum trees. The Abundance is the best known of these recent importations. It is a hardy and thrifty tree. The fruit is rather large, spotted rusty red overlying a yellowish under-color. The flesh is firm and sweet, and almost as good as that of the Lombard. The Abundance matures more than two weeks before the Lombard. Another Japanese plum that has been well and satisfactorily tested here is the Burbank, which, in the fruit, resembles the Abundance, but in the form of the tree and habits of growth is strikingly different. It spreads itself

out into a flat-topped, or even drooping, figure. The branches must be propped or the fruit very freely thinned, for the tree is enormously productive. These are the two kinds that are best recommended out of the long list of those that have been experimented with. Along with them, however, the Red June and the Chase—the one a week earlier, the other a month later, than the Abundance—may safely be planted. They are fine, showy varieties, of good quality and size.

Notwithstanding the attractions of these choice varieties of European and Asiatic plums, it will not do to forget or neglect the common blue plum, hardy, thrifty, and faithful as it has for many years proved to be.

The plum tree flourishes in almost any kind of well-drained soil, but it bears best in one in which there is a considerable mixture of clay. The tree needs but little pruning; only when one limb interferes with another will it be necessary to use the knife. It goes without saying that the care given to the peach and the grape-vine in cultivating and fertilizing the soil must also be extended to the plum, if good results are to be expected. The application of common salt is recommended by many for promoting the health and luxuriance of growth of plum trees.

Like the cherry, the plum has two uncompromising enemies, the black knot and the curculio. From all parts of the country where fruit-growing is merely incidental to general farm work reports come of the destructor of plum and cherry trees through the ravages of black knot. Yet, as I have repeatedly pointed out, the black knot is a perfectly controllable disease. It is a fungus that grows on the tissues between the bark and the wood of the tree; and with the exception of the native wild plum trees, and, it is said, the Japanese varieties, all trees on which the black knot lodges will eventually perish from it. The remedy is quite simple and effective. Cut out the fungous growths and burn them thoroughly. Whenever signs of the disease are seen, it is not desirable to postpone the application of the remedy.

The curculio is an exceedingly troublesome insect to deal with. Jarring the tree when the fruit is just beginning to form, and destroying the beetle caught beneath the tree, is the most satisfactory method of disposing of it. I have known sixty curculios caught under an apricot tree from one jarring.

The fruit of many varieties is subject to rot, especially such as may be punctured by the curculio. The application of the Bordeaux mixture at the proper time will be found an efficient preventive. There is also a scaly insect—not the

one called the San José scale—that has proved of late years very injurious in certain sections of New York State, and is showing signs of spreading farther. The scales appear first in July, multiplying rapidly, and before the end of August, if they are not checked, the trees infested by them present a very sorry sight; the growth is stunted, the fruit dwarfed, and the leaves are curled and smeared with a black, sticky substance.

But there are no enemies of the plum tree that cannot be successfully combated by moderate care, and surely the abundant harvest of luscious, beautiful, and profitable fruit with which this tree will reward even moderate attention is sufficient incentive to all the care that a fruit-grower has in his power to bestow.

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### Pineapples.

We do not grow pineapples in the north, but, as everyone knows, we eat them in large quantities; hence, something about the way in which they are grown should not be amiss. They grow within the tropics, and sometimes across the border, in the temperate zones. In America, Florida and the West India Islands furnish them in large numbers. But we cannot have a very perfect idea of the pineapple of the tropics as it is in its native home. Those shipped to us have to be pulled before they are ripe. When a well-grown pineapple ripens on the stem where it grew, the fragrance that fills the air tells you that it is ripe without your having to try it; and the lusciousness of the fruit when eaten can only be conjectured by those who have never visited its native home. Oftentimes it is grown on rocky land. Notably is this the case on what is known as the Keys, off the coast of Florida. These islands are of coral formation, and it is said that no attempt is made to till the ground systematically. Wherever a little pocket of earth is found, a pineapple is planted. In moist, warm weather they grow very fast, and the plants sometimes attain the height of five to six feet.

The plants are multiplied through sets which grow around the base of the fruit, and which are not removed with the fruit, but left to develop until the planter is ready to utilize them. Suckers are also used which spring up from the root of the old plant. The plants commence to bear in about eighteen months after they are planted. They are set from two to three feet apart each way. They grow spines which make the labor of tending them disagreeable, unless the workmen are well protected by clothing made for the purpose. They are of many varieties. Some of the plantations embrace hundreds of acres.



To give extracted honey a fine flavor it should be thoroughly ripened. "In my opinion," says G. M. Doolittle, "no honey has as nice a flavor as that which has been left in the hive till the end of the season, the bees having been allowed to ripen it till it is so thick that it will almost stand alone after having been taken from the comb. It takes, however, more work to extract such honey."

THE Hon. W. H. Montague, Dominion Minister of Agriculture, has made an announcement as to his policy in connection with the development of agriculture. Beekeeping has not been forgotten; it has been recognized as an important branch of agriculture, especially in Canada. It is his intention to develop beekeeping, and, if possible, to assist beekeepers to place honey to better advantage upon the British market.

THE Ontario Agricultural and Experimental Union, which met at the Ontario Agricultural College, Guelph, has conducted during the past year an experiment with five-banded Italian bees. In the reports of the meeting it is stated that the season was bad, but reports were almost unanimously as follows: They did not build up rapidly, were short-lived, gentle, did not do as well as other colonies in the apiary. Two reported that the bees appeared to have a difficulty in locating themselves, and attempted to get into neighboring hives.

ACCORDING to a writer in the *American Bee Journal*, Serbia is paying increased attention to beekeeping. A new society has been established for bee and fruit culture. The object is to introduce beekeeping on scientific principles and develop it on a profitable basis. The bees there appear to be a species of the common bee (*Apis mellifica*), but are rather small in size and unusually tractable. The introduction of a law is in contemplation obliging all priests, schoolmasters, and certain others holding employment under the government, to turn their attention to the keeping of bees.

THE *British Bee Journal* gives each month the value of the honey imported into England, Scotland, and Ireland. For October, 1895, it was £1,780, which, at seven cents per pound, would be about 125,000 lbs. If this can be taken as an average per month for the year, one and one-half million pounds per annum are required. Germany imports honey from the United States, but Canada seems to be making little use of the natural facilities she possesses for the production at a profit of the choicest of honey to supply the demand of these countries. So far she has not even developed to its fullest extent her home market. European buyers have been over from time to time in her markets, but could not purchase what they required.

THE *Canadian Bee Journal*, in an editorial, draws attention to the danger of mixing honey with sugar syrup to be fed to bees for winter stores. It is now almost universally admitted that the germs of that dread disease, foul brood, find lodgment in honey. In the process of extracting and the after handling of honey, if the germs of disease are in one colony and its honey is mixed with the syrup, the foul brood germ may find lodgment in a large number of the hives in the apiary, to break out the following spring. For this reason such feeding should be abandoned. It is not necessary to mix honey with granulated sugar stores. The syrup will be fit for stores without the addition of honey. For the same reason honey should never be fed back to the bees. Do not extract honey with the intention of feeding syrup back to the bees and making a margin of profit on the transaction. That is also a mistake.

BEE journals are at present making some effort to keep up the courage of those who had no honey crop during the past year. They very justly point out that other crops fail, and a farmer does not go out of wheat production because he has a poor crop for a year or two. The replies to the following question, in the *American Bee Journal*, furnish interesting reading: (1) How large a yield of honey (comb or extracted) have you ever secured from one colony in one season? (2)

What was the largest amount of honey you ever secured in one season, and the number of colonies and race of bees that gathered it? One says "35 colonies, spring count, increased to 70. I secured 5,500 pounds of comb honey and 1,000 of extracted." Another, from 180 colonies, got 39,000 pounds, mostly comb honey. These colonies increased to 295; another, from 75 colonies, obtained 15,593 pounds. Another, from 400 colonies, 45,000 pounds. It will now be in order to report the smallest yield ever experienced and strike an average. By all means let us have both sides of the question.

In an article in the January number of the *Canadian Bee Journal*, Wm. McEvoy, foul brood inspector, says: "While on my rounds through Ontario I have seen thousands of combs in the last five years that should have been made into wax, and would have been had they been mine." Again: "My combs are all made out of foundation, which is one of the most profitable things ever used in any bee yard, and especially where an apiary is worked mostly for extracted honey."

There is no question about it. Many beekeepers, owing to drone comb, which would not be in the hive if comb foundation were used, are rearing a drone crop, of no commercial value, instead of a honey crop. The question might well be put to every subscriber of *FARMING* who keeps bees, What have you been raising, a few drones and a fair or large honey crop, or a large drone crop and little or no honey? Do you intend to turn over a new leaf? If you have too much drone comb in the hive, will you make a determined effort to get rid of it?

In the address given by R. F. Holtermann before the Ontario Beekeepers' Association at Brantford, January 16th, he drew attention to the report of the Bureau of Industries where, under "Bees and Honey," it states: "The number of colonies of bees in the possession of farmers in Ontario was 200,094, which, including the outfit required, were valued at \$1,057,574. In 1893 there were 205,168 colonies, valued at \$1,162,945, while 195,822 colonies were reported in 1892. In 1894 the honey product averaged a trifle over thirty pounds per colony." He pointed out that, as a rule, a poor honey season left colonies insufficiently provided for as to winter stores. During such a year many became discouraged, and allowed their bees to shift for themselves, which generally ended in their destruction. Perhaps an extremely favorable season or two

follow, when these same men would be found purchasing another stock, and just in time to battle with another season which required skill and experience to make beekeeping pay, or, perhaps, they may even have a short crop. Beekeeping is like any other branch of the farm—it required application, interest, and attention through favorable and unfavorable seasons, and stability. Any one not prepared to give this had better stay out of it; to press such a man into the ranks would only injure the calling and hinder its development.

### Comb Foundation.

We have now arrived at that stage of apicultural progress when all must recognize that the best results can be obtained from using the movable frame hive, and the majority of beekeepers use that hive. To this idea we hold fast with such tenacity that it is not likely that we shall ever let go of it. But a great many have very crude ideas about the use of comb foundation; they do not appear to understand its advantages, and many more do not derive the advantages they should because they do not use it in the proper way. The object of comb foundation in the brood chamber is to get enough comb in order to supply the bees with material from which to build comb; to build by artificial means a portion of the comb, and thus save the bees the work, and to supply them with comb more quickly than they can build and store comb; and, again, to compel the bees to build only worker comb. Drone comb is larger than worker, and by the proper giving of comb foundation, which means the base with a certain amount of side wall, the size of worker comb, drone comb is banished from the hive. For store combs the question of drone and worker cells is not so important. As far as I know, every good beekeeper uses a queen excluder to prevent the queen from entering the store combs. This, of course, prevents drone rearing. I have, however, seen this with no drone comb in the brood chambers, and, owing to the strength of the colony and other conditions, if the bees are inclined to rear brood, they clean out and get in shape the drone comb in the upper story, and even if crowded for store room the bees leave these cells unfilled, in the expectation that the queen will utilize them. For this reason, and the fact that these store combs may all some time be put in the brood chamber, drone combs should always be avoided.

(To be continued.)

# RECENT INVESTIGATIONS

## Flow of Maple Sap.

A. H. Wood (New Hampshire Station Bulletin 24) reports three years' experience in tapping trees at depths of from one and a quarter to six inches. The results go to show that the flow of sap is largely dependent upon the depth of the tapping, the deeper the hole the greater the flow, and that the theory that all, or nearly all, the sap comes from the outer wood is erroneous. The results of comparative tests of tapping the north and south sides of trees favor the latter. The author claims that the additional injury to the tree by deep tapping is very slight, especially if the hole is small. He recommends the use of a  $\frac{3}{8}$ -inch bit.

In one trial, a single hole yielded slightly more sap than two holes close together.

## Plant Food Used by Fruit Trees.

Bulletin 103 of the Cornell Experiment Station contains some interesting figures regarding the value of the plant food removed from the soil by an old orchard. It is estimated that in twenty years, viz., from the time the trees are thirteen years old until they are thirty-three years old, one acre of apple trees, yielding an average crop of apples each year, would remove from the soil plant food to the value of \$207.45. In this estimate nitrogen is valued at 15 cents, phosphoric acid at 7 cents and potash at 4.5 cents per pound.

