

## 30

WindMills WINDNILLS Make Resolutions. Canadian Steel Airmotor TnL PAT Por rashe ix
two YEARS. Saves Your $\left\{\begin{array}{l}\text { TIME } \\ \text { LABOR }\end{array}\right.$ No farmer with uptotathe
 mes amikita TANKS, GRINDERS, Watering basin
etc., etc. Ontario Wind Engine and Pump Con. om TOMONTO. Maple Leaf Grain Ginder.

Woodstock Steel Windmills


## Bargains

 Farm Lands.[^0]
## ON BARE

 . GROUNDA WAGON WILL RUN FAR easier than a sleigh;
THE ONE IS A ROLLING, THE OTHER A FRICTION OR SLIDING CONTACT.
Perfected Roller and Ball Bearings


Run easier than an ordinary bearing, no matter how much oil may be put into the latter. The Perfected Roller and Ball Bearings introduced into MASSEY-HARRIS MACHINES three years ago were well tried and proven to be everything that has been claimed for them before their introduction.

## MASSEY-HARRIS © ${ }^{\circ}$

 TORONTO, CANADA.
## Want a Good Roof?


nomynge proor PROTECTION
And Last Indefinitely? Then Use...

## CASTLAKE STEEL SHINGLES.

They have a watent side lock and water gutter found in no other shingle-are quicker laid than others-and can't be equalled for reliable, economical worth.

GALVANIZED OIR PAINTED.
If you write, we'll send full information.

## Metallic Roofing Co.

 1185 King St. W., TORONTO.是

SALT ON THE FARM FOR WIREWORM, JOINTWORM, ARMY WORM, AND ALL INSECTS THAT Destroy Crops, SALT IS THE BEST
INSECTICDE. IT IS ALSO A FERTLLIZER. TRY IT
R. \& J. Ransford, CLINTON, ONTARIO.


ROCK SALT tor homend alib
 LABELS Spachat faciruris - thie
 GOODS.) $\begin{aligned} & \text { york cannot be excel. } \\ & \text { lod writ } \\ & \text { ticulus. }\end{aligned}$ THE LONDON Pantinaandimited. ithographers and Printers, London, Ont.


# YKMERS ADVOGGI: 

Vol. XXXIV.
LONDON, ONT., and WINNIPEG, MAN., JANUARY 16, 1899
No. 470

## EDITÓRIAL.

## Fixing the Type.

In breeding live stock for any purpose successfully, the special purpose must first be definitely ixed in the mind of the breeder, who must have an deal there to which he aims to attain, and which musties his model, and every movement he makes in the line of his ideal is to copy the model as nearly o the life as he can with the materials available. First of all, the special purpose for which the animal is mainly intended, whether for production of meat, milk, wool, or work, must be considered; and the next consideration is the best type for that special tics. At the foundation, or as the foundation of all, there must be a strong and robust constitution, which is indicated by a broad chest, sufficient thickness through the heart, depth of foreribs, and width between the fore legs, giving ample room for the vital organs, the heart and lungs to do good and rood feeding qualities, which are essential to uccess, no matter what the purpose may be. Texture and quality of bone, and the placing of the imbs squarely in the right place, is of greater importance than is generally acknowledged by the uninitiated, and should have a high place in the breeder's ideal, in the model he works by, and in his production. "No foot, no horse," is a sound foundation, the feet and legs, are not right, no founter how symmetrical the body may be, nor how handsome the head and stylish the carriage, the horse is a failure, and must be relegated to a menial place in the ranks of the race. He must not be permitted to reproduce himself in offspring. The impression is prevalent that the limbs in other classes of stock are not so important a considera-
tion as in the case of the horse, but it is a false impression. The quality of bone, and shape and standing of the limbs, are indications to a large degree of constitution, vitality, endurance and impressiveness in a breeding animal of any class, and cannot be overlooked or neglected with impunity Perhaps in none of the domestic animals, unti recently, was this quality more neglected than it
the hog, but intelligent breeders now make it sine qua non, and a hog with coarse bone and weak pasterns, and not standing straight up on his toes, is unhesitatingly disqualified in the competition for premiums and in the breeding harem, no matter how perfect in all other respects. Just as th foundation of a building must be safe and sound in order to secure a successful superstructure, so tor success in breeding high-class animals, as without these "all other ground is sinking sand." We are free to admit that the development of this quality depends largely upon proper treatment and intelli gent feeding of properly balanced food rations to produce the best results, but primarily it depends
upon skillful breeding. It is satisfactory to know that in breeding stock there are some genera principles that are established and irrevocable, and principles that are estanstitutional vigor is one of such that applies in all classes, no matter for what purpose intended. There is danger that in following too closely prevailing theories in relation to form, a fatal mistake may be made. One of these which occurs to us is that of the "wedge fully guarded, may readily degenerate into a mis chievous fad, for the simple reason that if it mean what it seems to imply-a narrow chest, it is incon sistent with a strong constitution, and it is safe to say that in no class of animals is this requisite mor essential than in the dairy cow, which is expected capable of converting large quantities of rich food
into marketable products; and this, with a contracted chest, the seat of the vital organs, upon the strength of which the whole digestive machinery
depends, she cannot do successfully, while to depends, she cannot do successfully, while to attempt to force the machinery beyond its capacity simply means faise deaving laid the foundation broad and deep in the character of the females in a herd or flock, the fixing and perpetuation of a type must depend mainly on skill and judgment in the selection of suitable sires to mate with them. This is not so simple a matter as some may suppose, for the animal selected must not only personally conform as nearly as possible to the ideal of the breeder
or to the approved type, but it is important that his or to the approved type, but it is important that his
ancestors for several generations have been built upon the same lines to insure that he be not an accident, but has inherited his desirable qualities and hence will be likely to impress them upon his progeny. The writer has in mind a flash imported show bull, which won first prize at the Provincial Fair over bulls that were worth a score like him had a high-sounding pedigree on paper, and stood highin stature and had lots of style, but he left an impress on the herd in which he was principally used in the one year he remained in the country that the owner has been trying to weed out fo these twenty years. It would have been better fo dollars, if he had closed them all out nineteen year ago. If that breeder has any doubts about the prepotency of a good bull from good ancestry, we fee sure he has no doubts as to the influence of a mean one with ancestry of the same description. This instance may serve to emphasize the importance of using a sire sparingly in a herd until some of his progeny have and it may also serve to emphasize the for good, and of one that has proved satisfactory, and the folly of parting with him hastily and trusting all to an untried one. In the selection of a sire, mascu line character and strength, without coarsenes, hould be sought. A medium-sized, compact, activ and spirited animal, as a rule, is preferable as likely to beget a uniform class of progeny. Uniformty in a herd or flock is a desirable and commendable feature, which can only be secured by the course we have indicated, seconded by selection of the fittest of females and weeding out those below the tandard. This, we admit, may in some cases olve consid ood breeder; but if uniformity is to prevail she must go, and generally, if she is offered in good condition, a buyer at a moderate price can be found, in whose herd she may not noticeably detract from its uniformity if there is in it no high standard of excellence. Failing this, there is always an exit by way of the butcher's block or the canning

Farmers' Wives and Daughters Duped. We have received complaints during the past fortnight of several cases where persons have been company, the plan of which appears, in a general way, to resemble many fake concerns that have frequently been exposed. It seems that their attention was first atcracted by adverasements hold ing out sed. cmployment at home. "More help wanted" was the refrain of the philanthropic promoters of this project for turning out socks and mittens, for which the demand was simply unlim ited, and their chief anxiety was to enrich the per-
sons who replied to their advertisements, which, sons who replied to their advertisements, weekly
we understand, apppeared in a couple of week we understand, apppeared in a couple of weekly
sheets, one of them making considerable presheets, one of thens. published in Montreal, $\mathbf{P}$. $\mathbf{Q}$. Their plan was to send out a machine with a partly
warded to the company for approval, whereupon yarn galore would be sent out, and soon the hum of land. They proposed to pay 10 cents a pair for bicycle stockings ; woodmen's socks, 5 cents ; motormen's mits, 12 cents; and others in proportion to size; and claimed that a pair could be turned out in 30 minutes. Merely as a sort of preliminary, the person receiving the glowing circular letter was simply to send down 815 cash net ( 25 per cent less than manuall instructions complete, or they had the privilege of paying for it on the "instalment plan," \$12 cash down and $\$ 8$ worth of knitting! The cash remittance was, however, an essential part of the programme. The company was to prepay the charges on the yarn, and the purchasers on the finished goods sent back. In one section alone we were in-
formed of three parties who were thus induced to part with their money, and when the machine came the letter of instructions required postage to be for. warded for the carriage of the yarn. One of these persons at least sent 14 or 15 cents postage, but no yarn came, and she was never able to get any reply oo her letters sent this precious company, though postage was swallowed up with the rest. Furthermore the machine furnished had no outfit of bobbin for winding the yarn, and "ribber," and the work represented could not be done upon it. Many of the persons, probably the majority of those thus imposed upon, could ill afford to lose their hardearned money in this way. We have rejected these
very advertisements, and can only warn the public, very ad vertisements, and can only warn the pubic,
as we have done repeatedly before, against all such schemes. The parties at the bottom of them shift from place to place, and when one fake plays out they invent another, by means of which they contrive to fleece the unfortunate readers of papers that accept anything and everything in the shape of an advertisement tendered them. It does seem extraordinary that the authorities, either Federal
or Provincial, cannot set some machinery in motion or Provincial, cannot set some mach upon innocent people.
Utilizing the Institute and Convention. January and February are the favorite months of the year for gatherings of those interested in various branches of are, particularly in the evenings for these rallies of farmers, dairymen, stock-raisers, fruit-growers, poultry-keepers, and others. Rightly conducted, they all make for improvement by bringing those interested in these industries into greater unanimity of spivit, purpose, and method tending to promote a sociable and intelligent dis cussion of the business of the farmer, and the adoption of better methods by stimulating though and awakening a desire to acquire fuler andario and New Brunswick Provinces, extended and well planned series of Institute meetings are in pro gress, and if those who attend would derive the most advantage, they should go prepared to take part in the discussions, by closely questioning the official speakers and contributing tems from the own experience, because a plan that may succeed of the country might prove a failure in another where the conditions were radically different. Hence the evidence even of experts or specialists must be thoroughly sifted. Programmes of these meetings are usually distributed in advance, and it is a good plan to look up the subjects to be con add something of value to the general fund of information. Incidentally they afford an excellent opportunity for the cultivation of public speaking on practical subjects tending to raise the standard of agriculture, by developing the gifts of those engaged in that greatest of all secular callings.

and Home Magazine. the leadiva agrioultural journal in

w. W. Losdox, Exaland, Oprice:
w. W. CHAPMAN, Agent, Fitzalan House
strand, London, w. C., England.

## John weld, manaabr.

1. THE FARMER'S A

It is impartioan and independent of all cligues or parties, handsomely

2. TERMS OF SUBSCRIPTION-SI.00 per year in advance; $\$ 1.25$

AdVERTISING RATES - Single insertion, 30 cents per lin


on our books unless your Post Office address is given.
THE ADVCATE is sen to subsciber unt an explicit order
is received for tits discontinuabce. All payments of arrearages
THE LAW is, that ill
6. THE LAW IS, that all subscribers to newspapers are held
responsibe entilal alrearages are paid and their paper ordered

REMITTANCES should be made direct to this office, either by
Revistered Letter or Money Orer, which will be at our risk.
When made otherwise we cannot be responsible.
When made ether ise we cannot be responsible.
ALWAYS GIVE THE NAME of the Post Office to w
ALWAYS GIVE THE NAME of the Post Office to which your paper
is sent. Your name cannot be found on our books unless his
is done.
9. is done.