Using the values given above, and estimating the average yield of wheat at fifteen bushels to the acre, twenty years' continuous cropping with wheat would remove plant food to the value of \$128.23. Thus it may be seen that the bearing orchard is more exhaustive to the soil than is wheat, and, as everyone understands the impracticability of growing twenty wheat crops in succession without manures, the immense importance of manuring bearing orchards is made apparent.

## Humus or Muck.

Bulletin No. 41 of the Minnesota Experiment Station deals with various matters relating to the soil. Among much valuable matter there are introduced some interesting points regarding humus in the soil.

Humus is described as any animal or vegetable matter in the soil, which is in its intermediate

form of decomposition. It is very variable in composition, but always contains more, or less nitrogen. Plants are unable to feed upon the nitrogen of humus until the compounds in which it exists have been broken up into simpler forms which are soluble in water. This process of decomposition in humus is called nitrification, and is, therefore, necessary before plants can make use of the nitrogen which is in the soil. Cultivation aids nitrification, and injudicious cultivation wastes the nitrogen of the soil, since much more nitrogen than the crop can make use of may thus be rendered soluble, and be leached out of the soil in the drainage water. Summer fallowing is especially wasteful of nitrogen in the manner mentioned above, and continued summer fallowing has the effect of rapidly decreasing the amount of humus in the soil.

Besides furnishing an important element of plant food (nitrogen), humus takes a very important part in the water supply of plants. Soils which are rich in humus absorb and retain much more water than those which are deficient in humus, and consequently the crops on the former will suffer less from drought than those on the latter.

Humus also absorbs heat readily, and consequently helps to warm the soil.

In many swamps there are deposits of muck, which are quite rich in nitrogen. As in the case of humus, it is necessary that the muck undergo fermentation before its nitrogen is available to plants. When dry, muck makes an excellent absorbent for cattle stables. When mixed with urine, it undergoes fermentation quite readily. It may thus be made to do double duty: (1) As an absorbent; (2) as a fertilizer.

Below the muck deposits, a deposit of marl is sometimes found. Marl is a mixture of limestone and fine clay. Some of the marl may, with advantage, be mixed with the muck. The use of muck and marl will be found to give the best results on sandy soils, rather than on clays or loams.

## Farmyard Manure.

Bulletin 94 of the Geneva station deals with the composition and use of fertilizers, and other matters:

The following amounts of litter are recommended for the absorption of the liquid excrement of different classes of stock: Sheep, three-

fifths of a pound; cattle, nine pounds; horses, six and a half pounds.

Gypsum, kainit, and acid phosphate are recommended for absorbing and preserving manure.

*Gypsum* (land plaster) has the power of holding ammonia and preventing its loss. It must be moist to be effective. The best way to use it is to sprinkle it on the moist dung or urine.

*Kainit* tends to check fermentation and to attract and hold moisture. It should be kept from under the feet of animals, as it is apt to injure them.

*Acid phosphate* acts in a similar manner to gypsum, and is somewhat more effective.

The following table shows the relative composition of liquid and solid manure from different classes of stock, and illustrates the great importance of preserving the liquid manure:

	Nitrogen.		Phos. Acid.		Potash.	
	Solid.	Liquid.	Solid.	Liquid.	Solid.	Liquid.
Cows...	0.29	0.58	0.17	—	0.10	0.49
Horses..	0.44	1.55	0.17	—	0.35	1.50
Sheep..	0.55	1.95	0.31	0.01	0.15	2.26
Swine..	0.6	0.43	0.41	0.07	0.13	0.83

Feeding for Beef.

Bulletin 60 of the Ohio Experiment Station reports experiments in feeding for beef, together with notes on the chemistry of cattle feeding and the comparative value of feeding stuffs. The experiments cover two years, and some of the points investigated are as follows:

*Cornmeal vs. wheat meal.* In both 1894 and 1895 cornmeal gave a larger daily gain per animal than did wheat meal; but in 1894 the cornmeal ration cost slightly more per pound of gain in the live weight of the animal, while in 1895 there was a marked difference in favor of corn. There is little doubt, however, that cornmeal is superior to wheat for fattening purposes.

*Oilmeal vs. gluten meal.* The experiments with these two fodders indicate that they are approximately of equal value for fattening cattle.

*Corn silage vs. corn stover.* The results in this case favor the silage. A great many experiments have been conducted with these two fodders, and the results are extremely varied. There is, perhaps, no fodder which varies more than does corn silage, and hence the unsatisfactory nature of the results from feeding trials. The process of ensilage evidently adds nothing to the nutritive value of a fodder, and, moreover, it is doubtful if it

increases its digestibility, as is supposed by some but, when the method is properly employed, it adds to the palatability of the fodder, and, in consequence, a larger amount will be consumed.

HEAVY VS. LIGHTER FEEDING.

In the two years' feeding, the cattle fed during 1895 fattened more slowly, and with a greater consumption of food per pound of increase, than those fed during 1894. Following is the author's explanation:

"In 1894 we aimed to feed the cattle all the meal they would eat, beginning with a small ration, but increasing it as rapidly as they would take it until they began to reject it, then lowering the ration until it was eaten freely, when it would be increased again. Our object was to ascertain the highest limit at which grain might be safely fed, as a guide in future work. The result was that we had frequent cases of temporary surfeit, during which the live weight would remain stationary or retrograde for a week or more; but in most cases the interruptions to growth were but temporary, and were followed by a rapid increase in weight.

"In 1895 the meal rations were kept one or two pounds below the limit indicated in the previous test; there were very few cases of surfeit, and yet the gain was not so good. Apparently, too large a proportion of the food was required to keep the vital machinery running."

This is rather a startling conclusion, and leads one to go back to the tables given in the bulletin for further information. From the figures given we deduce the following:

In 1894, the average weight of the steers, from the beginning to the end of the experiment, was 1081 pounds; and the average weight of meal fed to each steer per day was 13.19 pounds.

In 1895, the average weight of the steers, from the beginning to the end of the experiment, was 1091.5 pounds, and the average amount of meal was 11.336 pounds per day per steer. That is to say, in 1894, a steer weighing 1000 pounds would receive 12.2 pounds of meal per day; and in 1895, a steer weighing 1000 pounds would receive 10.38 pounds of meal per day. Even the lighter ration would be counted a fairly heavy one by the average Ontario farmer, and this leads to the belief that something besides the food influenced the result. The two lots of steers were made up as follows:

1894.		1895.	
Grade Shorthorn.....	24	Grade Shorthorn.....	10
" Holstein .....	5	Shorthorn-Jersey.....	3
" Jersey .....	2	Shorthorn-Devon.....	1
" Hereford .....	1	Grade Holstein.....	1
		Native.....	1
Total.....	32	Total.....	16

A study of the breeds represented will, no doubt, strengthen the belief that the whole difference was not due to feed alone.

FINISHING BEEF ON GRASS.

In a two years' test of finishing beef cattle in the stable and on grass, it was found that the animals finished on grass produced a pound of grain at a greater cost than those finished in the stable.



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BUSINESS MANAGER,	- - -	S. S. BOND.

### Subscription Price—

Canada and the United States, \$1.00 per annum in advance.  
Great Britain and other foreign countries in the Postal  
Union, \$1.50 per annum in advance.

Single copies 10 cents.

All subscriptions are received on the understanding that we  
are notified when the subscriber wishes to discontinue. FARM-  
ING will be sent to all subscribers until a notice to discontinue  
is received and all arrears are paid up.

The date opposite the name on the Address Label indicates  
the time to which a subscription is paid, and the changing of  
this date is sufficient acknowledgment of payment of subscription.  
We should be notified when this change is not made promptly.

### Remittances—

Remittances should be made by post office money order  
express money order, or registered letter. All postmasters are  
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Silver should never be sent through the mail. It is almost  
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else it is stolen.

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In ordering change of address, be sure to give the old address  
as well as the new. We cannot find a name on our books  
unless the post-office address is given.

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from our list.

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Money for renewals should not be paid to strangers, and  
when subscribers do this it must be at their own risk.

It should be sent by each subscriber direct to this office.  
We do not request agents to collect money for renewals.

### Communications—

All business communications should be addressed to  
"FARMING, 20 Bay Street, Toronto, Canada."

Communications for the Editor-in-Chief should be ad-  
dressed to "The Editorial Department," FARMING, 20 Bay  
Street, Toronto, Canada.

Communications for any particular editorial department  
should be sent to the address given under the heading of  
that department.

Matter of any kind for publication must reach us before the  
15th of the month preceding date of publication.

W. W. CHAPMAN, Representative for Great Britain and  
Ireland,  
Fitzalan House, Arundel St., Strand, LONDON, ENG.

We are fully aware of the injustice and annoyance caused  
subscribers by the publishing of unreliable advertisements.  
We are also aware that good advertisers do not keep company  
with those of the "fake" class. Therefore, for the pro-  
tection of our subscribers, we will take pains to exclude  
all advertisements of a doubtful nature. Any cases of fraud  
or misdealing on the part of advertisers that are reported to  
us will be promptly investigated. Subscribers will confer a  
favor if, when writing to an advertiser, they will state that  
they saw the advertisement in FARMING.

OUR readers will notice that in this issue we have  
omitted the names of the editors of all the depart-  
ments of FARMING. This is not due to any changes  
in our editorial staff, but as for various reasons—  
which it is not necessary to mention—it has been  
found undesirable to publish the names of the editors  
of some of the departments, it has been considered  
advisable, for the sake of uniformity, to omit all. The  
editorial staff will remain the same as heretofore.

### Darkness vs. Light.

We all know how sometimes in the evenings the  
darkness creeps upon us before we are aware of it. It  
grows darker and darker, and we do not know how  
much we have been straining our eyes and how many  
mistakes we have made until some one brings in a  
lamp.

We were getting along in a kind of way, but it was  
hard on the eyes, and we could not do very good  
work. But after the light was brought in we realized  
what unnecessary work we were doing. We saw  
what we were missing, and that it was getting darker  
and harder for us to work all the time, and if the  
light had been taken away again we would have  
found it difficult to make any progress at all. Now,  
it is just so in farming. A farmer who tries to get  
along without reading will have hard work. A good  
agricultural magazine is to the farmer a sun by day  
and an electric light by night, and to try to do with-  
out it means hard work and many difficulties. A  
farmer who will not spend the time and the money  
to read a good agricultural magazine does not know  
what he is missing. He plods along, doing a great  
deal of unnecessary work, making mistakes, and at  
the end of each year finds that he has very little to  
show for his labor. He goes on in this way until he  
is groping in the dark. But let him once read a good  
agricultural paper for a year, and see if he will want  
to go back to the old way. Why, we see this illus-  
trated every day. We have lots of subscribers on  
our list who have taken the magazine ever since the  
first number of THE JOURNAL was issued, and now  
they would not TRY to do without its help. The more  
carefully they study its pages, the more easy their  
work becomes, and the more money they are able to  
make. The following will give you some idea of  
what these people write to us:

You will please take notice that I have not received my  
periodical, namely, FARMING, for the month of December,  
1895. Please forward it, and oblige, as I do not wish to lose a  
number of such valuable information as they contain.

I am, yours respectfully,

ROBERT HANSBROUGH, Laurel, Ont.

I would not like to be without FARMING. I look for it every month before it is due.

JAS. BINNIE, Erin, Ont.

Enclosed please find \$1, being my subscription for the year 1896. Wishing FARMING every success. This is the tenth time I have paid my subscription to FARMING.

A. D. HARKNESS, Irena, Ont.

I take your journal with pleasure, and would not be without it. I think it should be in the household of every farmer.

FRANCIS GRAHAM, Fordwich, Ont.

Please send me the January number, as I have not received it, and continue me as a subscriber. Am much pleased with FARMING. It is a great improvement on THE JOURNAL, and I feel that I cannot afford to do without it.

GEO. C. CURRIE, Boissevain, Man.

I have taken THE JOURNAL for seven or eight years, and I am better pleased with it every year. In the new form it is much more convenient to handle, and the reading matter is in better shape. I wish you a prosperous new year.

Wm. MUIR, Kemble, Ont.

Please find enclosed money order for one dollar for FARMING for one year. I find it to be a very valuable magazine, and would not like to try to do without it.

Yours truly,

GEO. HOFFMANN.

Enclosed you will find \$1 for my renewal to FARMING, from January, 1896, to December, 1896. I esteem your journal very highly, and, therefore, cannot afford to be without it.

ADKIN SLIPP, Central Hampstead, N.B.

I like your magazine well, and I think it pays well to advertise in it.

F. RUSSELL, Cedarville, Ont.

Enclosed please find \$1, being my subscription to FARMING for 1896. January number not yet received. Kindly forward, as I would not like to miss a number.

J. M. McFARLANE, Baljennie, Sask.

We have printed the above just to show you what opinion of the magazine is held by those who have taken it for some time, and to show that when one has become used to reading a good agricultural magazine he does not care to go back to the old way.

Now, dear friends, won't you all do something to relieve the darkness? Won't each of you bring in a light for your neighbor who is working in the dark? Won't you lend a hand to extend the circulation of a good agricultural magazine, and thereby help to raise the standard of agriculture in your own district and in general?

In our last issue we offered to send FARMING one year free to anyone sending us two new subscribers and \$2, and we now renew that offer. In fact, this is an old agreement we have with our subscribers—a standing offer to them; so that if you have not yet paid your subscription for 1896 go and have a talk with a few of your neighbors, and see if you cannot get a couple of names and a couple of dollars.

We also renew the offer of agricultural books made in our last issue. A great many of our friends have availed themselves of the offer, and we hope that many more will send along the necessary names and secure some good reading. These books are not trashy, but standard works, and the best that can be obtained on the subjects named.

For this issue, however, we have something new to offer you. We do not want you to forget our former offers, and we hope you will look them up when the time comes to renew your subscription, or when you find yourself in need of a text-book on any branch of

agriculture. But now we know that springtime will soon be here. Soon the balmy southern breezes will banish from the soil the last of the snow and ice. Already we are beginning to think of seeding time, and to make provision for a good supply of the best seed grain. We all know the importance of using good seed. It is not necessary to say anything about that; so now we intend to present a plan by which all of our subscribers can secure, without much trouble, some of the finest seed of the best varieties of oats that has ever been introduced into this country.

We are sorry that we are not in a position to offer to our readers in this issue seed grains of other kinds; but as we have only a limited amount of space at our disposal, we have decided to present the very best thing in the seed line that it was possible for us to get hold of. Another reason why we have decided to confine ourselves to this one seed offer is because of the success we have met with in former years in offering oats as premiums to our subscribers.

Mr. John Miller, of Markham, Ont., from whom we have generally procured our seed oats, is now well known to be a grower who sends out nothing but the most reliable seed, and in our dealings with him, extending over a number of years, his seed oats have always given the greatest satisfaction. We have therefore made an arrangement with him by which we can offer to our subscribers three of the very best new varieties of seed oats that it is possible to obtain.

## Seed Oats.

### “The Early Golden Prolific.”

This variety has proven that it is one of the heaviest-yielding oats in the country, and one of the very best quality. Wherever grown it has given general satisfaction.

The straw is short and stocky, growing very strong, stands up like a wall, and never lodges. The grain grows, as a rule, three in each chaff, two large ones and one smaller one between the two. They weigh from thirty-six to forty pounds per bushel, the hull is very thin, most desirable for feeding purposes. Its name will bear dissection. Earliness, a most desirable feature, is found in this oat. Crops sown the latter part of April were ready for harvesting, and some of them were cut, in July. “Prolific” indicates its yielding quality, and when you read the following you cannot help but say the oat is rightly named.

Early Golden Prolific Oats yielded last season, with ordinary culture, 114 bushels and 6 pounds per measured acre. Read the affidavits below of two disinterested parties:

STATE OF NEW YORK, } ss:  
MONROE COUNTY.

We, the undersigned, do hereby state that we drew and helped thresh from one acre of land eighty-seven (87) baskets

of Early Golden Prolific Oats, that weighed out one hundred and fourteen (114) bushels and six pounds. These oats had but ordinary culture, and only one hundred and seventy-five (175) pounds of fertilizer was sown on this acre and no manure.

JOSEPH DURKEE,  
J. M. SIMMONS.

Sworn and subscribed to before me.

A. M. HOLDEN, Notary Public.

ONTARIO COUNTY, N.Y., Nov. 29, 1895.

*The Edward F. Dibble Seed Company, Honey Falls, N.Y. :*

GENTLEMEN,—I send you a statement of the oats I raised from the seed I purchased of you last year :

The Early Golden Prolific has yielded 78 bushels per acre by measure, and 115 by weight. I tell you they "astonish the natives" here.

Yours truly,

JAMES BURGESS.

### The Early White Maine

is also a new oat, and yields very heavy. Many instances of remarkably fine yields are reported from different quarters. We have not space at our disposal here to give a full description of this oat. All we can say is that we can recommend it to our subscribers as one that will give the very best results.

### The Improved American

is not such a new variety as the two previously named, and is now well tried and known to be thoroughly reliable. We offered them to our subscribers last year with great success, and they are still preferable by many to some of the newer varieties.

Mr. Miller says: "The Improved American did the best with me last year. They were not affected by the drouth the same as the others, and the straw was a fair length for any year."

Now, our offer is as follows :

**We will send one-half bushel of any one of the above varieties of oats for one new subscriber and One Dollar. Remember, this is not an extra inducement given to a new subscriber, but it is a commission to our present regular subscribers who send us new subscribers.**

Now, friends, send along the new names and get a good supply of new seed for next season. Next season is the one for you to increase the area you generally devote to the oat crop, as owing to low prices for the crop of 1895 but a comparatively small average will be sown this year. Consequently, as prices are largely regulated by supply and demand, the oat crop of 1896 will bring money.

# 20% EXTRA

## DURING

# FEBRUARY

We want our agents to make a special effort this month. The spring work will soon be upon us, and we must work while we have the time.

# \$10.00

# REWARD

As an inducement to work hard, we will give a bonus of \$10 over and above the regular commission to any agent who sends us during the month of February 50 new yearly subscribers, and to the agent who sends 25 new yearly subscribers we will pay \$5 in addition to his commission. Now, this is a short month, and we hope our friends will recognize the fact and bestir themselves at once.

One or two of our agents have written to us that they found it hard work to get subscribers because the times are so hard.

Why, supposing the times ARE hard, FARMING is not by any means a luxury. A farmer must study and think hard if he wants to make anything out of his farm at all, and he cannot get any more valuable help than that of a good agricultural magazine. In these times of close competition, we have to study a great deal and use considerable science in order to make our farms pay. It is useless to go on in the old way, sticking to old methods regardless of the changes in conditions constantly taking place, and it is absolutely necessary to read a good magazine if we would keep up to the times. We hope that we will not hear any more of "hard times" from our agents.

# Shall we hear from YOU this month?

Of course we are always pleased to receive large lists of subscribers, but it is really more gratifying to receive letters like the one below. We receive a great many of them, and it gives us very much pleasure to feel that we have the co-operation of all our subscribers in extending the magazine's circulation.

This gentleman is so modest that he has not even mentioned anything about commission. Perhaps he has more new "subs" in view, and means to attend to the matter of commission when he has his whole list ready. However, whether he sends any more new "subscribers" or not, we will guarantee that he will not go unrewarded for what he has done.

Aurhorstburg Jan 4/96

The Boyart Press  
Toronto

Sir

Enclosed find Post Office  
Order for the sum of One Dollar <sup>(1.00)</sup>  
for one years subscription (from Jan'y '96  
to Jan'y '97) to Farming to be forwarded  
to John D. Burk Aurhorstburg P O  
I will send my subscription in  
a few days

I am so pleased with the  
range and advancement of Farming  
that I am doing all I can to get  
subscriptions and advance its circulation

Yours Sincerely  
J. H. Golden

100  
E. H. S. J.

10682  
Sub. Jan 10.

Jan 8/96 L. C. B.

## Poultry Association of Ontario.

[NOTE.—While I recognize the fact that FARMING is "an illustrated monthly magazine devoted to farming in all its branches," there are times when one department, or one subject, must, of necessity, receive a little more attention than another, especially when matters transpire which are of importance to the country at large. It seems to me, therefore, that no apology is necessary for taking up so much space this month with a report of the annual meeting of the Poultry Association of Ontario, especially when none of the space allotted to the poultry department has been transgressed upon. Perhaps at this time, however, a few facts in connection with this association, and our reasons for deeming the report of such importance, would not be amiss. This association is the oldest organization of the kind in America; it has held twenty-two consecutive annual exhibitions, each one more successful than its predecessor; it has as one of its oldest members the greatest and most successful poultryman in the world—Mr. William McNeil, of London; and, in addition to this gentleman, there are others who do not breed or exhibit as many varieties of fowl, but who, in comparison to the number of varieties bred, have been quite as successful as he in the keenest competition this continent could produce. These, too, are men who are looked up to and honored by the entire poultry fraternity. Furthermore (and I say it without the slightest fear of contradiction), there is not an exhibition in America which can pick from its entire display the same number of birds as is annually exhibited here, and win over us. In fact, I doubt if a better exhibit could be produced in America. Birds that win here, and birds that are beaten here, almost invariably win at the Madison Square Gardens' Exhibition, held in New York city. Another reason for giving this report the prominence we do is because (with the exception of the Eastern Ontario Poultry Association) it is the only exhibition in America recognized by government, and annually aided by a grant of government money. In return for this grant, the association is expected to give information and advice to the country at large. Upon the subject of how far this is carried out I shall have something to say in the next issue of this paper. In order to pave the way for this, and to give all an insight into the doings of the association, I deemed it of sufficient importance to take a verbatim report of the annual meeting, and, with a few unimportant omissions, the same is presented to you. The manner in which the annual grant of \$900 (together with the \$500 voted for coops) is used by this association, and what value is given in return, is of the utmost importance to every one in Ontario, and also to every one in the Dominion, whether interested in poultry or not.—ED. POULTRY DEP'T.]

The twenty-second annual meeting of the above association was held in the council chamber at Port Hope, on January 9th, 1896. The president, Henry White, occupied the chair. The following directors were present: William McNeil, London; Allan Bogue, London; D. C. Trew, Lindsay; Thomas Rice, Whitby; Charles Massie, Port Hope; Thomas J. Senior, Hamilton; G. S. Oldrieve, Kingston; Thomas A. Duff, Toronto; and Secretary Thomas A. Browne, and Treasurer George G. McCormick, London. There was a fair attendance of members.

The secretary read the minutes of the last annual meeting, and the minutes of the two meetings of directors. On the motion of Mr. Allan Bogue, seconded by Mr. W. J. Bell, these were confirmed.

The president then addressed the meeting as follows: As one of the members of the Port Hope Poultry Association, as well as president of this association, I take the greatest pleasure in welcoming you to this town. I feel that this exhibition coming here this year will have done a good deal of good, not only to the local association, but also to this particular section of the country, where there have been, I am sorry to say, but very few poultry exhibitions, and those not very successful ones. So far as this exhibition is concerned, I am sure you will agree with me as to its success.

There are three factors which have gone to make it such a success outside of the work of the local association. The first and most important one is the new coops. I think you will agree with me that no such single improvement has ever occurred in the history of the association as the purchase of the coops. They have added to the beauty of the show and the efficiency thereof, and have done away with the discomfort to exhibitors under the old system. Now, I would like to impress upon this meeting the obligation we are under towards the Hon. Mr. Dryden and the government, who voted a sufficient sum for the purchase of these wire coops. I think nothing they could have done in the shape of aiding this association could have been done with a better grace than was done. I trust, therefore, that before this meeting adjourns, something tangible will be placed on the records showing how much this association appreciates the kindness of the Ontario Government in this respect.

The next feature which I might point out as one of the great things which led to the success of this exhibition is the thorough work of the secretary of this association. No one knows better than one who has occupied the president's position, as I have done during the past year, how much this association is indebted to the energetic services of its secretary. I have never known of an institution that had a more efficient secretarial management than the Ontario Poultry Association of to-day. I would like very much, in this connection, for the association to consider whether, if the funds will allow of such a thing being done, it would not be advisable to increase Mr. Browne's salary. He has certainly done his work nobly, and I am satisfied that the remuneration which Mr. Browne is receiving from this association is in no way commensurate with the amount of work he has done and assumed.

I wish also to call attention to the efficiency of the superintendency work of this show, because I think that every exhibitor will allow that, so far as the superintendent's work has been done, it has been done willingly and lovingly by a man who has the interests of poultry at heart, and who has done everything to carry out the secretary's orders.