11. No ANONYMOUS communiations or enquiries will receive atte
12. LEOTERS intended for publication should be written on one side
13. WE INVITE FARMEI

WE INVITE FARMERS to write us on any aricultural topic,
We are alvays pleased tor oreeive practical articicles. For such
as we consider valuable we will pay ten cents per inch printed
 Contributions sent us umst not
after then have apeares in our
be returned on receipt of post
14. ALL COMMUNICATIONS in reference to any matter connected $\begin{gathered}\text { with this spaper should be drdersed as below, and not to any } \\ \text { individual connected with the paper. }\end{gathered}$

Address - THE FARMER'S ADVOCATE, or the william weld co.,

## ' BEYOND PRAISE.

COMMENTS FROM ALL QUARTERS ON THE ChRISTMAS C. B. Beanen, Prescott Co., Ont.:-" The Christ
as number is beyond praise." mas number is beyond praise.

John Renton, Deloraine, Man.:-""The Ohristmas
number is very fine, the best I have ever seen." W. J. Sackville, Bewdley, Ont.:-" We all con-
sider the Advocate the best paper on the con-
tinent." Principal Sheraton, Wycliffe College, Toronto,
Ont.: "I was greatly pleased with the X Mas num seen."

William Sharman, Souris, Man.:-" I beg to con
gratulate you upon the handsome and interesting gratulate you upon the handsome and interesting advocate. It certainly is the best yet,"
C. E. P., Hyde, N.-W. T.:-"I I feel very thankful
to you for the answer to my veterinary question which appeared in December veth. Your question,
costs $\$ 1.00$, but saves thousands in return."
George Rankin, Hamiota, Man:-" Just received
your Christmas number of the FARMEr's ADVoyour Christmas number of the Farmer's Advo-
cate and I think it is the best yet. I am sending
it to the Old Country," to the Old Country.
W. E. Baldwin, Manitou :- "The Christmas
number of the FARMER'S number of the FARMER'S ADVOCATE is by far the this Province. The farm and stock illustrations are
very tastefuly goten up. The issue is indeed an ornament and a credit to the publishers."

John Gregory, Antigonishe Co., N. S.:-"The
Christmas number of the FARMER'S ADVOCATE has arrived, and I must congratulate you upoc the number of any agricultural paper I have ever seen.
The illustrations are very fine, and more than any thing else will serve to show what can be done by
skill and perseerance in building up, a farm in
Canada. With best wishes for a haply and pros-
perous New Year."
G. N. Gerrow, Ontario Co., Ont.:- "Your Xmas
umber is, I consider, a great work of art, the best number is, I consider, a great work of art

Peter Smith, Kent Co., Ont.:-"I consider the Christmas number worth the subscription price cate."
C. S. Barney, one of the directors of the New York State Agricultural Society, writes:-"Please
send me your paper for one year. Mr. Frank Par send me your paper for one year. Mr. Frank Pari
sent me your Christmas number, and I have en $\underset{\text { joyed it very much. }}{\text { sent me your }}$
" A. V. Wallace, Lamont, N. Y., Jan. 10th, 1899:token of my admiration and congratulations on your Dec. 11th Christmas number. It is not only a fine work of art, but illustrates the highest type of
agriculture, for which your magazine will feel agricult
proud."
W. A. Hale, Quebec, Jan. 11th, 1899 :-" I must
congratulate you upon the Christmas number of congratulate you upon the Christmas number o
the FARMER's ADvocate. It is thoroughly good in every way, free from the cheap chromo style,
and admirably represents the leading agricultural paper of the most desirable farming country in
the world. You have an important future before
you."

Alex. Glen, Carleton Co., Ont :-"I think it is as fine a hetter than make my American cousin a New Year's gift of it, to show him to what a height of ex
cellency a Canadian agricultural journal can attain cellency a Canadian agricultural journal can attain
and the prominent position Canada has gained among the nations as agricultural country

Senator D. Fergurfect gem.
Srites : :" I have to thank you for the beautiful Christmas number of the Farmer's Adrocate
which you so kindly sent me; it is to my mind a perfect gem of its kind. The articles are good and the illustrations fine. Wherever this number of
the ADvocATE goes it will convey a capital im-
pression of Canadian agriculture,"

## Mr. G. de W. Green, of Toronto, writes

 allow me to congratulate you on your excellent greatly surpassed the expectations of say, ha scribers. The illustrations are the best and mostlifelike I ever saw in an agricultural paper, and lifelike I ever saw in an agricultural paper, and resent farm scenes all over the Dominion. I hope
the Dominion and Provincial Governments will circulate copies throughout Great Britain and Europe, for nothing will give intending emigrants a better
idea of the advanced state of agriculture and live stock breeding in Canada than the admirable illus-
trations to be found in your Christmas number."

## A Superb number.

The Christian Guardian:-"The Christmas
number of the FARMER'S ADVOCATE, London, Ont, is a superb number. All interested in aggiculttrue keep in touch with this live magazine. There is a
valuable article on "Canada's Agrisultura valuable article on "Canada's, Agricultural Re-
sources and Her Opportunities," and many others sources and Her Opportunities," and many others
of special interest to our farmers. Mr. J. W. Bengough contributes a stirring poem on "Miss Canada
Abroad," which the poet-artist illustrates by his
facile pencil. The home and children are treated facile pencil. The home and children are treated to a number of pages full of interesting matter es-
pecially for them.
"does canada proud."
A Nova Scotia reader, in sending us a list of ten
new subscribers, writes: :. I have much enjoyed
the ADvocate during the past year, compliment you especially upon the very excellent Christmas number. I must say it is the very best
agricultural number I have ever seen. I think you agricultural number I have ever seen. I think you
have hit upon a splendid way of increasing the cir-
culation of vonr paper and culation of your paper ind I extend you my
heartiest congratulations. It is something to be proud of that Canada can produce such a very
excellent arricultural paper. Wishing you every
sucess during the coning year," I remain, etc.
from the attorney-general of nova scotia. DeAR SIR,-I have to acknowledge receipt of
the Christmais number of the FAMERS ADOOCATE. I must say that it is a publication at once
leautiful and in crey way creditable to its
proprietors It is a periodial proprietors. It is a periodical which has already a am satisfied that its circulation is not one half that
it should be. It could be read with enormons adit should be it conld be read with enormous ad-
vantage by all intelligent farmers throughout the
Dominion. I should like to see it much widely circulated in Nova Scotia. ${ }^{\text {Yours very truly }}{ }^{\text {J. W. Loviley. }}$. Yours very truly,
Halifax, N. S., Dec. U8th, 1898.

STOCK.
Among the Ayrshires in Scotland.
On my last trip to England
On my last trip to England this year, I carried with me a commission to try and import a coupl Scola 1 I kew sum of in store for me.
There is no question but that England is the most beautiful country in the world (thatis, therural part), me enjoy it better even than England. I think it mong the scotch people. I have been visiting horses and sheep of several foreign countries (as well as in the United States and Canada), and there the Ayrshire breeders of Scotland. They are no only the most hospitable people I ever met, but better than that, they are the best breeders of dairy
cattle in the world. There is no other breed o catte in the world. There is no other breed o
dairy cattle that has been brought up to the same high standard in type, style, dairy conformation and utility as weli), as the Ayrshire "coo" of
(Scotland. I wish some of my Canadian friend Scotland. 1 wish some of my canadian friends
who sneer at type, and style, and symmetry and
beauty of form, and go in for what they call utility (dollars and cents at the pail), could have been with me during the four days 1 spent in Ayrshire. I am
sure that unless they are like an Englishman once knew in Wayne Co., N. Y., who getting the worst of a political argument, backed himself
against a sugar barrel-said "I would not be con vinced if I wer";-unless they are of that sort,
think they would have taken home with them such a picture of elegance, grace, beauty, carriage
symmetry of form, that when they came to symmetry of form, that when they came to compare
it to their own work in their own herds they would acknowledge that as breders of pure-bred animals for improvement they did not know their A $\mathbf{B C O}$ ©
and when they asked these Scotch tenant farmers ne price of some of their most penfect farmer perfect styled Ayrshires, and heard them mention sums from two hundred and fifty to one thousand getting such prices, and not from fancy buyers alone, but from their neighbor tenant farmers; and when they saw other cows in the same stable-utility cows-cows that will give as much milk in a year,
perhaps more, go without a buyer at fifty dollars,
they would be dull indeed if they faile perhaps more, go without a buyer at fifty dollars,
they would be dull indeed if they failed to notice on which side of the Scotch breeder's (or any other breeder's) bread the butter is. Certainly it is not
the thickest on the "utility" side. What I like to see in a man who pretends to be a breeder is that he spreads his bread thick on the dollar side, and
then eats it with the dollar and the "utility" Side up. these figures fancy prices if you will, but don't say, as many do, that it is onny the rich, fancy
farmers can have such stock. It is true that the rich can have such stock, and that they want such stock and will pay the price; but it has always been these rich men always continue to be a fact that farmer and the everyday Canadian farmer to buy these cattle, for those and not the rich men are the ones who are the best breeders of all domestic ani-
mals. L Lok at the peasant farmers on the Island of Jersey. Many of them can neither read or write,
but they can bred and and but they can breed and grow a heifer to two years
old, and sell her to Lord Rothschild, or the Duke of Marlborough, or to Her Majesty the Queen, or some
wealthy American or Canadian gentleman, for $\$ 750$ to $\$ 1,000$. True, these American and Canadian gentlemen can buy an animal that will produce, perhaps,
twice as much for half the money at home, but it is done up in such an inferior, uncouth-looking but it is in such a carelessly bred animal as to style and type, and therefore beauty, that they prefer to pay
the difference and get an up-to-date animal. I send you herewith a few photos of some up-to-date Scotch Ayrshires, which will give you but an imperfect idea of the exalted state of perfec-
tion to which the tenant farmers of Ayrshire have brought their cattle. It has come to this in Scotland, that the style of walking, the carriage of the head, have alone been sufficient reasons for deciding "Yon's a bonnie coo," said my cond sa can na walk fer a rood, neither could her, " mithe or her granny." This was his comment on one o lost a prize simply because she could not walk with the proper dignity and grace; or, as Mr. James
Howie expressed it, "Sa wer na so queenly in he wowle oxpressed it, "Sa wer na so queenly in her
aboove her as the the quays (heifers) that stood coo, but she failed a wee in the walking and the set her doon." There is another point the Scotch bud a point, I regret to say, that has not been as
andial attention,
well cultivated well cultivated among American or Canadian
breeders either as it deserves. We have, I fear made the udder the centeres. We have, circumference of
our aim. This is all right as far as it goes, for I admit an Ayrshire cow with an imperfect shaped
udder had better be left at home in a dark stable fect shaped cows is salls for her; but breeding per
we musticular business that we must not lose sight of any other point. The
fault I wish to point out is the carriage of the head and the setting on of the neck to the shoulders; the
next thing to a perfect udder that sets oft
shire or any other cow, in point of form, is that she
carry her top line straight to the setting of the tail A sloping rump is a thing I can not abide on any breed of cattle; nothing so deforms the symmetry
of a cow as that. And the next thing is the point am alluding to i. i.e., the drooping in my estimation as a drooping rump, it is a very great eyesore, and one thaot is too componly met with in this country
and is a point that Jersey breeders on the Island o Jersey even will do well to study. A drooping neck on an otherwise perfectly formed cow is like a soldier perfect in build and appointment, but stonp-
ing. I enclose a photo of a grand stamp of an Ayr man who is holding her is elevating her head a much as possible to hide the rawut, has helped it a little, perhaps, but all the expense of.the carriage of the head. Comparing this photo ence it makes in the symmetry and proportion of the animal to carry a drooping neck.
In discussing this point with Mr. Howie, he re
lied referring to a ewe-necked cow, "That is a thing a can na forgive in an Ayrs utility man hest beneath his notice but to a man who would be a genuine breeder for improvement, they are of the these little things is what makes an un-to-date

These little things, these finishing, touches to a what makes the difference in a painting between an mature and an artist. It is these finishing touches dollars, where without them we must be conten with cents. To the artist it means a prize, recognition, fame; to a ireeder it also means a prize,
recognition, fame. It makes him a credit to his recognitionty, and state, and his name is mentioned down the line of generations after he has gen
doway as one whor reurred his talents with sunry.
V. S. PEER.


The Importance of Good Mares. Breeding good horses of any kind has always been a protitate pursuit. But dams and good sires.
it is necessary to have good
get reeding, formation, are required, as well as proper anagement, Albert Muntz, M. P., in an article in of horse Filish Live Stock Journal Almanac for 1899, says that "during the middle of the present century, Frolan with the exception of the Thorough hed race horse, was very much neglected; and to this neglect, together with the exportation to oreign countries of a great many of the best
mares, may be attributed a deterioration which mares, place. Since that time breed societies have sprung up to promote the breding of almost every
ind of horse and pony, and selected stalions, free rom unsoundness, have been placed at the com-
nand of all who wished to avail themselves of their culty on commencing the reform, and one which ficulty on commencing the reform, and one which
Canadian farmers find themselves confronted with at the present time, has been and is the great
scarcity of suitable mares, either as to pedigree, oundness, size or shape. The use of good sires,
oowever, even on inferior mares, will do much in the way of improvement, but many of the produce are bound to fall below the high-class type that
brings the long prie. While the depression in orings the long price. While the deppession in
horse-breeding durine reent years did much to
drise drive out really inferior stock, it also called many
of the best breeding mares into the labor market of the best breeding mares into the labor market
in order to secure a mead of revenue from expenin order to secure a mea
sively established studs.
Reference is made by the alove-mentioned writer
o the improvement that has attended the breeding to the improvement that has attended the breeding of Shire horses in England during the past twenty-
five years. Yearlings of the present tare equal to five years. Yearrings ort, and the same may, bee
two-year-olds of the pait
said in reference to all ages. "This great change," it

 brated for breeding the very best of sinires, the
breed some years ago beament extinct through breed some yearsago became almost extinct through
cootinued neglect, but the introntuction of frst-lass
singe for five or six years entirely changed the class sires for five or six years entiriely changed the class
and character of animals sutil reanty the mares,
and intiessauction into the best studs in the kingdom The rapid change is attributed to the fact that although sadly neglected, and therefore stunted
and poor looking, the mares still rontained some o
and and poor tookd.bood, and the introduction of excel-
the goor old
lent sires together with more intellizent care, has lent sires, together with more inteligent care, ha
produced a class of females fitted to play al lead ing role in the select shire stating that " success in
matter is summed up by stian
horse-breeding depends upon the selection of mares horse the study of mating. Let them be well formed.
sound, with good action, and, alove all, well bred.

Non-Breeding Sows.

[^1]
## Rearing the Dairy Calf.

As soon after a cow calves as her milk is fit for human food, the is anzious to secure as much a after the pronts, isean from which his revenue is
possible of the crem
procured. This may seem like robbing the calf of tis necessary nourishment, judgment the younil animal and be suapeortits future usefulness. For a few days after it is taken from its dam the whole milk is necessary, and shonla be
piven at least three times a day. The first taken given ath least is the eporest in fat, and will answer
from the cow the rer the calf very well, leaving the richer strippings to
 safe to add a quart or at each feed. As thr calf
the new milk given at
thrives the skim milk may be ineresed, until the thrives the skim milk may be increased, until the
whole miik is ith withawn by the teotieth day if the vigor of the calf will warrant it. The skim
milk is often improved by the addition of a little oil milk is often improved by the addition of a little oil


YRShire bull, white cockade.
noted prizewinner in scotland.
for that purpose. In the Old Country immense
quantities of these "calf meals" are used, and the practice is if provided fresh daily, will soon be liberally taken. if provied resh sometimes that a calfs digestive organs become deranged. If it shows, thelf in cosivene
the milk should be given cooler, but if too loose, at higher temperature and in smaller quantities. To the decreased quantity two raw eggs may be added or the eggs may be given alone nethe ne mentment is
if the scouring persists. If further trent necessary yivive at tatiosespoonful of cestor oil and the samessary of oive oil, with a teaspoonful of paregoric
saie mixed in a pint of pulverized. chalk and pulverized
teaspoonful of charcoal alternately, in each feed of milk until the symptoms disappear. It is not well to resort
medicines to hastily, as the hot milk in small medicines to hastily, as the
quantities and eggs rarely fail.
To avoid getting the young animals, whether
nale or female, into the habit of laying on fat is

two-vear-old ayrshire heifer
essential to the maintaining or improving of dairy qualities. To feed any substance espeny time to a heifer before she cones in milk, will induce the
heif
abit of laving on fat, which will continue through habit of laying on fat, which will contin the animal all its subsequent career. The younger the animimat
is when this hatit of aking tesh and fat heyins, is when this hatril of it will be, and the more likely
the more contill to trwansmit that habit to its offprinc
 sslands cattle
horns for beef.
A Successful English farmer, in discussing this Nothing should be fer to the young bulils says stimulating than good hay, and at times a few oats,
thorts. or Woth, with coarser food. Plenty of coarse hay, straw and grass even should be given at times. The digestive organs of a butter bull, especially cisisly as should those of a female designed to pro-
duce butter. Heifers should be fed on nothing but
kimmed milk, grass, hay, straw-in fact, everything othing more stimulating before they drop their ule for keeping voung heifers to make good cows $s$ rather extravagantly expressed by saying, *A eifer should have a paunch large enough to turn condition, such heifers make the best cows. Oatmeal, maize meal, or anything else necessary, should be fed as an alternative to keep a young
nimal in a thrifty growing condition, which is roim any cause, getting out of condition, or to restore one that is off. But an animal that main-
tains its vigor and thrift with none, other things ains its vigor and thrift with none, other things-
being equal, gives far more promise of future usefulness than one that must be pampered. The rule is to feed just enough of such things as are found ondition and no more-the less the better-and exper allow a milk or butter animal to lay on fat. at and sleek for their cows. They know that the eeding necessary to produce such conditions in milk and butter animals impairs their power po nilk or butter, is wh milk or butter. Meat, not Milk or butter, is what they will ever aterer make.

Does Feed Alone Influence Quality of Bacon ?
To the Editor Furnarks Ane last fow months a great deal has been written about the cause of soft bacon by pork-packers and others, con most of thesearricles,
as far as $I$ have seen, the cause is mainly attributed to the food fed, corn and clover being especially blamed. There are in my opinion two other cauch,
which influence the firmness of the becon as much or even more so, than the food fed. For exampie Aew years ago it was thought to require thre
eears to mature a beef animal to bring it to the proper degree of ripeness for the block; now this
can beef just as good, or better, than in the former case. How has this been accomplished? By selection in freeding, good care, and feeding. In the case of we stijl have, through the country, a great many hogs that are not sufficiently improved by breed ing to "he "ripe" enough at six to eight months old,
 and laying on flesh rapidly, and are what are comas these fed in the same pen with others that have alout reaghed their growth and are ripe at quality of bacon will not be the same in both casee with swine no the Central Experimental Farm that during the last few weeks of of feeding test the gain in weight is often put on by one or two pigs in
the pen, the others being practically at a standstill and are, in my opinion, ripe. This will be more noticeable with pigs of different breeding, but is
often shown in pigs from the same litter. The second cause is from marketing runts and unthrity, im
cater mature hogs (which have not done well from som cause, when the averagber of recent experiment have shown that soft and firm bacon can be pro tion of food is important, as it is not advisable to feed young growing hogs largely on carbohydratee such as corn alone, , but a mixture of grains with an day) and a certain amount of exercise is much better and will give better returns than any singl grain, when fed to the right class of hogs, A A A
through an average carload of hogs picked up through the country will show quite a numbe that should have been retained for further feeding
Central Experimental Farm. $\quad$ R. R. Elulorr.

## Shying Horses.

Shying is one of the emost frequent causes of carwhy a horse shies, and the proper use of the reins whe shying may be partially cured, and accidents often averted. A horse shes from fear, and, while keeping its eyes it as much as he can. The common practice of drivers is to keep pulling the rein runs you into danzer he does not see-perhaps int a ditch, up a bank, or against some obstacle that when you yourself have caused the accident by pull ing his heal towards the thing he shies at. A good driver always shies before his horse-that is, by ticing the prick or river gives light but continuous snatches to the , the in ope to the side at which it is expected to rom the source of terror, and passes without shy. ing in most cases. Learners of driving, and those
 nest of this sudvice

Robert Tomlinson, Oak Lake, Man.:-"I think
the AdvocatE a splendid paper for farmers."

Results of English Showyards Competitions, 1898
The tabulation of the above results. so far as relates to sheep, is yearly undertaken by Mr. W.
W. Chapman, of Fitzalan House, Arundel street, Wondon, Eng, Herewith is given a condensed reLondon, Eng. Herewith is given a condensed re-
port of the list, from which the position of the
most successful showyard exhibitors will be seen. LeIcEsTERS.-This breed was shown in considerLeicEsTERR, -This breed was shown in consider-
able strength, and the leading winner was Mr.
Harrison, whose flock is undoubtedly one of the able strength, and the leading winner was Mr. G.
Harrison, whose flock is undoubtedly one of the
best of the breed at the present time. We give the best of the breed at the present time. We give the
results of the first four exhibitors in each breed, results of the first four exhibitors in each breed,
and the several columns of the tables given here-
under refer as follows: (1) exhibitor ; under refer as follows: (1) exhibitor ; (2) number of
shows at which the awards were won ; (3) chamshows at which the awards were won; (3) cham-
pion or special prizes; (4) frrst, second, third, fourth

" U" $^{\text {U }}$
CotswoLDS-The exhibition of this variety dur-
 the Royal Show, Birmingham, when Messrs R. flock being more successtul tht the Ortori Count


Lincolns. - The exhibition of this hreed during the past year has been marked by the high quality
and merit of the breed, and also by the particularly strong competition that took place on every occa-
sion when full classification at any show the breed to be represented in full force. The most notable event of the year was Mr. H. Dudding's season, culminating in the exceptional victory at season, culminating in the exceptional victory at
the Royal Show, Birmingham, when the first three places in the shearling ram class and champion of which, when sold, realized the record average for three Lincoln rams of $\$ 2,362.50$, the first prize and
champion ram making the record individual prize of champion ram making the record individual prize of
$\$ 5,000$, a certain testimony of the high merit and $\$ 5,000$ a certain testimony of the high merit and
quality of this, perhaps, the most celebrated and
widely-known in the world. .an


Oxford Downs.-This breed was more largely shown during the past year than has been the case deservedly the most successful one throughout was season, and the ewes as well as the ram he won
with found new owners in either Canada or the U
Shropshires.-Large, even, and true-to-type eading shows. The principal characteristic in the erence thereto being the uniformity of type and char-
acter. The great and deserved success was achieved acter. The great and deserved success was achieved secured the champion prize. Mr. A. E. Mansell was
not, however, exhibiting at the Royal Show, and therefore his grand shearling ram, to whom went West Midland award at the great Shropshire and meeting Mr. D. Buttars royal champion

## 

Southdowns.-The past year's showyard exhi-
bition of this higly popular breed of sheep has not bition of this highly popular breed of sheep has not
been altogether satisfactory, the principal point been altogether satisfactory, the principal point
one would call attention to being the want of uniformity in type and character, and to the strange
vagueness in the decisions given by the judges. The flock that heads the record this year is the Pagham Harbor Co's, and there is no doubt but
that the flock is, from its own intrinsic merits that the flock is, from its own intrinsic merits, fully entitled to its premier position, for few, if any,
other flocks in the present day represent in so
marked degree the true type, conformation and other flocks in the present day represent in so
marked degree the true type, conformation and
character of this breed.