Whatever instructions our superintendent got from the secretary they were carried out literally and strictly, and no one could come and say a word about it. These, I think, are the three principal factors upon which the efficiency of this show has depended. I would like to point out one or two things in connection with the statute law which will affect the workings of this meeting. As you probably all know, considerable changes were made in the old Agricultural and Arts Association at the last session of the Ontario Legislature. Under that act one change has been made in regard to the holding of the show. A clause in that statute provided that so long as this association receives a grant from the government, so long will it be imperative that the show shall not be held in one place, or within forty miles of one place, two years in succession. This is a matter to be considered just now in deciding where the show shall go in future.

The electoral divisions, too, have been altered, and in place now, as I understand it, of the old system of electing directors, directors will be held to represent certain localities. This is a matter of consideration, and I must point out that it will be almost impossible to allocate the representatives of the Board of Directors at a meeting. I would suggest the appointment of a nominating committee who will place before this meeting the names of a number of persons as directors, and so save trouble. That report will be open to amendment; but I trust that those members who have amendments to offer will seriously consider them, and decide as to their importance before submitting them to the meeting.

There is another suggestion which I wish to throw out, and that is in regard to the storage of the coops. Something will have to be done in the way of finding a permanent lodgment for these coops, and I would like to impress upon the meeting that these coops are the sole and only property of the Ontario Poultry Association. Although they were purchased by the government with their money, that money was voted to the association for this specific purpose. That purpose has been accomplished; the coops have been procured, and are now the property of the association. Such being the case, we must find some permanent resting-place for them, so that their safety will be ensured from year to year, and solely and only for the purposes of this exhibition, and for no other purpose whatever.

The secretary, Thomas A. Browne, spoke as follows: I have been so busy of late that I have not been able to write a report, but I propose referring to a few matters which I consider of vital importance. In the first place, allow me to return my sincere thanks for the hearty manner in which you appreciated the remarks of our worthy president. I assure you that anything I do for

the association is a matter of pure love for the work. I think that everything I have done has been done for the benefit of the association.

The president has referred to the matter of the coops. I have nothing further to add, only to express my hearty appreciation of the manner in which we were treated at Toronto when we went there on your behalf. The government gave them to us after we had explained to them something that most of them knew already. The Minister of Agriculture and also the Patron leader, our old and worthy friend and exhibitor, Mr. Haycock, were present, and they thoroughly understood the interests of this association; and when the matter was placed before them, they had little reluctance in saying that when the question came up before the House that we would get our request. I may say in relation to the amount of money we asked for—\$500—that the committee which you appointed to look after this work has so managed the affair that we have been enabled to furnish you to-day six hundred and twelve coops, with sufficient sides over to make a few more, for the sum of \$440. We have also supplied you with the little numbers—something I happened to think of myself—at a cost of some \$18.

The matter of the prize ribbons has been referred to in the minutes of the directors' meeting. Your directors passed a motion that such things should be provided without giving the secretary any limit to go by. I inquired of the two best firms on the continent of America for that kind of goods—the Tansey firm in Montreal, and another in Newark, N.J. I found that the ribbons, such as are given by the American associations, cost in the neighborhood of twenty-seven cents each, and we require over twelve hundred of them. Now, where are we to get our money from? Then, I found that the very cheapest ribbons which I could get would cost four cents each, which would amount to \$48. The whole of the printing of this association is done for \$18, tickets and all. We are here to-day, without any competition, in a sense, for the place of holding the meeting, not like last year, or the year before, when numbers of members came from the adjoining places for the purpose of controlling the vote. This has resulted in the reduction of our receipts by a good many dollars, and I found that it would be quite impossible for us to reserve this amount of money for your ribbons. As far as I am concerned, it would be a great deal better to have the ribbons, as you have noticed the time it takes to write the cards, and then they are half written before they come here. That would have been done away with. It is, you will see, not a matter with me, but a saving of your money.

I intended to speak first of Mr. Langdon. It was with the greatest of pleasure that I received

word of his appointment as superintendent. Having met him on previous occasions, I was satisfied that he would make a model superintendent, and that my instructions would be carried out. I am bound to say that I have never seen a better superintendent than Mr. Langdon has made. The instructions from me were hardly instructions; I wrote suggesting, and we came to the conclusion that that was the proper way to do it. When anything was settled, I am pleased to say that he carried out the arrangement in detail to the letter.

I wish to speak here of another thing which is a source of annoyance. There are a few that will persist in trying to get in late entries. Now, you passed a resolution that entries should close on a certain date. I have followed that out, and it is yourselves that are to blame if you have made the date too early. An old gentleman brought in a large number of entries. I did not see anything of them until I got here on the 6th. I could not accept his entry then. I only mention these matters so that those who so persist may not look upon me as doing anything that might be considered obnoxious to anyone. I treat you all just as I would like to be treated myself, and not one of you, not even my own father, can get in an entry after the advertised date.

There is another matter about which I desire to say a word or two. You know why we hold this meeting. This association and these meetings are supposed to be for the good of the country at large, and I hope and trust that the directors have all stuck to the resolution which was passed a year ago, and that they have prepared essays which will be of great benefit to the country at large.

The treasurer, Mr. G. G. McCormick, read his report, which was adopted, together with the report of the auditors. Letters of regret were read from the Hon. John Dryden, Minister of Agriculture; Mr. C. C. James, Deputy Minister of Agriculture; Dr. Mills, president Ontario Agricultural College; and from S. M. Clemons.

It was moved by A. Bogue, seconded by Thomas Rice, that the next annual exhibition of this association be held in the city of Guelph. Carried unanimously.

It was moved by A. Bogue, seconded by G. G. McCormick, that Thomas Gowdy, Guelph, be president of the association. Carried unanimously.

It was moved by W. McNeil, seconded by D. C. Trew, that A. Bogue be the first vice-president. Carried. W. McNeil proposed Henry White as second vice-president, seconded by A. Bogue. A. Brown nominated G. S. Oldrieve, seconded by Dr. Mallory.

Messrs. Bogue, Bennett, Mallory, Paton, and Wagner then took part in a very animated discussion as to whether Mr. Oldrieve was within the

jurisdiction of the Ontario Poultry Association. Messrs. Bogue and Wagner argued that he was without the jurisdiction, while Messrs. Bennett, Mallory, and Paton argued that the association represented the whole province, notwithstanding the Eastern Ontario Poultry Association. On a vote being taken Mr. White was declared elected.

G. G. McCormick proposed the president, Messrs. Bogue, Dilworth, Burn, and Cole as a committee to nominate directors and report to the meeting. Carried.

T. A. Duff rose to a question of privilege, and asked whether it was not within the rights of the association to appoint an hon. president, as one had been elected last year. G. G. McCormick replied that the appointment was only made last year to pacify the New Hamburg men.

The Nominating Committee retired, and Mr. McNeil took the chair.

Mr. McCormick said: It has been suggested by representative men of the country that the government should do something to encourage farmers to raise thoroughbred poultry and to exhibit them. This is something which has never received the attention, in a substantial way, of any organization. The matter was mentioned to me to-day, and the suggestion was thrown out that the government be asked to donate prizes at the agricultural shows and fairs throughout the country. I suppose that would include the Toronto Industrial, the Montreal, and Western Fairs. The government might set aside a certain amount of money for farmers' prizes. I merely throw this out for discussion. The suggestion would debar professionals from competing with the farmer, and would, I believe, give an impetus to the industry. I should like to hear from Mr. Gilbert.

Mr. A. G. Gilbert, manager poultry department, Central Experimental Farm, Ottawa, said: I suppose I shall be allowed to speak as a member of your association, and not as a representative of the Experimental Farm. The subject mooted by my esteemed friend Mr. McCormick is one of very great importance. Perhaps no one in the last twelve months has been more amongst farmers in his official capacity than I have. I had the honor of addressing twenty-two meetings in different parts of the country last year, some of them attended by five or six hundred farmers. A good many of the farmers at these meetings urged upon me the fact that it was almost impossible for them to go to these shows and compete against such gentlemen as I see here before me. You are, of course, entitled to all the prizes you can get. It is a credit to you and to the province. Mr. Gilbert then referred to the prizes Canadians had won throughout America, and said: Suppose the Dominion Government would set aside a sum

of money and give a first prize of \$8, a second of \$5, and a third of \$3, for the best exhibit of poultry shown by a *bona fide* farmer. This would give the farmers a chance, and would interest their wives, and their daughters, and their sons. Mr. Gilbert then referred briefly to the market for eggs, the advisability of gathering them every day, marketing them while fresh, putting unfertilized eggs upon the market, and where to obtain the best prices. In response to a request of the secretary, Mr. Gilbert agreed to prepare an article for publication in the annual report.

The Nominating Committee reported the following names as directors: District No. 5, D. C. Trew, Lindsay; No. 6, Wm. Barber, Toronto; No. 7, John Cole, Hamilton; No. 8, M. T. Burn, Tilsonburg; No. 9, T. H. Scott, St. Thomas; No. 10, T. Rice, Whitby; No. 11, Wm. McNeil, London; No. 12, Edward Donnelly, Sandwich; No. 13, T. J. Senior, Hamilton.

A. Duff said: I do not think it is within the power of this association to appoint two gentlemen from Hamilton. I have not the slightest objection to the two gentlemen who have been named; both are good men, but, at the same time, if we have a law to go by it must be observed. I certainly think it is not within our powers to make two appointments from the one division.

Messrs. Burn and Cole stated that there was no one from division No. 13 who was a member of our association, and therefore no one to place upon the board, but that Mr. Senior could represent division No. 13. Mr. Duff took exception to this, and said that the statute declared that the director should be "from" such and such a division. He stated that the committee were wrong in stating that we had not a member who lived in division 13. One of our members had always lived there, and had been showing for many years—Mr. W. J. Bell, Angus.

On motion, Mr. Bell was elected as a director for division No. 13, in place of Mr. Senior. Mr. John Cole thereupon retired as director for division No. 7, and Mr. Senior was appointed in his stead, leaving the nine directors, Messrs. Trew, Barber, Senior, Burn, Scott, Rice, McNeil, Donnelly, and Bell.

Mr. McCormick was re-elected treasurer, and Messrs. H. B. Donovan and Thomas A. Duff, Toronto, auditors. Messrs. Dilworth and Duff were elected delegates to the Industrial Exhibition; Messrs. G. McCormick and J. H. Saunders to the Western Fair; and Messrs. Cole and the Rev. Father Geoghegan to the Hamilton New Central Fair.

Mr. Bogue asked whether it would not be advisable to make some provision for the storage of the coops.

Dr. A. E. Mallory spoke: There is a matter which I wish to bring before the association, not only as to the storage of the coops, but in regard to the conduct of this association in the future with reference to their use. I have no doubt that the directors of the association have already taken that into consideration, from the fact that some remarks have been made with reference to them. I think that some special provision should be made for the storage of these coops, and some further consideration should be given as to the use of them. These coops were purchased by the province at large for the express use of this association. I take it that this association not only represents the poultry-breeders of this province, but also the whole province. This grant which has been made by the Provincial Legislature was made to this association simply as the guardians of the interests of the poultry breeders and raisers of the province, and not to be held absolutely for the use of the provincial association alone, and if, as has already been expressed, it is desirable for this association to bring its influence to bear upon the government, and through the government upon the country, in the interests of poultry raising, breeding and marketing, there is no way in which this association can do so with so little money as they can with the proper use of these very coops. For this association to be so selfish as to store away these coops, which are provincial property, and say that nobody else shall use them except ourselves, and that only once a year, appears to me to be very selfish and very blind so far as the interests of the Poultry Association, which we are all to guard and conserve, are concerned. My suggestion is—and I shall embody it in a resolution, if it meets with approval before this association—that these coops be stored at the Agricultural College at Guelph, under the charge of Mr. Jarvis (that is, if he will accept the charge), and that all the local poultry associations throughout the province who shall give proper guarantee for the care, freight, and return of these coops, shall be entitled, so long as they do not conflict their dates of using them with this association, to the use of these coops.

T. A. Browne, in answer to the doctor, said: The government did not look upon it in any such light. We were asked if we would lend the coops, and we thought it better not to do so. If we begin to lend these coops to everybody, they will soon become damaged. If we want to run a show we must have these coops properly stored for our use, and not taken out ten times a year. There are very few local associations which would require the number of coops we have, and very few which have not got coops of their own.

C. F. Wagner: I do not think we should keep these coops to ourselves. I do not think Mr. Browne can name any one city or town in On-

tario where they have coops of their own. (A voice: Ottawa.) Mr. Wagner: Well, that is the only place. (Another voice: New Hamburg, Guelph, Toronto, Hamilton).

Mr. Dilworth: In regard to borrowing coops, I think some fee should be paid for their use. About ten or twelve years ago we had the Ontario in Toronto for two years in succession. We borrowed coops, and the damage that was done was something terrible. It cost us a good deal of money to mend them. The Industrial lent the coops to the Ontario to encourage the show being held in Toronto. They are now made permanent, and that was the reason for so doing.

Mr. Field: I understand that the legislature voted the \$500 on the distinct understanding that other associations could have the coops by paying the charges to and from the place where they were stored. I could give you the names of a number of members of the legislature who voted for the grant upon this understanding.

Mr. Wagner: The coops Mr. Dilworth refers to were all wooden coops, and could not be folded up like these.

Mr. McCormick: I think before we go any further we should find out what the government desire in the matter. I think you will find that they want the association to look after them. There are over three tons of wire in them, and it would be an expensive matter for local associations to handle these coops.

It was urged very strongly upon the association by Dr. Mallory that the coops could not be worn out in a better or more desirable manner than by lending them to weaker associations in all parts of the province, thus enabling them to hold shows and educate the people in their immediate localities. If the coops were worn out in such a cause, this association would have solid ground upon which, in the course of five or six years, to ask the government for new coops. He moved, seconded by Mr. Browne, "That the coops of this association be placed in charge of the secretary of the association, and that the coops be lent to local poultry associations of the province on condition that the association borrowing them give proper security for all expenses of carriage, damage, and returning of the same to the place of storage."

It was moved in amendment by Mr. J. II. Saunders, seconded by Mr. McCormick, that the matter of the lending and taking care of the coops be left to the discretion of the Board of Directors. The amendment was carried by a majority of one.

It was moved by Dr. Mallory, seconded by Mr. Duff, that the next annual meeting of the association be held during the second full week in January, 1897. Carried. A hearty vote of thanks was tendered to the retiring officers, and also to the town of Port Hope for the use of the city hall.

As some remarks had been dropped by one of

the members relative to adjournment, Mr. Duff said: It seems to me altogether too premature to speak of adjournment at the present time. I would like to know what was the object of this meeting to-day. Was it to wrangle, or was it to endeavor to give back to the government, by giving to the country at large some information, some value for the \$900 grant which is given to us annually? It is well known to every member of this association that the government of this province is continually urging upon us the desirability of aiding the farmer, by imparting to him instruction and information relative to the management of this most important industry. I am quite prepared to state that there is no branch of agriculture at the present day out of which so much money can be made, considering the capital required, as out of poultry, and we come here to-day for the purpose of giving information. Where would you find a more representative body of poultrymen, or a gathering better able than this to give instruction relative to such matters? It was resolved at the last meeting of the Board of Directors that each member of that board should prepare an essay upon some subject relative to the industry, and read it at the annual meeting. I have not the slightest doubt that each director present has done this and is prepared to deliver an address or read an essay. This is what the government wants, and is the very least we could do, considering that we have never been curtailed in the matter of money. I, for one, as the first member of this association who ever prepared and read an essay before the annual meeting, state most emphatically that it is not justice to the government. I have an essay here which I have gone to considerable care and trouble in preparing, and I know that another director, Mr. Rice, has one. I am also satisfied that there are others. I have not the slightest doubt but that there are other gentlemen here in this meeting who came for the purpose of having imparted to them information of this character, and listening to the discussions which would take place in regard to them; but they are to be doomed to disappointment. It is not fair or just, and I, for one, will never prepare another essay or address unless I am assured that it will be listened to and discussed.

It was eventually resolved that hereafter the Wednesday afternoon during the week of the annual exhibition be set apart for the reading of essays and the discussion thereof. Mr. T. Duff suggested that this association advertise these meetings in the same manner as other provincial associations and Farmers' Institute meetings are advertised, thus giving the farming community residing in the particular section where the meeting is to be held a chance to be present.

It was moved by Dr. Mallory, seconded by Mr. Gale, that the essays prepared for presentation at this meeting be taken as read, and that the same be published in the report. Carried.

At a meeting of the newly-elected Board of Directors, held after the annual meeting, the Cobourg Poultry Association again applied for the use of the coops. This, however, was refused, but the tins for holding the score cards were placed at their disposal. On motion, the secretary's salary was increased to \$150 a year.

## Port Hope Poultry Show.

The exhibit was in every way a most successful one. The show was cooped with the excellence of New York, and the quality of the birds was of the very highest order. Too much praise cannot be bestowed upon the efficient manner in which the superintendent, Mr. W. H. Langdon, and the assistant superintendent, Mr. A. E. Stevenson, discharged their duties. It was the best managed show I have ever seen. An exhibitor did not even have to coop his birds. They were taken in charge by the gentlemen above named, and placed in the coops allotted to them. Each coop bore a number, so that there was no confusion. The birds were well cared for, and the show kept scrupulously clean. It certainly proved the most successful exhibition in the history of the association. Messrs. Butterfield, Jarvis, and Smelt judged the poultry, and Mr. C. F. Wagner the pigeons. Dressed poultry and eggs were judged by Mr. Wm. Barber.

*Barred Plymouth Rocks* were an excellent class of good birds. Cocks, first and second a tie between the writer and Oldrieve & Wilkinson, both good birds. Had the writer's bird had his wing and tail properly grown in he would not have tied. Hens, first a grand bird shown by Mr. J. E. Bennett, well and evenly barred all over; others good. Cockerels, first a bird owned by the writer: score, 94; grand head, excellent, even colored all over; large size, magnificent colored tail; grand colored legs. Second and third a tie between the writer and Oldrieve & Wilkinson, both excellent birds. Pullets, first a nice blue-barred bird; others good. J. A. Betzner, West Flamboro, showed a fine team.

*Buff Rocks.* This was the first Ontario exhibition at which this variety was exhibited. There was a nice class of very fair birds. The pick of the class was certainly the first and second prize pullets. The first was a grand one in shape and color. Both were owned by Mr. R. H. Essex, Toronto.

*Cochins* were out in force, the principal exhibitors being Messrs. McCormick, McNeil, and Wyatt.

*Leghorns* were strong classes, and the birds of a high quality, the bulk of the honors going to Mr. T. Rice.

*Black Minorcas* were a strong class of excellent birds. First cock a fine, large bird, poor comb, large lobes, entirely out of form; body, grand. Second a taller bird, grand comb, good face, tail not in shape. Third only fair. First hen, the New York winning pullet of last year. Second and third nice. Cockerel, first a beauty, grand comb, bright red face, very large, pure white lobes, large, well-spread tail carried well back, good color all over. This was a very young bird. Second and third were good specimens. Pullets were not quite as good a class as a whole as I have seen, but the winners were good. The writer won second for cock, and first for hen, cockerel, and pullet.

*White Minorcas* were of a very good quality, but here were not a great number shown. The winning birds were of fair size and good color. The writer won first and second for cock, hen, and cockerel, and first and third for pullets.

*Polands, Hamburgs,* and the French varieties were out in force, and the quality excellent, better than at New York.

*Silver Grey Dorkings* were quite a large exhibit. The first prize cock was a grand bird, so was the first hen. The first cockerel was a very large bird, weighing about ten pounds. The first pullet was also a good one. Both were owned by Mr. J. L. Corcoran, Toronto.

*Colored Dorkings* were very good classes indeed. There was a mistake in awarding first prize to the cockerel which got the ticket. The clerk made a mistake in the score card, which was not observed until it was too late to rectify it. The second cockerel, owned by Mr. John Lawrie, Malvern, Ont., should have been awarded first. He was an excellent bird, and of good size. Mr. Lawrie also won first with pullet. This bird was the highest scoring bird in the show, 96½. She was almost perfection, and must have been a good one when that well-known Dorking judge, L. G. Jarvis, remarked: "That is the highest-scoring and best-colored Dorking pullet I ever saw."

*Silver Wyandottes* were simply grand. I am sure the quality has never been improved on in Canada. The first cock was a grand bird, typical Wyandotte shape, excellent breast. First and second hens were also good. Cockerel winning first was a beauty; grand comb, and hard to find fault with anywhere; magnificently laced breast. Second and third also good. The winning pullets were of a high quality. Mr. Jacob Dorst, Toronto, won first on cock, first and second on hen, first, second, and third on cockerel, and first and third on pullet.

*Golden and White Wyandottes* were also good. I thought that the second prize cock, owned by Mr. Charles Massie, Port Hope, should have exchanged places with Mr. McCormick's winning cock.

Turkeys, geese, and ducks were excellent in quality, and seemed to be much admired. Mr. W. J. Bell, Angus, showed a lot of grand bronze turkeys.

*Pigeons* were out in force, the principal exhibitors being H. B. Donovan, Toronto; Charles Massie, Port Hope; J. H. Baulch, Port Hope; Mr. McGill, Port Hope; and George Dunn, Hamilton.

T. A. DUFF.

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## Special Stock Reviews.

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### Mr. Daniel Drummond's Ayrshires.

The home of Nellie Osborne has for several years been considered quarters at which good Ayrshires could be selected.

There are two young bulls growing up in the herd, both of which can boast of especially good breeding.

One of these is the bull, Glencairn of Maple Grove, imported in dam, and purchased from Mr. R. G. Steacy, Lyn, and sired by Lord Glencairn, winner of seventeen first prizes in Scotland, while his dam is Irene of Cavens (*imp.*), and the other is Matchless, sired by Glencairn 3rd (*imp.*), and his dam, Nellie Osborne (*imp.*). Matchless is a most promising calf and, we learn, has been sold to head the herd of Messrs. Robertson & Ness, Howick, Que. Perhaps no cow of the breed has done more for her adopted country than Nellie Osborne, which, in addition to her numerous prize winnings in Canadian show rings, carried first in her class and champion medal for the best cow in milk at the World's Fair, Chicago, while the number of extra good bulls she has produced, and which have been placed at the head of purebred herds, show her value in the breeding herd.

The other cows and heifers in the herd are large in size, and have every appearance of being deep milkers, while in numbers they range about twenty-five head of purebreds, among which are some fine young heifers by Silver King, which display the typical form which one would expect to find among heifers of his get.

Mr. Drummond was very successful at Chicago, where he won eight prizes, among which were first and fourth for cows, and first and fourth for two-year-old heifers.

#### Ayrshires at Parkhill.

The names of Messrs. James Drummond & Sons, Petite Côte, have been so long identified with high-class Ayrshires that anything we might have to say concerning the herd would appear superfluous, except by way of reminding those of our readers who are not so well posted concerning their achievements.

Like many successful breeders, Messrs. Drummond have such confidence in the blood and performances of their cattle that they have been loth to introduce a foreign strain. They have, therefore, continued to use bulls of their own breeding for several years, and have introduced no fresh line of breeding since the famous cow, Viola 3rd, and the bull, Promotion, were imported. Thus, after imported Promotion had been in use for several years, he was followed by his son, Rob Roy, whose dam was the imported cow, Viola 3rd. The next bull in use was Victor, which has recently been sold. He was by Rob Roy, and out of the cow Victoria, which had a milk record of 10,500 lbs. in one year. As should be expected, the young things are exceedingly promising, and testify to his breeding qualities. The bull now in use is Nelson of Parkhill, by Victor, while a neat yearling bull is also being retained in the herd, also by Victor, his dam being Maggie, by Promotion (*imp.*).

There has been such a demand for good cows that we found very few Promotion cows left, but those we saw were of such merit that we do not wonder that they made a favorable impression on buyers. The beautiful show cow, Viola 5th, by Promotion, dam

Viola 3rd, was not in as good form as we have seen her, but some very good heifers of hers are all that one could desire, while the grand old cow, Viola 3rd, is still marvellously fresh, considering her years and the numerous times she has been fitted for show. Her appearance in the show ring is fresh in the memories of all, and what a show she and her daughter, Viola 5th, made two years ago at all the fairs!

The heifers in the herd are of great promise, having plenty of size and quality, while the large number of cattle give plenty of choice. Mr. Drummond has a large stock of trophies, which run over many years, the farm itself having won more than one medal for good management.

#### Maple Grove Ayrshires.

The importation of Ayrshires made by Mr. R. G. Steacy, Lyn, during 1893 and 1894, caused quite a ripple of excitement in Ayrshire circles, which may be ascribed to the high-class breeding and extraordinary merit of the individuals.