## 

## W. Toop.

Hampshire Dows.-Large and most meritorileading shows during the past season. The most maturity, was most clearly areed, namely, its early those grandly developed ram and ewe lambs from
the noted flocks of the Earl of Carialy James Flower, the latter breeder's exhibit being particularly noticeable for theeir first exlass quality
which merit is most judiciously combined in this Which merit is most judicionsly combined in this
flock that other great characterist of of the breed, namely, early maturity. Which means great
growth and weath of thesh at so carly an age as
only to be found in this breed.
 SuFFolks.-The competition in the showyards years been a very restricted one, and last year, Ellesmere's highly and carefully bred flock had practically no competitor for premier honor


Border Leicestrers, a well-known North Councry bistried, and principaly exhibited in the northern
dibite of England and Scotland. Whenever exhibited, the breed generally shows well, both in
respect to quality and strength. C. M. Doose (2) (3)
C. M Doyne
R. Ciar
R. Tarlor.

Dorset Horns were not largely shown dur the past year. Two winners - - e., Messrs. W. W. . .

lady grace of hillhouse.
flowers and H. L. B. McCalmont divided the honors between them, the practically taking 4 frrsts, 1 second, 1 third, and 1 Re . N... and
the latter 3 firsts, 2 seconds, 2 thirds, and 1 R. N. KENT OR Rowney MARsh.- Throughout the past
season this breed was seen in capital force at every show wherein classes were open for it. The grow especially in respect to the demand noticeable, abroad. Go where it will, it goes to stop; expasure
to cold it is perfectly indifferent to; nor does it fear either the ravages of the liver fluke or foot rot There's money in these sheep for those who take present as in your country. Mr. W. Millen, in the nost prominent place, and although he did not

ayrshire cow, shepherdess.
secure the challenge cup at the great annual sale of
rams of this breed at Ashford, he had the satisf tion of knowing that he bredd the sire who for his
owner, Mr.

F. Namee
H: Alac.

Wevslevdales, a breed of great value and alinty protucing an excellent fleece of lustrous,
The staple wood, and mut on ofrey fine quality, owners, made throughout the year an excellent and

## 

CuEviots, essentially a Scotch breed, but ex-
hibited at the Moyal Show and the other leading Nhibted at the Roval show and the other leading
North Country shows of England in most credit-
 making it a heree whose power to impress thuir
4ualities upon the iry progeny wherever used, for
unless breeds as a whole show uniformity of type
and character it is always an open question as to and character it is always an open questi.


DEvon Lona-wool, a West Country breed of excellent wool, partaking largely of the character
of the of the Lincoln.


Black-Fackd Mountans, a most picturesque and hardy breed of sheep used in the high mountain shows and the Royal of England, the following always forms a great source of attraction wherever always fo

## C. Howatson..... ${ }_{1}^{(2)}{ }_{2}^{(3)}$


The other rreeds, that in different districts are seen at the leading shows of the districts, are not of however, say that most creditable exhibitions thereof were made by them thereat, the breeds referred to being Exmorrs, Herd wick, Look, Dartmoor, Nelsh Mountain, K

## At Lambing Time.

 It was once wisely remarked to me by an oldshepherd that preparations for lambing should lambs are expected to arrive, and should continue until they come, by which he may be supposed to have meant that well - bred, vigorous and wellconditioned parents mean the same kind of offspring
if careful attention is given besides through the careful attention is siven besides through the
winter season. You will be able by looking over Your flock to pick out the weakkings now- those
that are going down in flesh and strength the that are going down in flesh and strength, that are
being shoved away from the troughs by the fittest to survive, and have lost heart to continue the struggle for existence. Their lambs will not be look for an offspring perhaps big enough at mirt but weak and watery in constitution and likely to will be worse luck if such a ewe presents you with experience of bringing them to the stove, puttin blankets, and summel basket with straw and sweet nitre, etc., to meet with weakness, indifference, cold mouth, and probably ultimate loss of the lambs forgotten her maternal instincts have meantime condition are apt to do-and you keep on wit low cow's milk, to make an ungainly, constipated, tight skinned, and scant-fleeced specimen, a nuisance to
everybody, and worth two dollars and a quarter by

But perhaps you have caled your ewes judicious in the broad loins, and plenty of room, lake more than ordinary interest in them, and besides satisfying them inside you like to see them
clean and nice outside necks or backs, no ticks to bother them and on the ness or dirt behind from an excess of turnips. Yo will see that they have plenty of exercise, and will If you have the dark-faces you cosse food outside. surreptitious half-day to run the shears over steanem
and take off the ragged ends. Wool makes faster growth immediately atter enhearing time than atas any
other time of the year growth at any time. At least, you do not deserve to be found fault with for wishing to have your
flock look plump and tidy, and dirt will not adhere
to the among them a good deal, and are good to them they to handle them. One should be on good terms with
his floct and and The you will likely have luck at lambing time. Your vou can have it open and well ventilated made so that
but it but it can be made warm if desired. Your ewes
will run plenty of windows south side, and you will have this quarter will strengthen your lambs when they
follow the the sping sun follow the ewes out. If the place in whicn they
ewes have been running is not warm enough for the ewes have been running is not warm enough for the
new-born lambs, have your ewes in the lambing
quarters before quarters beforehand, if possible, so that they may The completion of the period of change. interesting and motion of the period of entastation is an
is not to be reasion, but ordinarily May, produce an over-developed lamb, and difficult
laborr may hathor may result; accidental and sudden move-
ments, or other cirrunstre tainty is impossible, may cause malpresentatations and danger may ressitt to tooth mother and young.
Overfeeding immediately beto
aiformity of type neir use
 ountry breed of vy fleece of very

nost picturesque
e leading Soctain


$\stackrel{1}{3}$
districts are W, We not of
exhibitions reat, exhibitions
ick, Lonk, Darrest
ont
lambing should ne at which the
should continue be supposed to orous and wel
kind of offsprin les through the
by lookigh over
ngs now-those rength, that are
his by the fittest or continue the and you may on and likely to
vant of milk.
It esents you. witt
ough the usua e stove, puttin
ith
ith straw
aid cow's mill aid cow's mink, and
aids ind inder
sss of the have meantim as ewes in low
eep on w with the
ent nd a quarter by ewes judiciousl w. You perhap ike to see them
pea chaff on the em, and no sof crecres, and wiul
enc
se food outs ay even steal ol makes faste ime than at an
may help th do not deserv e been aroun me if you have
ood terms with this.
ndica g time You n made so tha
ted atall times e spring sun in nbs when the
in which you enough for the
n the lambing change. but ordinarily $\begin{aligned} & \text { Overfedin }\end{aligned}$ , averfeeding difficult i, and difficult
sudden move-
ut which cerer and young,
after lambing

January 16, 1890
THE FARMER'S ADVOCATE
may induce garget or caked udder, and an occa- straw to our idle horses and yearling colts, especially
sional extrusion of the womb may occur, but, gen- if hay is scarce. They do nicely on it, but the idle erally speaking, nothing more than temporary unto be apprehended. In the case of over-developed offspring, assistance may be given the ewe, but not with the heaving, pulling gently at first, stronger i with
required later and the ewe is failing in strength.
The ewe may be uneasy almost half a day before chis, but there is no excuse for your interfering better in the hands of a veterinary surgeon, but gentleness, patience, care and good judgment may
see you through. The problem is to bring the
foetus forward in natural presentation, fore legs foetus forward in natural presentation, fore legs It will pro
n hour pror the the take a half or three-quarters o which time the ewe gives him constant attention If the lamb is not strong enough to get on his fee milk started. If he continues weak give him a tea spoonful of gin in warm water, and hold him in a bucket of water warmed a little above blood hea for a couple of minutes; wrap him in blankets for a
while to absorb the moisture-don't keep him too near the stove and when he gets noisy take him
back to the ewe again. Once he sucks alone he will ack to right. Don't expect the ewe to eat immeditely; she will see to her lamb first. An hour or an hour and a half after she has lambed give her handful of oatmeal in it, and a little salt. If the ewe is exhausted half an ounce of ground ginger will be found a good stimulant. The ewe should until the lamb is able to keep the bag in a mellow ondition, generally three or four days after lamb ing. Heavy feeding imme garget. In such cases the
bag should
to subjected
frequent fomentations, with the water heated to
$15^{\circ}$ to $120^{\circ}$. After the fo15 to $120^{\circ}$. After the fobe protected from cold by
woolen cloths, held up to woolen cloths, held up to
t by strings over the hips
and back. The milk should be drawn frequently. On shear ewe may be short of milk, in which case milk
secretion should be stimulated by slops and by freIn case of inversion of the womb the ewe should be hind parts elevated. All dirt should be washed from washed with alum water
and forced hack to its place. In case of
putin.
If. a ewe has but one
lamb, and you wish to
make her support an orphan, rub the orphan with the newly born lamb. To do this, take the younger of the two together, and return both at the sam time in the dark. Lambs do not suffer from mod erate cold after they are three or four days old.
The hours of the shepherd during the lam period begin at seven in the morning and end at seven the next morning for seven days of the week Most lambs, however, that come in the night com as very serious by many flock-owners, but it is a real loss nevertheless, as it means that the ewe has been supported for a year for the fleece al being
which the fleece cannot do, so that instead of ber regarded as a lessening of possible gains, the failure regarded as a lessening of possible ga
to save a lamb is an irreparable loss.