In fact, it is doubtful if there ever has been as much care exercised in the selection of the same number of cattle. An analysis of the breeding lines will show that not only have prize-winning strains been selected, together with breeding in which high milk records are a strong feature, but it seems that an effort was made to include many of the most popular lines, and therefore the importation included a great variety of breeding.

Carlyle of Lessnessock, calved in May, 1892, was purchased from Mr. Robert Montgomery, Lessnessock, and was sired by that great show bull, Cock o' Bendie, while as an assistant Mr. Steacy has the beautiful yearling, Lord Douglas of Maple Grove, bred by Mr. Hugh Drummond, Craighead, and sired by Lord Douglas.

The high character of these two bulls is such that we may expect them to prove of vast benefit to Ayrshire breeding interests in Canada.

Among the imported cows in the herd are Love 4th of Craighead, by Cherry Lad of Craighead, bred by Mr. Robert Montgomery; White Rose of Alticane, by Scotland Yet of Piper Hill, bred by Sir J. M. Stewart; Lady Diana, by Father O'Flynn of Garlaff; Blink Bonny, by Adjutant, bred by Mr. Andrew Mitchell, Barcheskie; Irene of Cairns, by Watchman, bred by Mr. Robert Lindsay, of Coylton, and the grand three-year-old heifer, May Queen, that was so much admired at last year's fairs, and which has presented her owner with a fine specimen of a bull calf by the famous Duke of Mockland.

The foregoing comprise a variety of grand breeding lines which should claim the attention of those looking for fresh blood to infuse into their herds.

Mr. Steacy has been especially careful in selecting cows of the most approved type, avoiding anything approaching fleshy udders.

Perhaps a few will remember the imported collie bitch that Mr. Steacy won first prize with at the

bench show at Toronto. We have yet to see as uniform a litter of puppies as we were shown from her.

#### Mr. Frank Taylor's Ayrshires.

The Ayrshire cows in this herd are large in size and, we were told, heavy milkers, which we could easily believe from their milk points, while the heifers are most promising. Mr. Taylor, whose farm lies near Wellman's Corners, has this year fed several of his Ayrshire calves new milk, and their extra size and flesh show how easily Ayrshires would become a beef-making breed were they directed in that line. The practice is condemned by many breeders, but those who believe in quick development have only to point to Carmen Sylvia, the Holstein cow which won the sweepstakes milk test at Toronto and Gananoque. She, according to Mr. Thomas Davidson, her breeder's statement, was allowed to suck for six months.

Be that as it may, Mr. Taylor believes in developing the constitution, and his yearling heifers and heifer calves, as well as cows of all ages, have much more size than is usual among Ayrshires, and yet he claims for them extra milk production.

The stock bull at present in the herd is Earl of Percy, bred by Mr. John Douglas, Warkworth, and sired by Wooler Chief, and most of this season's calves are got by him, although Messrs. Stewart & Sons' White Prince has left some extra good things among the yearlings and this season's calves. The cows trace to Red Rose (imp.) and other earlier importations, and such crosses have been placed upon these earlier sorts as have been procurable, with the success that we have mentioned above.

Mr. Taylor has a large number of bull calves this season, from among which there is plenty of choice for intending purchasers. His farm is only a short distance from Hoard's station, and, as there are a number of good herds of Ayrshires in his locality, visitors can have a varied choice.

#### Ayrshires at Burnbrae.

Situated in a locality in which purebred Ayrshire breeds are more numerous than in any part of Ontario with which we are acquainted, Messrs. Alex. Hume & Co., Burnbrae, have determined to gain the summit of excellence in the line in which they are breeding, and the success achieved this year at Toronto gives evidence of more than ordinary judgment. The three-year old bull Sir Colin, bred by Messrs. David Morton & Sons, Hamilton, has been in service or two years. He was sired by Monarch, a son of the noted show cow, Maggie Brown, his dam being Sprightly Third, of the family of which Messrs. Morton thought most highly.

Sir Colin is not only a good individual himself, but is leaving some beautiful calves. Among those of this season we were shown a particularly handsome lot, and all of fashionable colors.

Prince of Barcheskie, the first-prize yearling bull

that was so much admired at Toronto, was imported in his dam, Eva of Barcheskie, by Craigs of Kyle. He was sired by Norseman of Balmangan, a bull now used at Barcheskie, and this handsome yearling will be used on part of the herd this season. He is the pattern that modern Ayrshire breeders are striving to produce, having plenty of depth of rib and width underneath, yet is fine in the shoulders and chine. He has grand Ayrshire character, and is fashionable in color. It will be remembered that first prize for bull calves at Toronto also went to this herd, where Dominion Lad was declared winner, and a very superior bull calf he is, having great depth of rib, being stylish, neat, and large in size, but of superb quality. He was sired by Dominion Chief, his dam being Amy, both sire and dam being winners in the past at Toronto. Among the cows is Eva of Barcheskie (imp.), of Mr. Andrew Mitchell's breeding. She is a beautiful cow, and carries a large and finely-shaped vessel, which gives promise of business. She was imported for the herd, two years ago, and is doing her duty well, as the bull mentioned above and a handsome heifer calf of this year testify. Other good cows there are, the herd having been bred for many years with great care, with the result that they scale high in production. A number of capital bull calves by Sir Colin are also very fine, and will, doubtless, soon find their way to head other herds. Mr. Hume has, also, quite an extensive herd of improved Yorkshires. Of three boars in use two are of Mr. Jos. Featherston's breeding. These are Featherston's choice by Woolsley General, dam by Holywell Royalty, while the other is Hastings, whose breeding we did not ascertain.

Belleville Boy is by Mr. J. E. Brethour's Oak Lodge Stamina dam by Holywell Emigrant. To mate with these three excellent boars, Mr. Hume has quite a variety of breeding in his sows, and the fine quality and extraordinary size of these can hardly be described. We should strongly recommend a personal inspection, which will be amply repaid by a look over both Ayrshires and Yorkshires.

#### Menie Stockyards' Ayrshires.

It is a pretty well-established breeding axiom that the bull is half the herd, and, when a phenomenally successful sire such as Messrs. W. Stewart & Sons' White Prince 2nd is to be found, he is entitled to more than a half share of the credit, for a good sire means success, while an ordinary sire means failure. It is just here where the breeding problem is so hard a proposition to solve. It is just here that this herd has met with such success, for, without White Prince at its head, the herd would, in all probability, not have reached its present high standing. White Prince 2nd was bred by Mr. J. Caldwell, Dundonald, and was imported in his dam by Messrs. David Morton & Sons. He was sired by White Prince, which was a son of Derby of Bogside, afterwards imported by the late Thos. Brown, Petite Cote.

White Prince 2nd has won many class premiums, including second at the World's Fair, while at that exposition he and four of his get won first premium, which was also repeated at the last Toronto Industrial. He is assisted by Douglas of Loudon Hill, bred by Messrs. David Morton & Sons.

Among the cows is Jean Armour, of Messrs. Morton's favorite Sprightly family. She had not calved until shortly before Gananoque show, where she was third by milk points. She will yet doubtless be heard from, as she is a good one.

We hardly can speak sufficiently highly in praise of the heifers by White Prince 2nd. White Lily, his three-year-old daughter, and one of his first year's get, was second in her class at Montreal, and first and sweepstakes winner at Ottawa, and second at Gananoque by milk points. Scotch Lassie Jean, a beautiful two-year-old heifer, led off with a first at Toronto, which she repeated at Ottawa and Gananoque. Annie Laurie has won twelve first premiums as a yearling and calf, while her half-sister, Maggie Lauder, has taken second place in strong competition, and it was the four last mentioned that won with their sire the family prize at Toronto at the last Industrial.

The herd now numbers about thirty-five head of purebred Ayrshires, among which choice individuals, both male and female, are always for sale.

#### Ayrshires at Warkworth.

Mr. John H. Douglas not only has an extensive herd of Ayrshires, but it contains a large number of exceedingly good individuals. The original herd was started many years ago and has been augmented by several choice additions, among which are two handsome heifers selected by Mr. Douglas during his last trip to Scotland. These include Violet of the Park, bred by Mr. Andrew Mitchell, Barcheskie, and sired by his noted bull, Traveller of Drumjoan. The other is Alice of Hatton, bred by Mr. Walter Park, Bishopton. She was sired by Clansman of Drumlanrig. The former heifer had dropped a bull calf a few days previous to our visit and had developed a nicely shaped vessel and good sized teats that promise well for future usefulness, while the latter had produced a handsomely marked heifer calf of neat form. Fairy Queen of Dunjop (imp.) was purchased at the sale of the late Thomas Brown, and is just the type that Ayrshire men are seeking. She has a beautiful heifer calf by Dominion Chief that would have made Toronto and Montreal winners look to their laurels had she been there. Amy of Byron was bred by Kains Bros., Byron, won the sweepstakes at Toronto in 1893, and produced a bull calf by Dominion Chief that won 1st this season at Toronto.

The bull at the head of the herd is Dominion Chief, bred by Messrs. David Morton & Son. He was sired by the noted prize-winning bull, Royal Chief, dam Jess (imp.). This is not only a wonderfully good individual, but he is breeding well. Such

a lot of extraordinarily good calves as Mr. Douglas has this season of his get we have yet to see. In all we counted some seven or eight handsomely marked and of the proper type. Some good bull calves are awaiting customers, and should give an account of themselves later on. The herd contains somewhere about twenty-five females of superior merit, and, as Mr. Douglas is a superior judge, we may expect to see his herd in the highest ranks.

## Jottings.

**Scottish Farmer Album for 1896.**—We have received a copy of this album, which contains a number of very good half-tones of live stock of different kinds, the majority of which have been prize-winners at Scottish shows. It is published by the Scottish Agricultural Publishing Co., 93 Hope street, Glasgow.

**A Book on Silage.**—Books on ensilage are not too common, and therefore one by Prof. Woll on this important subject is to be welcomed. The professor tackles his subject in a practical manner, and his book will be of great convenience and assistance to dairymen and others who contemplate erecting a silo. The book contains several illustrations descriptive of silos and the method of building them.

**Simmers' Catalogue.**—The seed catalogue issued by Mr. J. A. Simmers, King street, Toronto, is one of the completest yet to hand. In addition to the old well-tried varieties of seed grain, vegetables, etc., there are to be found the latest novelties. A post card addressed to Mr. Simmers will ensure the reception by the writer of one of these handsome catalogues.

**Breeders' Meetings.**—We are informed by Mr. Henry Wade that the following dates have been selected for the meetings of the associations named, all to be held in Toronto: Shorthorn Breeders' Association, Shaftesbury Hall, February 13; Clydesdale Breeders' Association, Albion Hotel, February 12; Shire Horse Breeders' Association, Albion Hotel, February 12; and Ayrshire Breeders' Association, Albion Hotel, February 14.

**Agricultural Calendar for 1896.**—We have received from the publishers, John Wiley & Sons, New York, a copy of Prof. Woll's Agricultural Calendar for the coming year. It is full of useful information for farmers in a small space, containing many useful tables of reference, and is about the same size as the dairy calendar also edited by Prof. Woll. The price is \$1.

**Thornton's Circular.**—Thornton's Circular for the third quarter of 1895 is, as its name denotes, a record of Shorthorn transactions in Great Britain during that time. We note the large number of Shorthorns, some 163 in number, exported to other countries during the period from July 1st to September 30th, no less than 150 going to South America, 2 to

Horse Owners Should Try  
**COMBAULT'S**  
**Caustic**  
**Balsam**

The GREAT FRENCH VETERINARY REMEDY  
**A Safe, Speedy and**  
**POSITIVE CURE.**



Prepared exclusively by J. E. Gombault ex-Veterinary Surgeon to the French Government Stud.

**SUPERSEDES ALL CAUTERY OR FIRING**  
 Impossible to produce any scar or blemish. The safest best **BLISTER** ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses or Cattle.  
 As a **HUMAN REMEDY** for Rheumatism, Sprains, Sore Throat, Etc., it is invaluable.  
**WE GUARANTEE** that one tablespoonful of **CAUSTIC BALSAM** will produce more actual results than a whole bottle of any liniment or spavin cure mixture ever made.  
 Every bottle of **Caustic Balsam** sold is **Warranted** to give satisfaction. Price \$1.50 per bottle. Sold by Druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address  
**THE LAWRENCE-WILLIAMS CO.**

**Windsor**  
**Salt**

**Windsor Dairy Salt is Purest and Best for butter making.**

Mrs. Marvin Burke, of Bowmanville, uses nothing but **WINDSOR SALT**, and has taken a gold medal, and 29 first prizes as follows: Industrial Exhibition, Toronto, 2; Quebec Provincial, Montreal, 1; Central Canada, Ottawa, gold medal and 2 highest awards; Whitby, 4; Bowmanville, 3; Orono, 3; Markham, 4; Stouffville, 1; Woodbridge, 4. Grocers should remember this fact when ordering Dairy Salt from any wholesale house. Put up fifteen 20 lb. bags per barrel; in 50 lb. and 200 lb. white duck sacks, and in paper lined barrels, 280 lbs. net.