The Feeding of Ensilage.
To the Editor Farmer's Advocate:
Sir,- Ensilage, not being a complete ration, requires to be fed in conjunction with fodder and
grain, or fodder grain and roots. To cows rearing grain, or fodder, grain and roots.
calves I would feed 40 lbs . of ensilage; about 10 lbs . hay, or all the oat straw they woumixture of barley,
of turnips, and $t l \mathrm{lbs}$ of chop; a mix peas and oats. When we cut our straw we mix the the pulped turnips and chop on top of the mixture when placed before the cow. The above ration to be divided into three feeds. Of course, some cows consume more than others, and we have exact amount
by the capacity of the cow as to the en
fed each one, but no more should be fed than can be eaten up clean by the animal.
For milch cow, 30 lbs. of mangels or 8 lbs. of
bran should be fed with the ensilage and hay or straw. All left in the manger should be scraped out before the next feeding time. Young cattle we
give all they will consume of the ration for cows give all they will consume of the ration for cows only give about 2 lbs. of chop for each animal.
We also feed a good deal of ensilage and cut


A GROUP OF white shorthorn
exhibited at gekiph fat stock show, dec., 1898.
third larger than any previous year, and the num Ver of new members is greater than ever printed
Volume III. of the Herd Book has been pren and is now being distributed free to members, while money has been spent freely for public tests, yet
our surplus is now larger than at any previous time. I estimate this year's registrations at 550 say 250 bulls and 300 cows. If 150 bulls and 200 cow $\$$ were owned by members our fees would amount year would amount to $\$ 1,350$. In this calculation no account is taken of the few animals over a year old but this makes no practical difference in the total fee, which was formerly $\$ 100$, has recently been re duced to $\$ 25$. However, our members pay an annua of the $\$ 1.0$, whes I thiew of these quite reasonable, and as we now have the support of all the breeders of note in Canada, ex cept a few in the Maritime Provinces, it may reason
ably be supposed that our Association is likely to ably be supposed that our Association
be not only permanent but influential.
P. S.-I take pleasue in
P. S.-I take pleasure in mailing you a copy of
Vol. II. for your office library. Our annual meet ing will be held in the Albion Hotel, Toronto, on G. W. Clemons, Secretary.

## Brant Co., Ont., Jan. 12th, 1899.

Back Numbers Wanted.
Owing to the constant demand for extra copies to supply good many late issues has run out altogether, and several the year, and if any have copies in good condition with which they would care to part we would esteem it a great favor to
receive those for the following dates: July 1 1st, August 15 hh, September 1st and 15th, October 1 1st and 15th, November 1st and
15th, and December 1st, 1898. We are particularly chort July 11st numbers for binding, and will allow readers 15 cents
each for those sent us in good condition, and 10 cents each for each for those se side cormero on onys toin out
and puth
another oniding nside corner and diagonally across the corner : by planks should be braced to a stake in the ground to keep them plumb, and a strip nailed to each other at top to keep them from spreading, and wired to-
gether at bottom. These wires are bill into the gether at botom. These wires are buil into the
wall and are cut off after the work is completed.

 corner plank, and stand uprights atoult feet apart
 wall i is to be 1 ftit thick, stand aprights on inside of
wall
and opposite the outside ones and 18 inches
 at top to keep then trom spreadiing. and wire them
at toitom te te and the corner pianks and brace at bottom the salue as the corner panke, and brace

 rights and at hottom and top edgese inanks- tion hang over the top of plank to teep it from falling down. Take spread sticks a foot loug and drive them betiven plank to keee phank tight to wedge
and ulurights these spread sticks to be remored when filling in concrete. When planks are in their Pefore, fill in wimm wint poncrete place in in ill he stone you can in hefore ramming place in all the stone you can in
center of wall, and ram them dow in the 1 oose oncrret and then ram the concrete well next the Plank and aranund the stone untilt the top of planks is reathed. The sone sul. If if ooncerete is properiy made and rammed, these planks can be raised three or four times a day. In raising the planks take our the wedges and keept the plank to upiright bay doing
so the planks are fited tre foom the wall
and


upright and letting the planks 1
By using bolts the corner planks are put up the same as for uprights. Saw neep, for the bolts and to of planks about $1 \frac{1}{2}$ inches deep, for the edge of concrete wall; place another bolt or clamp on top edge of planks and put in spread sticks to keep them are their place. In raising the planks these planks
drawn out of the wall and placed under planks again the same as before. In putting in the door
and window frames, take a $2 \times 4$ scantling and dress and the two corners and nail it to the door-jamb uprights next concrete wall, so this will be dove no wind or cold can get through. In
will deal with stable floors, silos, etc. I will deal with stable floors, silos, etc.
Welland Co., Ont. Hagar.

## Whole Corn in a Silo

To the Editor Farmer's advocate:
Sir,-Last fall I was blessed with five acres of excellent corn, of the Whitecap variety a de excepby 15 feet in diameter, and the problem which presented itself was to find the cheapest and best way of placing this corn in my silo without buying a
cutter and power, for it was impossible to hire one at the right time.
d, in spite of the protests of my Finally I decided, in spite of the protests of my
friends, to put the corn in whole. One man said friends, to put the corn in whole-
that the silo of the crop
unless it was run through a a cutter, and it did look preposterous to think of stowing all that rank
growth in so small a space. Some said that I never
Sould could get it out witho
sure it would all spoil.
I was very uncertain myself how it would come money in a power and cutter last year at least, so money in a power was well glazed we went at it. One
when the corn way
man and a boy remained in the field cutting and man and a boy remained in the field cutting and
loading; another man drove the team back and forth from the field, leaving the loaded wagon at unloaded the corn and handed it to me in the silo The first layer was placed with tops to the north feet against the side of the silo. The second row was lapped on the first and the third on the second, in such a way that the butts of the third row repeated for the next layer, except that it whs laid
at right angles to the first; $i$..e., the tops pointing at right angles to the first; i.e., the tops pointing west. The tops of the third and fourth ayers
pointed to the south and east respectively. This
process was continued till the silo was full, which pointed to the south ant
process was continued the silo was full, which
occurred at the close of the second day. Fully half occurred at the close of the second dield. It was at
the crop remained standing in the ford
this time that I heard such remarks as "There, I told you so." But I only smiled blandly and said,
"Wait." I had seen silos filled before, and knew something of the settling power of heating ensilage. Something of the settird day after fling it began to sink, and one could almost imagine that the bottom had
dropped out of the silo. Then we began to fill agan with less help until all the corn was in except
alittle which we husked, and most of these stalks a little which we husked, and most of these stalks went in afterwards. They could all have been put beame too dry. For a covering we used the scrap-
ings of the barn floor, consisting of chaff and husks. We opened the silo on Nov. 1st. After removing the covering, the center but a good deal was hurt around the edges, especially on the cast and west
sides, where the roof prevented proper treading
near, the top. We have fed ensilage now for a sides, where the roof prevented proper oreafing
near the top. We have fed ensilage now for a
month, and find that the lower we go the less there good shape, and the cattle eat it eagerly.
good shape, and is found in throwing it out. We
No trouble it
simply keep track of the layers and courses, and
Next year I shall put the corn in whole again, as it is less labor and saves the expense of buying or hiring a machine. I shall do it with less help and
give plenty of time for settling, keep the sides high ing. By so doing I hope to eliminate most of the loss which took place this year
Missisquoi Co., Quebec.

Sulphate of Iron as a Weed Destroyer. A few months ago, in the Farmer's Advocate, being made in France and England in destroving certain noxious weeds, principaly wid mustard,
with a sprinkling of bluestone solution. The fol-
lowing additional reference to the subject, taken rom a leading Old Country exchange, will be read these columns during the eatumn to certain experiments which were carried out at the Durham
College of Science and elsewhere during the past season, with the object of testing the value of soluthe arable farmer, charlock (wild mustard). After an extensive series of experiments in Cumberland
and Durham, Dr. Somerville found that by applying a solution of iron or copper sulphate by ineans of at
nitable spraying machne at a time when the char lock plats are one or two inches high, the weeds
are at once killed. The best results were obtained by a $7 \frac{1}{2}$ per cent. solution of iron sulphate applied
at the rate of about 40 gallons per acre, the cost
being (exclusive-of the 'outlay for a spraying ma-
chine) a little over 1s. per acre. The reason given chine) a little over 1s. per acre. The reason given by Dr. Somervile forn and other plants escape, is because the latter has a smooth, upps the leaves of
which the liquid cannot rest, whereas which the liquid cannot rest, what, lie more or less horizontally. The consequence is that the latter catch and retain the poison, which has thus the op-
portunity to be absorbed and to bring about the portun of the plant. The result is the same on all rough-leaved plants, and thus it is that such weeds
as thistles are also blackened and crippled by the spray. With the object of bringing this method to the notice of farmers whe department of the Newcastle-onTyne College of Science is proposing to demonstrate its efficacy by undertaking to spray a few hundred
acres of land in the counties named above. The college proposes to supply the spraying machine, college proposes and a superintendent to direct operations, while those taking advantage of the offer will
be expected to supply three workers and two horses be expected to supply of work, and also to contribute a smail charge per acre towards the expenses of the undertaking. In order to show the effect of the
spray on each area dealt with, half an acre will be
left untreated in each field." spray on each area dealt with
left untreated in each field."
Holyrood Chiel 46927, Imported Collie Dog.


We have pleasure in presenting above q lifelike photo-engraving of Holyrood Chiel, a notable year-
old collie, imported by Mr. McEwen, of Byron, Ont., from the Isle of Man, where he was bred by Mr. T.' Caley. As will be seen, he is a dog of striking ap.
pearance, being beautifully marked sable and white, carrying an abuudant frill and coat of proper texture, and is built on the galloping lines of a worker. His head and expression bespeak an intelligence
which only requires time to be directed in the proper channel, making him a farm assistant as of Wellsburne Conqueror, dam Onchan Queen, by Champion Ormiskirk Emerald, sold a few years ago
for $\$ 8,000$, by T. H. Stretch to A. H. Megson, of Manchester, Eng. The other collie dog used by
Mr. McEwen in his kennels at "Alloway Lodge Mr. McEwen in his kennels at "Alloway Lodge ship at New York last year. At the same time
Holyrood Chiel was brought out, a two-year-old was sired by Rossendale Don, sire of many cham pions, and herself
specials in England
It has been young collies of the above type that we have been sending out during the past three years as premiums to persons obtaining new sub-
scribers to the FARMER'S ADvocate, and that the premium was a popular one is not to be wondered
at. Apart from its utility, there are few individual who do not appreciate the comradeship of a noble dog. We have accordingly decided to renew the
offer of a collie pup from Mr. McEwen's kennels to ofrer of a collie pup from Nr. McEwen's kennels to
anyone sending us the names of tweelve (12) new
subscribers to the ADvocate at $\$ 1.00$, and trust

The Agricultural Education of the Future. In an address before the Northern Illinois Hor icultural Society, the President. Mr. J. L. Hart well, in referring to the deplorable lack of interest read the agricultural press, to attend Farmers' Institute or horticultural meetings, made the following prophery
"They must be reached, and it is purely and
imply i matter of education. The agency by which the can and must be reached is our public schools. Wish to go on record as making the pre-
diction. By the tine the child now in its mother's arms becomes the father or mother of a family, the physiology of plants and animals, farm economics er skilled in these things. A well-equipped country
school will include a well-conducted farm of from one to four acres, and a successful candidate for a
position in a rural school must be thoroughly
qualitited along the lines suggested by this predic-
tion."