**9 CORDS IN 10 HOURS**



**BY ONE MAN**, with the **FOLDING SAWING MACHINE**. It saws down trees. Folds like a pocketknife. Saws any kind of timber on any kind of ground. One man can saw **MORE** timber with it than 2 men in any other way, and do it **EASIER**. 97,000 in use. Send for **FREE** illustrated catalogue showing latest **IMPROVEMENTS** and testimonials from thousands. First order secures agency. Address **FOLDING SAWING MACHINE CO.**, 62-68 S. Clinton Street, Chicago, Ill.  
 We manufacture in Canada. No duty to pay.

**Jottings.—Continued.**

France, 8 to Germany, 2 to South Africa, and 1 to Sweden. It is a very useful work of reference.

**Live Stock Journal Almanac.**—As we go to press we are in receipt of a copy of that excellent annual, the Live Stock Journal Almanac for 1896. Its contents now extend to 350 pages, with numerous illustrations. The frontispiece represents an "Old Coaching Scene," from a painting by Mr. P. Palfrey. The types of cavalry officers' horses, drawn by Mr. O. Norie, are very spirited. Live stock, of course, are the subjects generally treated of and by the most reliable writers. There are fifty-eight special articles in all.

**Clydesdale Stud Book.**—The dullness in the horse trade is evidenced in the reduced size of Vol. VIII. of the Clydesdale Stud Book of Canada, received from the secretary and editor, Mr. Henry Wade, Toronto. The book contains the pedigrees of 495 animals, and was nearly all ready for printing last winter, when the disastrous fire destroyed all the manuscript. In consequence of the fire, the pedigrees of 54 mares are absent, the owners of these having neglected to send in fresh certificates in time to appear in this volume. Two illustrations are given, one of Mr. Robert Davies' Energy (imp.) [1432], and the other of Esquire of Park [2178], imported by Messrs. Graham Bros., Claremont, and afterwards sold to Mr. Thomas Colquhoun, Gowrie, Ont.

**Ontario Veterinary College, Toronto.**—This thriving institution, whose graduates are known in almost all parts of this continent, held its annual Christmas examinations on December 20th. The usual board of examiners officiated. The following were awarded graduation diplomas: Donald Curry, Stayner; Francis Duncan, Unionville; John M. Farquhar, Greenock, Scotland; Truman Earl Gore, Clarksburg, W. Va., U.S.; Cecil Howell, London, Ont.; John S. Jones, Poland, N.Y.; R. L. Kann, Lisburn, Pa.; Archie A. McArthur, Stayner; Allan McDonald, Erin; Angus McDonald, Teeswater; John J. McGregor, Carleton Place; Arthur E. Miller, Myersville, Ohio; James H. Powers, Providence, R. I.; David D. Reid, Teeswater; William J. Rouse, Mitchell Square; Daniel Henry Super, Warrensville, Pa.; Jacob W. Wagner, Tavistock; E. C. Wisman, Bryan, Ohio. Primary examination, Anatomy—George H. Leslie.

**Little's Sheep Dip.**—A word to sheep and cattlemen. The following are some reasons why Little's Non-Poisonous Liquid Sheep and Cattle Wash should be used by breeders. This dip is non-poisonous, is of uniform strength, and never varies. It is perfectly safe, as, being non-poisonous, no danger can occur from animals licking themselves. It does not stain the wool, but, on the contrary, im-

proves it, and adds to its value. It destroys ticks on sheep, and all insects on cattle and other animals, instantly. It is a sure cure for scab, a most valuable remedy in outbreaks of foot-and-mouth disease, pleuro-pneumonia, and infectious diseases among cattle. In these cases the wash will be found most valuable as a disinfectant and germicide, at once preventing the spread of the malady if liberally used. It is cheap, convenient, and effective, as certified to by the thousands of stockmen who use the wash in all parts of the world, and by the enormous increase in sales; in fact, no farmer, let alone stock-breeder, can afford to be without it. Send for pamphlet, and have a can of Little's Sheep and Cattle Wash always on hand.

### Stock Notes.

#### Horses.

MR. FRED ROW, Avon, Ont., offers for sale or exchange two valuable stallions. They are the imported English Thoroughbred horse, Norwegian (351), and the Yorkshire coach horse, Ambassador (1661). They are both animals of the best conformation and breeding, and have never been beaten in the show ring at the largest shows. They are only offered for sale because the owner needs a change of blood.

#### Cattle.

MR. A. C. HALLMAN, New Dundee, Ont., writes: My stock are all in a very healthy, thrifty condition, and I have an excellent lot of young bulls of extra quality and finish, with all the pedigree to back them up for breeding high-class dairy cattle. The diploma heifer has dropped a fine calf, and she is milking very well. My young heifers are a grand lot, showing very distinctly their high-class breeding. I have five handsome calves just come from rich dams. My Tamworths are also doing well. I have a choice selection of over seventy-five.

MR. JOHN MILLER, Markham, Ont., reports: I have sold my second-prize bull calf at Toronto to Mr. Wm. Chalmers, Hayfield, Man., and my third-prize bull calf to Mr. R. Foulds, Annan, Ont. I have also sold a bull calf to Messrs. John Currie & Son, Everton, Ont. My second-prize heifer calf at Toronto has gone to Mr. Joseph Lawrence, Clearwater, Man., and the fourth-prize heifer calf to Mr. Arthur Johnston, Greenwood, Ont. Mr. John McKay, Eau Claire, Ont., has selected the three-year-old heifer, Clematis, for the herd which he is establishing there. I have two young bulls left on hand for sale, and several heifers. There is a good demand for bulls, and females are also being sought for.

MR. E. PHELPS BALL, Lee Farm, Rock Island, Que., writes: Owing to a change of business I find that I have not the necessary time that is required to personally manage a large herd of A.J.C.C.H.R.

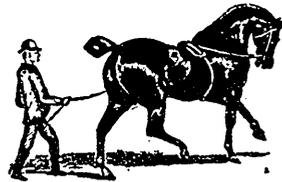
Jersey cattle, and with regret offer the entire herd of the farm Jerseys for sale, consisting of about forty head of bulls, cows, heifers, and calves, and the same number of high grades. This herd is too well known in the Dominion to need comment. It certainly is a rare chance to procure a foundation that will stand, as from this herd have been purchased some of the greatest butter cows known. It was the largest prize-winning herd in the Province of Quebec in 1895. The stock are healthy and in good milking condition. For years past individuals from this herd have been sold to all parts of Canada and United States with

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#### FOR SALE OR HIRE

### HACKNEY STALLIONS

Four and five years old.



### HACKNEY MARES

Two, three, and four years old, for sale.

#### G. H. HASTINGS,

The Pines, Deer Park, near Toronto, Ont.

### MAYFIELD HERD OF BERKSHIRES.



Young boars and sows and sows in farrow for immediate delivery. Pairs supplied, not akin, of January litters, sired by imported Queen's Own and General Jackson. Herd has won a very large number of first and other prizes at the leading shows in Ontario, Quebec, Manitoba, and the Northwest Provinces. I guarantee satisfaction.

#### S. COZWORTH, Whitby, Ont.

### DUROC-JERSEYS

Two good boars, ready for service, for sale. Also lot of good fall pigs. Prices right. Only good pigs shipped. Address

#### PETER LAMARSH, Wheatley, Ont.

### GOOD SEEDS

given away with Free Catalogue of Garden, Flower, and Farm Seeds, Roses, Plants, etc. Quality the best. Prices the lowest. 30 new varieties of potatoes retailed at wholesale rates. Address **ENTERPRISE SEED CO., Seed Growers, Newark, Wayne Co., N.Y.** When writing mention *FARMING*.

### VIRGINIA FARM.

600 acres, excellent land, well timbered and watered. Between 2 R.R.'s, 2 & 2½ miles from stations. 2 dwellings and out houses. 50 acres bottom land, very rich. \$4500. Write for free catalogue. R. B. CHAFFIN & Co., Inc., Richmond, Va.

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# Potatoes,

Tomatoes, Melons, Cabbage, Turnips, Lettuce, Peas, Beets, Onions, and all Vegetables, remove large quantities of Potash from the soil. Supply

## Potash

in liberal quantities by the use of fertilizers containing **not less than 10% actual Potash**. Better and more profitable yields are sure to follow.

Our pamphlets are not advertising circulars booming special fertilizers, but are practical works, containing latest researches on the subject of fertilization, and are really helpful to farmers. They are sent free for the asking.

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

## Just a Moment

**You use matches—  
every one must, whether for lighting  
lamp, stove, or cigar. Price being no more,  
wouldn't you buy the best?**

Naturally—you would ask for

**E. B. Eddy's  
Matches.**

### Stock Notes—Continued.

entire satisfaction. Nearly all are of St. Lambert descent, of solid colors and good size, and rich milkers. This herd will bear inspection, and I shall be pleased to welcome visitors, and correspondence will be personally attended to.

MR. ARTHUR JOHNSTON, Greenwood, Ont., writes: Our Shorthorns are now in nearly their ordinary January form, notwithstanding the uncommonly lean state in which they went into the stables. The younger things especially have done wonderfully well. Our young bulls, of which we have still thirteen on hand for sale, have made the greatest gains we have ever known since October. They are now in just the very nicest form, though not fat. Indian Brave, the yearling that won second prize at the Toronto Industrial Exhibition last September, has grown into a magnificent big fellow, sappy and mellow. He is now just past the two-year-old mark, and as sprightly as a calf—gay, showy, and stylish, with abundance of character. The two white ones are in splendid form, and they are splendid young bulls. One is out of a daughter of the imported Cruickshank cow, 34th Duchess of Gloster, and the other is out of a beautiful daughter of the imported show cow, Beatrice, bred by Her Majesty Queen Victoria. Roans predominate, though we have three most beautiful red ones. Hay and straw have never been so scarce in these parts, and cattle in general are leaner than commonly. There are fewer cattle feeding for beef than I have ever known.

MESSRS. H. CARGILL & SONS, Cargill, Ont., write: Our cattle went into the stables in good breeding condition and are managing to hold their own, although feed is scarce and rations as small as we dare venture. Our stock bull, Royal Member, is pleasing us well, not only individually, but as a sire. We have the best lot of calves from him we ever had from any bull, and we are much mistaken if there is not some good show material amongst them. He has not left one poor one. Rantin' Robin is doing well, growing and developing wonderfully. As yet we have but two calves from him, heifers, out of Early Bud (imp.) and Diamond Eighteenth (imp.). Judging from these, and the fact that Mr. Russell was successful in winning all the good prizes at London with calves sired by him, we think we have not made a mistake in acquiring him as a helpmate for Royal Member. We understand that Mr. Russell is reserving one of the calves for use in his herd, having refused to price him. We have but three bull calves unsold of serviceable age. They are all good, smooth calves, one of them being the winner of all the first prizes at local shows last fall, another out of a daughter of Lovely Nineteenth, and by our Golden Drop bull, Albert Victor (imp.) (sold last spring to Colonel Tyrwhitt), is good enough to go into any herd of Shorthorns, being thick-fleshed, with a grand

back and under line; in fact, a first-class calf all round. We have some good Canadian-bred cows and heifers for sale cheap.

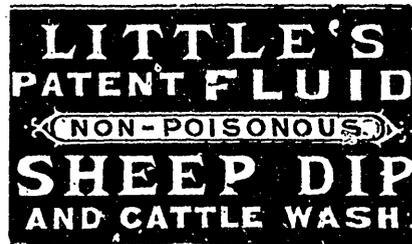
Sheep.

MR. W. S. HAWKSHAW, Glanworth, Ont., writes: The time is coming, and is not very far off, when the demand for sheep will be greater than the supply. In my opinion, there is no line on a farm that will show such a profit as sheep, provided you have a farm suitable for sheep.