## Rotation of Crops.

otation of crops, rop on the same land, has been known to a more or less extent from eariest history. We have ample red in the small areas of land they cultivated that with a continual repetition of the same crop the andgradually ceased pproximating to the same purpose was when the Ispreelites were commanded to rest the land every seven years. Flax was grown in Egypt, as well
s barley and wheat, and analogy would lead to the conclusion of a kind of rotation. Little light is he conclusion of a kind of rotalion. of agriculture in ncient history; incidentally a gleam may be observed here and there in obscure nooks and corners,
showing that it was not wholly lost sight of amid the herribly devastating wars and pestilences. Coming down to the Roman occupation of Britain, and especially in Tacitus' account of the campaign of Agricola, he simply mentions that corn grew years ago, according to Geddes' History of the
Russian Empire, wheat, rye and barley were Russian lensively grown on the southern steppes of Russia, supplying many countries with bread. Rlassia, supp hemp were also largely cultivated. Ex-
perience had already taught them that when the perience had already taught them that when the
land ceased to produce abundantly they had re-
course to breaking in a new piece of land or alternating the crops.
When manuring became a fixed necessary adjunct to successful farming 1 have failed to ascer-
tain. No doubt its beneficial effects had been observed long before it had been generally prac-
ticed. It would appear that what we understand ticed. It would appear that what we understand as mixed farming raising domestic animals in late date. Abel was a keeper of sheep and Cain
was a tiller of the ground. We notice that Abrawas a tiller Lot had large flocks and herds, and Jacoh and his sons were shepherds, following a kind of nomad life. Not until their settlement in the nomd of Canaan do we hear of them raising grain.
No further back than our grandfather's, or at least our great-grandfather's, time, they knew as well as we do now that dung made crops grow, but possibly not the reason why; nor did they care much, as ong
as the result was remunerative. As the demand for human food increased with the population, and virgin soil was no longer within their reach, a new era began in the science and practice of agriculture
We therefore lay it down as an axiom, that rotation is necessary to successful agriculture, and the desideratum would be rotation suitable to the and climate are best adapted for, and which the market demands, with this understanding, that one of the alternations must be bare fallow or a crop cursory glance at the principle of rotation Science has domonstrated that no two plants of different kinds require the same elements of food and in the same proportion. The air is of practically corrupted by foul gases or decomposing matter,
viz., of oxygen, nitrogen, carbonic acid, water viz., of oxygen, nitrogen, carbonic acid, water
vapor, ammonia, nitric acid, and ozone. Oxygen and nitrogen constitute by far the greater bulk and weight or the air; the others are present in much every plant has free access to the air to draw from as an it requires for its growth. It follows, then, as an incontrovertible fact, the growth and lux-
uriance of the plant devolves on the soil. The quantity of ash left by different plants when leave two parts of ash; oats, 4 parts; beans, parts; clover, 9 parts; ; potatoes, 12 parts. This ash
or saline food of plants must first become soluble or saline food of plants must first become soluble
before it can be assimilated as plant food. Every root and fiber are so many mouths sucking, as it
rever were, nourishment from the soil. As a plant, cannot of food, it is forced to put up with what is within the sphere of its roots; and if there is not sufficient
there it will be more or less dwarfed, if not ac tually starved. There are some plants that re-
quire a larger amount of humus than others in guire a larger amount of humus than others in
order to obtain a good crop. Turnips and potatoes desire an abundance of alkali $;$ corn delights in
rotten sod in which there is present plenty of humus rotten sod in which there is present plenty of humus,
while beans, peas and clover require a good deal of
lime-in fact, all Wime-in fact, all legumes like a calcareous soil. Wheatandothercerealsalso require lime. A soil must contain a good deal of silica to secure a good crop
of wheat. Silica is more or less abundant in most all soils. It is this that forms the glaze on the
stems of cereals, especially between the head and stems of cereals, especially between the head and
the upper leaf, rendering it more or less impervious
to rust or mildew. It is also the principal stiffening the straw against lodging. It is quite noticeable that in any part of a field very rich in
humus or black earth the straw is more apt to be soft and more prone to rust and fall down for lack
of sufficient in the of sufficient silica.
Now, falling back on the fact that different plants as well as science has taught us that a continual growing of the same plant on the same land will ultimately end in the crop refusing to respond growing. A tract of country that has beem lum
tion of any on
own ton tor har
We havt ry. We have
e antediluvians
they cultivated e same crop the ifully. The first
a or something
was when the the land ever Egypt, as wel
would lead to agriculture i ks and corners ences. Coming hat corn gr History ultivated. that when the
ythey han
cee of hand

## failed to asce

 fects had beer generally prawe understan stic animals sheep and $\mathbf{C b}$
tice that erds, and Jacc tlement in th her's, or at leas knew as well as
ow, but possibly the demand fo population, anc e of agricultur
an axiom, the
agriculture, an suitable to th
crops our so
and which and which th Let us now tak two plants is of practicall
over when posing matte ne acid, wate
ozone. Oxyger present in mucl ir to draw fro rowth and lu t plants i parts of
parts ; beal become solub s sucking, as what is withi arfed, if not plants ips a
or
olent
ole
re a good dea
calcareous cure. a good cr he glaze on th less impervio
rincipal agent
ing. It is qui ield very rich all down for lack
wth, experienc hat a continua Southern States
So thas beem lum
th origina
kind of trees, indicating that a large amount of moved. It becomes, then, alogical conclusion that kind be kept the more abundant will be the foo on the soil for its saline or earthy food, and the so in turn derives its constituents from the abundance of mineral matter contained in nature's great storedisintegrated by the action of the atmosphere, frost,解 the percolation of water through the soll. In many counties in England where grain-grow-
ing obtained principally what is known as the four years course was and perhaps is yet pursued. (seeded) 2, clover 3, wheat 4. This plan produced much grain and turnips, the turnips being fed off during autumn and from a distance. In the five years' shift oats followed the wheat, and in the six years' shift it was turnips, barley, grass, grass, wheared for many years to the seven years' shift, or a modification of it, and this rotation once uni-
versally practiced in Aberdeenshire 1 will particuarly notice. into seven equal parts as nearly as possible. Commencing with turnips as the fallow
or cleaning crop 1, barley 2 , then grass 3 years, oats years, comp lease to adhere stri and it was thought to be the magnum bonum for both laird and tenant. But times changed, and with the Laciindon market became common, consequently the demand and price increased, also a stimulus to produce more beer. soon became apparent that the more turnips they could raise the more cattle they could feed. Farmers then got liberty, when entering on a new lease, to choose After a number of years in the four years' course the turnips became affected with "finger and toe"; the cereals failed, especially
wheat ; the clover became puny, or, in the vernacular, the land became "clover sick.
nttributes the failure to too close cropping.
To lay down any permanent plan of rotation
or any large extent of country would be absurd. The soip is a rotation that would be successful on ship that a might not be so on another. When cattle feeding or dairying is the main object or view, I in time be more profitable than any of the other rotations mentioned. I am personally acquainted with a few farms in the Counties of York and South
Ontario that have been wrought under a modifi Ontario that have been wrought under a modifi
cation of the rotation for at least 60 years, and last year's crop showed no sign of diminution. What ever the size of the farm, it would be divided into Beginning with corn or turnips, or mangels and coginning with the fallow or cleaning crop, 1st; barley and
peas, or all barley or all peas, zad; oats, , srd; then seeded with clover, 4th ; hay, 5th; pasture, 6,7 and 8. On a farm of $y 0$ acres cleared there would be eleven-acre fields clear of fences. The crops would
stand thus: 11 acres wheat; 33 acres pasture; 11 stand thus: 11 acres wheat; 33 acres pasture,
acres hay; 11 acres oats; 11 acres corn; 11 acres barley or peas. These crops can be alternated in
different ways without violating the main principle so that none except the grass will
same field but once in the eight years.
I do not recommend this rotation as a plan to get rich in a few years, but have good reasons for begreater return, and have the land cleaner and more fertile than by having the crops closer to gether

## Re Commercial Fertilizers.

To the Editor Farmer's advocate:
Sir,--The letter contributed by J. L., Grey Co., Ont., hits the nail pretty fairly on the head; he is only one of a good many farmers that are puzzing free literature that is in circulation I think tends more to evade the direct question and to confuse the general class of farmers. I have been getting a fertilizers, but the prices and percentage of the different ingredients vary to quite an extent, and some do not have all of the same ingredients, making it difficult to tell which would be best and most profitable to secure. If some farmer who has ence in that line it would perhaps help to solve the problem. I think the price of a good many of the brands of commercial fertilizer is too high
Prince Edward Co., Ont.
Mr. Geo. Isaac, Bowmanton, Ont., advertises for sale three imported Clydesdale stallions, one of which was a prizewinner in 1898 at the Royal lexander.

## DAIRY.

Buttermaking in Canada on the Creamery Plan.
Cold storage
Cost of Building.-If a room of a creamery is available that may be used as a storage room and
ante-room for the same, then the cost of insulating these will not exceed \$150-\$225; that is, for a creamery whose sutter daily. But there is a storage room, over or beside these, to hold the ice that mest men-
supplied. This will about double the cost tioned. These figures are from careful estimates If a separate building has to be put up the cost will be about one-half more than that necessary to line
the rooms, the insulation being the expensive part of cold storage building.
Material "nd Insulation.-Pine may be used for the outside of the building-if one has $t$, be put up
-but not for the insulation work, on account of the strong odor. Spruce or basswood we esteem the best for this purpose, together with the use of a
good quality of building paper, mineral wool, and good quatity of building paper, mirrangement of these may vary somewhat, The insulation necessary in a creamery cold storage room to entitle the owner to
the Government (Dominion) bonus of $\$ 100$ is as follows: Next to the existing wall one layer of fuilding paper; then 2" $\times$ 3" strips; building paper
bur (tar paper must not be used); 1" rough boarding;
building paper; 1"u 2u strips; building paper; 1"
 opinion that the six layers of building paper here
used would give better satisfaction if put in as used would give better satisfaction if put in as
follows: Two on existing wall, then strips, boards, two of paper, boards, strips, boards, two of paper,
and the finish or inside lining of tongued-andand the finish or inside lining of tongued-andwoould be easier put on, and with less probable
injury, if tacked to boards than if tacked to strips. In any case the paper and the hollow spaces must be continued from the sides right over the ceiling
and under the flooring, that the insulation may be