MR. JOHN CAMPBELL, Fairview Farm, Woodville, Ont., writes: Of late the demand for good Shropshires is steadily increasing, and it is easily seen by close observers that the blackfaces will be wanted in great numbers by our American customers in a short time. It would be well, therefore, for every breeder to put forth his best efforts to improve the quality of his flock, as it is the good ones that sell first and at the most money. But the tail ends go slow and at poor money. I have just shipped a full carload of very good sheep—forty-six ewes and three rams—to Mr. Joseph Ballard, of Vermont State. Though an old customer, it was last week he saw our country here for the first time. Like many of our American cousins who visit us, he was pleasantly surprised in looking over the flocks and herds in this vicinity. Till he could see for himself, he could not believe that the "Shrops" would fare so well and be in such good bloom, handled in an ordinary way and fed so lightly on grain, as from watching in the several yards he ascertained our system of feeding. On

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TO STOCKMEN AND BREEDERS



For the destruction of Ticks, Lice, Mange, and all Insects upon Sheep, Horses, Cattle, Pigs, Dogs, etc. Superior to Carbolic Acid for Ulcers, Wounds, Sores, etc. Removes Scurf, Roughness and Irritation of the Skin, making the coat soft, glossy, and healthy. The following letters from the Hon. John Dryden, Minister of Agriculture, and other prominent stockmen, should be read and carefully noted by all persons interested in Live Stock:

"MAPLE SHADE" HERDS AND FLOCKS.

BROOKLIN, ONT., Sept. 4th, 1890.  
DEAR SIR,—I cannot afford to be without your "Little Sheep Dip and Cattle Wash." It is not merely useful for Sheep, but it is invaluable as a wash for Cattle, etc. It has proved the surest destroyer of lice, with which so many of our stables are infested, I have ever tried: it is also an effectual remedy for foul in the feet of Cattle. I can heartily recommend it to all farmers and breeders.

JOHN DRYDEN.

17 Gold, Silver, and other Prize Medals have been awarded to "Little's Patent Fluid Dip" in all parts of the world. Sold in Large Tins at \$1.00. Special terms to Breeders, Ranchmen, and others, requiring large quantities. Ask your nearest druggist to obtain it for you; or write for it, with pamphlets, etc., to

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

333

MICA ROOFING

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On all your buildings.  
It is cheaper than shingles.  
Waterproof and Fireproof.



USE  
**Mica Paint**

To Repair Leaky Roofs, Shingle, Iron, or Tin Roofs painted with it will last twice as long.

RAPIDLY TAKING THE PLACE OF SHINGLES.

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## BRANTFORD Steel Wind Mills

With Patent Roller Bearings.

**GALVANIZED STEEL TOWERS  
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The Best in America.

Ideal Spray Pumps, Iron Pumps,  
Water Tanks, Piping, etc.

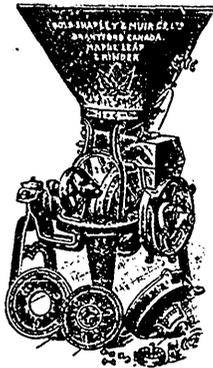
The Ideal Solid Power Mill, with  
Roller and Ball Bearings, is a wonder.  
Send for Circular, and mention  
this paper.

### THE CELEBRATED "MAPLE LEAF" GRINDER

10 inch Reversible Plate.  
Fine and Coarse Sides  
Ball Bearings for Plate  
Relief Springs.  
For any Power or any Work  
Always Guaranteed.



BRANTFORD CAN.



## Stock Notes—Continued.

his return he expected the neighbors would think that most of his carload came right out of band-boxes. Early in the season I had several customers over from Wisconsin, Ohio, Indiana, and many orders for show flocks and single rams to head flocks, which led to my homebred rams making the highest average price of any year. One shearing ram sold was the sweepstakes winner at the Ohio State Fair. Another yearling ram, sold to go to Wisconsin, was first winner at several Western fairs, and the ewes sold to the same buyer were first at some of the fairs. A stock ram sold to Indiana was so well thought of that three dollars each were paid for a bunch of ewes sent to his service. That ram was first-prize winner at Toronto and London in 1894. An offer for one hundred and fifty dollars made by a Michigan breeder, who wanted him for their State fair, was refused for Fairview Stamp last August. This ram was sired by Newton Lord, and had for dam Campbell 345, the winner of four first premiums at the World's Fair. Fairview Stamp won second at Toronto, beat the Toronto winner at Montreal, got second at Ottawa, and at the New York show was readily given first place in strong competition. The old champion, Newton Lord, is still in the flock, active as ever, and doing well as a stock-getter. Whenever he drops off, I have little doubt his record as a winner and getter of showyard winners will be one unequalled in Shropshire history hitherto.

## AUCTION SALE OF SHORTHORNS.

MESSRS. S. POWERS & SON, Orono, Ont., will sell on  
Wednesday, March 4th, 1896

24 head of registered Shorthorn Cattle, and 3 registered Yorkshire Sows.

The cattle comprise 20 females and 4 young bulls, and are all Cruickshank or Cruickshank top crossed, including Lavender 41st (imp.) and descendants. We are going out of the business and will positively sell without reserve. Catalogues sent free to all applicants.

NEWCASTLE, Ont., G.T.R.

Conveyances will meet morning trains on day of sale.

PONTYPOOL, Ont., C.P.R.

TERMS:—Eight months' credit on approved notes.

## FOR SALE HALF THE FAMOUS BELVEDERE HERD OF JERSEYS

Owing to most of my farm having been sold. This is positively **Not a Culling Out**, but purchasers given their own choice at the **Lowest Prices I ever offered**. For many years I have taken everywhere **1st Herd Prize**, and some of these splendid animals, with their descendants, are for sale. There is seldom such an opportunity to get together a superb dairy herd, that will also sweep the show rings.

MRS. E. M. JONES,

BOX 324.

BROCKVILLE, ONT., CAN.

DAIRYING FOR PROFIT. Best book ever written. 50 cents by mail.  
ROBT. BROWN, Box 107, Brockville, Ont., Can.

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**IN LIQUIDATION.**

Highly Important and Unreserved

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**Imported and Home-Bred Prize Winners**

Thirty Percheron, Clyde, and Norman (French Coach) Stallions and Mares, also several Norman Cows, Purebred Shetland and Welsh Ponies, on

**WEDNESDAY, MARCH 4, '96**

at 10 o'clock a.m., at the Haras-National Co.'s Stables

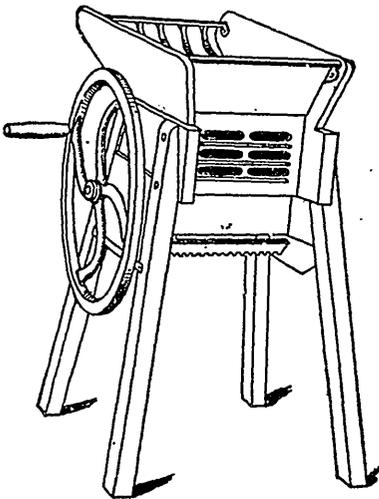
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To reach the Haras National Stables take the Park and Island Street Cars for Outremont from any part of Montreal. These cars pass the farm.

Most liberal terms to Agricultural Societies, Farmers' Clubs, or groups of ten Breeders.

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(Single or Combined, and for Hand or Power.)

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Agents wanted in all unoccupied territory.



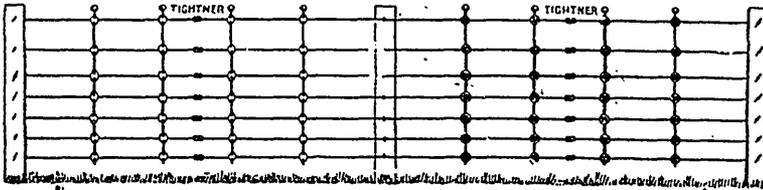
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and all kinds of  
**IRON AND WIRE WORK**  
**TORONTO FENCE AND  
ORNAMENTAL WORKS,**  
TORONTO, CAN

**ONTARIO VETERINARY COLLEGE**

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PRINCIPAL, PROF. SMITH, F.R.C. V.S.;  
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No better wire fence built than the Casey Diamond Grip, Pat. Just the thing for farmers—neat, strong, and durable. Will last a lifetime, barring accidents. Uses only straight wires, with so little depression as not to cause the galvanize to crack or peel. If a dealer wants something better to handle than he has had let



him try it. We also supply the Double Lock Wire Fence, which is claimed by some to be second to none, the lateral wire of which, as well as the upright stay, being crimped at joints. Our agents build either on premises. Agents wanted everywhere in Canada, to whom sole territory will be allotted. County and township rights for sale. Our Gas Pipe Frame Gate takes the lead. No better or cheaper place in the city to get plain or fancy turning done. Call on, or address,

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CONCRETE OR OTHER WALLS, CISTERNS, STABLE FLOORS, HOG TROUGHS, ETC.

Write for prices and particulars. When parties use our goods, when necessary we will send a skilled man, at our own cost to give instructions how to build. Farmers can thus build their walls and save half the cost.

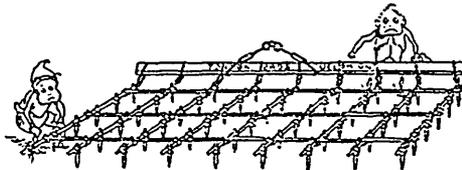
**ISAAC USHER & SON,** - 459 - **Thorold, Ont.**

**There Is No Doubt About the MERIT of DEHORNING**

It cuts both ways, does not crush. One clip and the horns are off close. Write for circular. **A. C. BROSIUS, Cochrantville, Pa.**

THE KEYSTONE  
...KNIFE...

# Why is there such a great demand for this All-Steel Flexible Harrow ? Because



Parties wishing a first-class Harrow will do well to write us direct, or apply to the local agent.

The flexibility of the Harrow enables it to adapt itself as readily to rough and uneven ground as to smooth, and the oscillating motion produced by its flexibility pulverizes the ground, and leaves it in a loose and more porous condition than any other Harrow, and it is made of the very best material money can buy for the purpose. The bars are made of

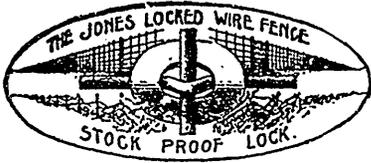
**HARD SPRING STEEL,**

very stiff and strong, the hinges and teeth being of solid steel, all of which are of a higher grade than is possible to use in any other make of Harrows, being too hard to permit of the bars being punched; also, the clips are malleable and staples Lowmore iron, highly refined, with special forged nuts, making the Harrow first-class in every respect, therefore we can guarantee more than double the strength and wear in this Harrow than there is in any other make.

We claim for this Harrow no equal in its class.

**TOLTON BROS.**

**GUELPH, ONT.**



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## Read of its many advantages:

Our Fence contains all the particular points claimed by other companies, besides having the following exclusive ones:—

- Highest award at the WORLD'S FAIR,
- More Weight, More Strength, Heavier Stay,
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WE ALSO  
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## ROOT SLICER

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Write for catalogue. Agents wanted in unrepresented districts.

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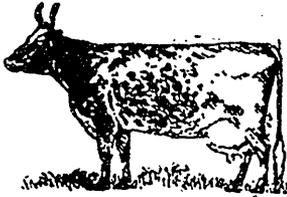
- Spring Pressure and Tilt Grain Drills.
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# Keep Milch Cows

## In Good Health



is not all extracted from the food because her digestion is out of order.

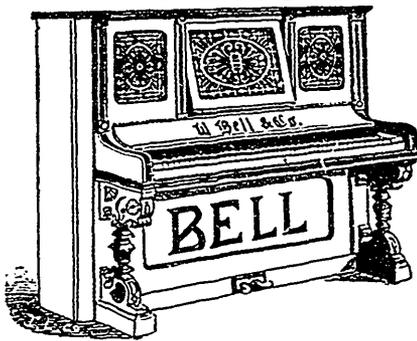
**IT PAYS.**—It is useless to expect a lean, run-down cow to have a good flow of milk, though she will eat more than an animal in good flesh. The difficulty is the nutriment

## Dick's Blood Purifier

will strengthen the digestion and make the food produce milk. It will cost but fifty cents to try it on the poorest cow you have and you will get back your money with interest in a few weeks.

For sale by Druggists, at general stores or sent post paid on receipt of 50 cts.  
Dick & Co., P. O. Box 482, Montreal.

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