heicester yearling ewe.
Winner of 1st grize at the Provincial Winter Show at Brant
ford. 1888 . Wwned by J. M. Gardhouse, Hightidel, Ont.
complete. At least six inches of mineral wool
should be placed in the bottom of all dead-air spaces to make more thorough the insulation. In very warm weather it will be necessary to use ice and salt in galvanized ion cylinders to keep the
temperature sufficiently low the ice being smashed up and mixed with about $36 \%$ salt. Cost of Operation.- This includs the annual stor age of the ice and the daily during the hottest weather. Seventy-five to one hundred tons of ice will be needed to fill the requirements of a cold storage for a creamery of the capacity herein indicated. The cost of this will
vary materially with the locality. The labor of vary materially with the locality. The habor of cylinders during the major portion of the busiest
season of the year is an undesirable item, and one, 1 season of the year is anded by creamery, operatives.
find, not much apreciatien
Efficiency.-This system of refrigeration may be made Thy out. The dampness usually attending it is an
objection. We find that it is a general experience that butter molds much more readily in ice storage
than in chemical storage. Unless the construction than in chemical storage. Unless the construction of the building be A1 leakage frequenty resut
But the great drawhack and inefficiency to ice cold But the is the fact that it is not easily enough con-
strolled. The temperature very frequently reaches
then trolled. The temperature very frequently reaches place suffer. Another drawback the writer has hold out until the new ice is available, and many do not realize that there is really only a very short
period during the whole year when refrigeration is period during
not needed.
mical hefrigeration.
Cost of Building.-This is at least one-third less
than in the case of ice, as the storage for the butter and entry for the same is the only room needed. Cost of Plant.- -1 have by
mates of a me as i write, estilarge enough for creamery use, at prices varying
from $\$ 1,000$ to $\$ 1,500$. This outlay should be within from $\$ 1,000$ to $\$ 1,500$. This outla
the range of any cremery that h
$\$ 50,000$ worth of product a nnually
$\$ 50,000$ worth of product annually. Cost of Operation.-One charge of ammonia (i on the ammonia-compression system) annually is
all that is required, and this will cost about $\$ 10-\$ 15$.
The fuel bill is more difficult accurately to estimate The fuel bill is more difficult accurately to estimate but we can come within a little of it.
To do this work of cooling in this mer the compressor should be operated about $10-12$ hours
daily, and the extra fuel bill will be just about what it requires to drive the engine during the time that outlay, we think, would not be greater than that needed to put in the ice $h$ ye
Summary and Comparison... As far as cost is
concerned, it may be taken for granted that the concerned, it may be taken for granted that th
cost of operation of the two systems is not materi-
ally different. The cost of the plant for chemi ally different. The cost of the plant for chemica
refrigeration is the matter for the creamery to refrigeration is the matter for the creamery to constem stands unquestioned, and the evidence is from all quarters of the globe. The temperature o
the various rooms is readily and absolutely control the various rooms is read ry out at some inopportune time in this system and leave the maker at the ness, nor any leakage.
There is one great ad
There is one great advantage resulting from the chemical system to which we have not yet referred
viz., that it may be used to cool the water viz., that it may be used to cool the water supply. want it), what is not possible in the creamery, even
in July! And, too, the churning room and working room can be kept at a m moderate temperature, so reaches the storage-a very vital point. In short, the one system-the ice-stands to the chemical system as the man with a halif-balky, untried team,
of nondescript rearing, hitched to a cubic yard of
gravel in a river bed, stands to his neighbor who or novel in a river bed, stands to his neighbor who
draws rein over a team of true, tried Clydes. The draws rein over a team of true, tried clydes. The
latter is sure of his ground, and never more sure than when most tried. A break in the proper con-
trol of temperature in a creamery may (and often does) mean a loss of te. per ll. on the day's output--
a serious matter and not only in its present or im a serious aspect, but also eventually, since, when we
mediate
face a glutted market (as we are frequently called face a glutted market (as we are frequently called
upon to do), it is "extras" only that sell, and past upon to do), it is "extras" only that sell, and past
reputation is a bank on which to draw. To him
who makes and markets "seconds" there will surely who makes and markets "seconds" there will surely come a reckoning day. All praise to our Dominion
Government for their soundly workable refrigeration system from creamery to consum themselves, "Canadian" will soon be as choice a brand as the Englishman can buy.
Western Dairy School.

The Use of a Cream Separator on the Farm.
To the Editor Farmer's Advoonts:
Sir, - During the three years and a half experi-Str,-During the three years and a half experi-
ence using a cream separator we have found out ence using a creamich it surpasses the old way of
many points in which
skimming milk. Time, strength, labor and money are saved, and the skim milk can be fed warm. In
the first place, a great amount of cream is saved when a separator is used. In the winter time by
the old method the cream is frozen (unless you have the old method the cream is frozen (unless you have
a frost-proof building), and is thus greatly deteriorated in quality. By the separator all the cream is
taken out of the milk at once and while warm, and is much superior in quality and will make better butter, which will sell for a higher price. by a sepa-
tested and set the skim milk skimmed by
rator, but could find no trace of cream; but by rator, but could find no trace of cream; bue skimming process a considerable amount is lost. and labor in washing pans, cans, warming calves' milk and thawing out creamers in cold weather by the old way. This means drudgery
and hard labor. When a separator is used the milk is skimmed as it is milked, and when the cows are milked their milk is already skimmed and the skim
milk ready to be fed to the calves and hogs, and the milk ready thing to be washed are the milk pails and separator, instead of a host of pans. The separator is much more easily man
and is done in less time.
There is a mill There is a great advantage in having the milk
separated while warm, because the skim milk is separated whie warm, because the skiter, and it
warm and the calves and pigs like it better
does them more good. The warm skim milk mixed does them more good. The warm skim milk mixed with bran and shorts makes an exceleni ood upon
growing hogs. Cales do almost as well as uilk. ${ }^{\text {A }}$ little warm skim milk is good for poultry in winter Where might mention another point of importance home and the cream sent to the butter factory the cost of manufacture wold do a reay to a great extent
more. Besides, it would do more. Besides, it would do away to a great extent
with tampering with milk. I am convinced that man with a herd of twenty-iner two reasons: (a) lare amount of time is wasted in hauling whole
mik to the skimming station and skim milk from milk to the skimming station and skim not so good for calves and hogs, especially in warm weather. one-horse tread power can be got for about two
hundred dollars. A separator can be run by a horse hundred dollars. A separator can be run by a horse
or bull, or any animal having the proper weight, and the running expenses are almost nothing.
Middlesex Co., Ont.
S. C. Milison.

No Trouble in Churning when Separator is Used.
Sir, -In the Farmerr's Advocate of Jan. 2nd there appeared a timely article inviting those who perience in their use as compared with the older methoos in separating the cream from the mile.
There is perhaps no other branch of industry that There is perhaps no bungled in the past as dairying. We Canadians had become too and only in the old worn-out conservative ruts, aing there been a waking to the fact
later Yeers hish time to be divored from systems
that it is high tor thich have been a hindrance, and search for better and more profitable methods ondustry. For years we used pans, which at the best is a aborioug connected with our dairy was managed with a much intertill there were always uncontrollable in fluences, as changes of temperature and so on which rendered tot creamers and ice, and with that With that too there are drawbackss. Getting the ice means several and hauling sawdust, and alttough
for cutting and henall
packed with the greatest care, we were generall parprised to find that the ice had not kept wel (which was also tho experieng the greater part of and we were woctober, just at the time when the cream is slower to rise. This meant a
at the time when butter is invariably a pood price. Last year we were with the old methods we consider this decidedly better. To put the milk of six cows greatly lessened. from fitteen to twenty minutes. This is a little too hard for women, but not at and hard for a man. Next, washing the separater and belongings tand the separator ready for the next milking. In the warm weather we separate just the the milk comes from the cows,
weather gets a ittle cool better rests are obtained
and by raising the temperal a doiry building at the bart The milk as it comes from the separator is sted warm and ready for the casides.: separating the cream from the milk, the impurities are also separated
fand lodge on the inside of the bowl Separating and lodge on toone isside miking is done, it is much
the milk as son easier protected from contract combined, the butter produced is of a much better quality, for and for which they are willing to pay a good price. Since using the separawor wit equal quantity of milk, also never oun one occasisu have we had the upost the same results w
always depend upone the same temperature

> Mrs. H. H. SI Dorset Farm," Ontario County, Ont.

Entirely Satisfied with the Cream Separator.
To the Editor Farakr's ADvocatr: January 2nd issue on Sir,-Your article in the January 2 2nd issue on
"The Use of the Cream Separator" was at timely ad thorough exposition of the advantages on cen-
trifugal creaming of milk. I have had considerable trifugal creaming of milk. Thave hay considerabie,
texperience with the separator in my private dairy, experience witr the sepparathing you have said on the
and can endorse everthin and can endorse cav skim quickly and thoroughly, question the warm skim milk at once to our young
and feed the
Holstein-Priesians, which is is decided advantage in Holstein-Friesians, weast. Then, again, the cream is a breeding in the best condition, and from its lesser bulk is not so liable as milk to be exposea stinks" which are too often the near neighbors of the farmer's milk can, especially where the milk is kept for two or three days inanti-weekly trip to the winter creamery or perhaps semi-week the strane and "aromatic"
After seeing some of the sett, often pity the poor Alaces in whinch milk is kept, I often pity the poor buttermaker who is expected en export butter.
tainted raw material into first-lass exp tainted raw material ine general use of the creami
It seems to me that the gers separator among farmers would tend decidedyy to
raise the quality of our hutter the highest standard. As my herd is not a large one, i tind a hand machine of twenty-five gallonsce of cows are kept a power separator wow found on a good many tread power, which
farms, could be utilized to run it and to furnish a bull with necessary exercise at the same time
While I have no experience with them, should judge that the machine run by steam, with boiler furnish hot water for washing, etc., at no atd atitiona cost. It looks as if the gasoline ensine is the coming
power for farmers, but the cost is too great at power for farmers,
present for the most of us t.armers usualy have
a good deal of money invested in machinerv which aiesodie or worse than idle the preater part of the
liear, and I would hesitate to adrise any one to buy aseparator or engine without due consideration of
the cost and probable gain from its user Though
the lially reduced lately, I believe
that the manufacturers áre still asking too high
prices and so lessening the number of sales. prices, and so lessening the number of sales.
When buying aseparator it is well to take time to examine the caiferent kinds in operation, and to note the strength and simplicity of their construc-
tion, as well as the thorougness of skimming and ease of rumning. A wear, con as long as it lasts, likely to be a sochine, properly oiled and cared for will scarcely ever cause any trouble or expense, Some machines also are very terous or complicated, if the skimming parts are numerous or before buying. Ind it is wenclusion, I may say that I am entirely satisfied with the separator, and would never thiming.
back to the old gravity process of creaming.
G. W. CLEMONs.

## The Merits of "Dilution Cream Separa-

 The Merit ors" Investigated.Within the last year a number of forms of what are known as aquatic cream separacorset both in patented and placed upon the marret both in of con
the United States and Canda. They consist of The United Sarke milk cans boxes, some round and others arge minular, fftted like Coooley creamers with graduated strips of glass, so that the me can or separator. It is made large enough to contain several pails of milk and an equal quantity of water. The can is fitted with an outlet in the side of the deppirsed is bottom, through which the diated advocates of this
drawn. The claim made by the drawn. The that the addeed water dissolves the viscous matter, allowing a rapid and complete rising of the the
fat globules in the form of cream. That all the fat globules in the form or crese of the new system were warranted we were doubtful, and to having
wil skim milk diluted to twice its bulk we could see were warrailk dilu
all skim mile
grave objections.
In order to learn of the merits or demerits of the dilution system of creaming milk, Prof. H. H.
Wing Wing, of Cornell University, conducted a series or
tests during the past summer, and found the creamtests during the past summer, and found the cream-
ing by it very imperfecty don. The rom in

poland-china sow.
 65-75 degrees. The water used was at a temperature beet rather 'more than twelve hours before they were skimmed, while the dilution separator people claimed that two hours was time enough cas were
thorough rising of the cream. The cans skimmed by drawing the mixture of skim milk and water from the bottom till the cream line was
within one inch of the bottom of the can. The fat within one inch of the hottom of the can. Babeock test, and then corrected for the water added. The results were that the per cent. of fat remaining in the ekim milk from fifteen tests ran
from 40 to 1.90 , with an average of nearly 1 per cent. Occasions were also taken to test several of these
ans, or so-called separators, in actual use by farmcans, or so-called separators, in actual use by farm-
 Jersey grade cows. Equal parts by measure of
milk and water were used, with the results that on five farms, with five tests on four, and four tests on the fifth, the averages ran from, 66
cent. of fat remaining in the skim milk.
Compared with the shallow pans, Cooley creamers, and separators, we find the dilution or aquatic
system grossly lacking. Centrifual separators selssstem grossly lacking. Centrifugal separan, shile
domleave more than from.t to. of p perect., while
the average per cent. of fat found in skim milk of the average per ent. of fat found in skim mikk of
forty farmus sung shandow pans was . 39 and on
thity
 under ordinary circumstances the dilution of the
milk to milk to twice its bulk is of no benefiti. It may,
however, , he of some use when the milk is all from "stripper" "ows, or when the temperature of melt-
ing ice cannot be secured. The system is less efficient than the best forms of deep setting, such as
the Cooley creamer, and no more efficient than the the Cooley creamer, and no
old-faslioned shallow pan.
DDenmark, in order to preserve its export butter
trade, has passed a law making it a misdemeanor to trade, has passed a down making on any misdemeanor to
use salicylic acid, formalie, or any
preservative" use salicylic acid, formaline, or any
of any kind, in mik or its products.

Weeding the Dairy Herd .-. A Practical Dairyman's Method Outlined.

## -

SIR,-Eight years ago we commenced to weigh week, and take that day's record as the average fo the week. A correct uccome the year. At the same time we bough test often nough to find out the cows that were not paying profit on the feed consumed. At that time we ha about fifteen cows, "grands of butter each per made an average of 250 pounds of about thirty grade Jerseys made an average yield of 340 po butter each. We think it would be a hard mater to decide just what were testing the milk, as shortly after we commenced to use che scales and est, we purchased a first-class Jersey bull, and have several cows in our heo 450 pounds of butter each per year. We also bought a cream separator, and built silos, and, in fact, had a the of those who commence to use the test and scales will be effected in the same way. We use a spring balance scale for weighing the milk; have it suspended from and it is the work of an instant for each milker to weigh and record each cow's milk. In fact, it does not appear to take any longer to do the milking when we weigh the milk sample bottles to the room in the barn, where the milk is strained as soon as drawn from the cow. The milk is stirred and a sample taken, the same The use of the scales has opened our eyes to the merits of the persistent milker. By this we mean the cow which gives about the same quantity ond we are doing our best by breeding and weeding to seare a herd of just such cows. Tho illustrate this point I will give the record of a three-quarterere to
 possess. She dropped wer ths old, and continued to
When shenty
give milk until Nov. 5 th, 1898 . During this period gie milk until Nov. 5th, 1898, During this perior
 per day, and she was giving 15 pounds per day when we put her dry. She dropped her second chis letter is already too long, but I would just add a word of caution to those who commence to kep records of
their cows, to carefull consider all the circumtheir cows, that it is often advisable to give cows
stances, and that or heifers that have not done very well a second year's trial, and to then breed them. Feed well, and
liberal feeding, do not continue milking them until ready for the butcher
Brant Co., Ont.
Robr. BARD.

The Use of the Cream Separator.
To the Editor Farmer's anvocats:
SIr, -In your article in the Farmer's Advocate of the $\ell_{\text {ind }}$ ind inst. on the above subject you invited those of your readers who have had experience
give it for the benefit of those who are interested. While we quite agree with all the advantages set forth in that articie, which are quite within bounds,
we see two great obstacles which will have to be rewe see two great obstales separator will come into
moved before the small general use amongst our dairymen; i.e., first cost of
the machine and cheap convenient power to run it; the machine and cheap con the two Considerable the latter is the greater of thint, and windmills and tread powers have been recommended, but neither
of the above is quite satisfactory, as power for runof the operator. Those who have had experience know very well that some days the separalor runs much harder than others, and if the speed is not
maintained throughout the separation will be immarfect, and instead of the machine being an adperfect, and inste the opposite. Hand power is too
vantage it will best besides it is not always convenient
expensive, and best expensive, and besides inse" to be on hand just the
for the "man ${ }^{\prime}$ ' the moment the milk is ready to separate, and as a mater of fact it is a man's work to turn the cand a to separate two or three hun
healthy, full-grown one at that.
If the manufactures can put upon the marketa
nachine that will do good work and separate 250 ounds per hour, at a cost of $\$ 50$ separate 250 power can be made use of, we would very strongly able distance from a cheese factory or creamery, or those who are contemplating the manufacture of butter in the home dairy; more and begter butter
can be made but the greatest advantage we see is can be made, but the greatest advantage we see in
the extra value of the skim milk. The dairyman the extraa value of the skim mik. Mhen it is at its
has it just when he wants it and w. W. McNIsH.
best "Elugrove Farm," Brock Wille Co., Ont.
An occasional cause of a spoiled churning is rusty milk cans. Every now and then there accurs.
allow half-rotten smell in the output of a crean. ry or dairy, the origin of which seems wrapped in nystery. Som etimes the canse is not discovered can, all.
which
odor. lined.

## January 16, 1899

Hand and Tread Power in Cream Separa-
Mr. R. H. Harding, the well-known breeder, of Thorndale, has made a specialty of producing cream past, and has used hand power exceusively and is him just six months in which to get sick of turning
the crank. He has used an Alexandra No. 11, rum ning at an average of about 225 pounds per hour, and has usually milked from fifteen to twenty-five cows. than any fanning mill he ever saw. For a herd of twenty cows or under he considers hand
power all that is necessary. For over that he is best. Mr. P. H. Lawson, of Nilestown, Ont., who seys, has successfully catered to the London (Ont.) cream trade for a good many years past. For a couple of years he used an Alexandra No. three at Years a De Laval No. 3 at 650 pounde per hour, and
latterly a De Laval No. 3 Improved, at about 750 pounds per hour capacity Hence his experience is two-horse tread power (one of Mood''s), and thinks that when provided with a goo "governor" nothing better could be desired. It gives a very gradight team or one light horse and a heifer or young bull. One horse on a two-horse tread is not satisfactory, be wower. If however, the separator a single wheel were about two feet in diameter instead of one foot he believes that one horse on a
sworse tread would he all right. During the wo-horse tread would metk flow dropped down to past few weeks
about 500 pounds per days, and he has rux

Dividing Whey and Skim Milk.
One of the most vexatious questions with which actorymen have $t$ dear is the. These by-product and whey among the patrons. These hy-product re or or milk dra wers are allowed to help themselves. If the maker is careless and lacking in backbone exercising no strict oversight, as he should, the
greedy and dishonest appropriate more than their share, to the loss of others. Endless squabbling is often the result, and not inat way. Supt. Sleight holm, of the Western Dairy Schooi, the other day showed us a simple automaric exactly and no more. each patron to get his share exactiy and no more. skim milk pipe ran and worked on the "nicke-in-
the-slot" principle. The drawer is given a set of the-slot" principle. The drawer is given a set of
iron cheks (one for each patron) bearing figures showing the number of pounds
titled, according to the milk weighed in a few moments before. The weight is dropped in the slot,
and the patron's share of skim ilk runs through. It was an American-made device, costing some \$\$00, It was an American-made prod thoroughly satisfactory. Were it obla the it would be very generally Sleighthoim thouid not think of trying to run an used, but he woul a not considerable size without it

Some Points in Feeding Beef Cattle.

## oo the Editor Farmar's advocate:

 In regard to winter feeding of cattle for beef,great care should be taken when the cattle are first put up that they are not overted to start tham
off right there is nothing better than a fair allowance of pulped turnips, with a little ground grain sprink led over them, morning and evening together
with all the bright oat straw they will eat. the animals are once ted in, kept them faster they will put on the beef. In feeding cattle successfully a well-planned system time and
sary: regularity in feeding, both as to time sary: regularity in feeding,
ration, and watering. The temperature of the stable should be maintained as uniform as possibe;
bout $40^{\circ}$ to $45^{\circ} 1$ consider right. Every farmer hould have at ahle. For watering. I prefer troughs fastened along in front of the cattle, as the water then gets the chill off it by the warmth of the stable. Th. I find cut oat sheaves, or good wheat
and 5 . m .
chaff dampened, and barley and wheat choo mixed in it is as good a food as can be used ; a little salt
added twice $a$ wwek helps to keet hem in heathy on full feed about a month they requenty yet very restless and itchy, and it is gene nine cases out of ten it will be found that the dust and chaff has settled in wo the long hair on their backs, and from the heat
of the stable and the internal heat of their bodies caused all thce is to clip off the tong way to remove
this annoyance
 of the animals; and with curry-comb and corn brash remove an cool and contented and feed rapidly.
W. E. b.
Fembina Municipality, Man.

THE FARMER'S ADVOCATE.
t the remainder of the year the hay is grown, al he next year, and until the feid is plowed up in the field is being pastured that I like to put the manure on it. The cattle tramping over it break it they also tread the weed seeds into the pround, so that they grow and are eaten off. A field of mine
that haid been so treated and plowed up in 97 yieldd in 98 five bushels per acre more, and ripened
 the farm must be all fenced and divided into six or seven fields [Forty- or eighty-acre lots make a nice
division for our square survey.-ED. F. A.] but if we can keep up the fertility of our land by this system it wil repay thit and no-stock system doubt that thee aing rain land. Wishing the F. A, prosperous New Year-
Wallace Muncipality, Man.

GARDEN AND ORCHARD.
Selection and Buying of Fruit Trees. Since transportation facilities for carrying such
fruits as andes and pears to the British markets are approaching a condition to be depended upon for their safe carriage, no doubt a large number of
trees will be set out the coming spring with the extrees wiin esed out view. Not spring thit, but the
portation trade in vien improved financial condition of our people egener-
ally will tend to increase the planting of more garden fruits for homee consumption, which has seen so sadly negglected during past years, unnoer
tunately the business of farning has for a number of years been such as to keep men hustling to
make ends meet, with the result of causing some of the comforts that might be enjoyed to be over looked. A well-assorted fruit garcien has more about accustomed to realizen, and dit behooveses everyone
are are
who tills a piece of ground to secure for himself and family, at very litte expense,
of the tree, bush and vine.
In selecting plants for a fruit plantation it is
ise to determine, 1st, what is, and 2 and, to select, rst-class ends that he grows just what the planter needes
nd generally he has those sorts, but too often efforts are made, especially by the travelling agent
to sell some high-priced novelties, which it o sell some high-pricee novelties, which it is tant to secure good, vigorous, straight stook in ities are of very little moment. growing of the young trees, and those that make the straightest, most rapid, and cleanest growth asually find (ane readiest sale. Some sorts, such a Baldwins (a good sort, however, arsery row, and
stalky and smooth growers in the nurser rine therefore have been widely planted, while some
other good varieties, such as Canada Reds, which
 characteristic form of the best varieties to plant, and purchase only those of that which present healthy trees.
A medium-sized tree for its age, shapely in body
head, stalky and straight, with abundant and head listaiky and straignt odo well if carefuly, planted in suitable soil and given proper attention. They should also be free from borers and other injuries,
and in case of budded trees it is well to see that the andion is very near the ground. One may haye to pay extra for the hest grade of trees, but the differ$\begin{aligned} & \text { ence over the price of a } \\ & \text { vestment. }\end{aligned}$ The age at which trees should be planted must. be governed by circumstances and by variety. omy to buy young stock. some of the
apples and pears are large enough $w$ hen two years apples and pears are elarge enough when two yeat
old if grown from buds, but these fuits are uxuall set at three years fr pears may be set at two or hree years, preferaby from the bui. Strawberries are set only from new plants (those which have never borne), gooseberries and currants preferachyerres from stock not more
raspberries and blackberries raspoerree season old.
Trees season blanted in spring are usianly pur-
chased in the winter season. It it wise to buy at a near nursery if reliable stock of the desired sorte, which shourd be such as do well in the locality, and
honest dealing can there be secured. A more honest dealing can there be secured. A more leisurely inspection of the trees will likely be received
can he saved, and the stock in fresher condition. Some nurserymen employ regular and reliabie agents, who carry a certincaue
from the nursery they represent. With thesit it is from the nursery entrust orders for small lote, but when an orchard is to be set out it is much the better plan to select and deal with the nurgerymen
themselves. The buyer should make up his mind just what varieties he wants, and then find the nursery which has them, and order early enough to get them. Before hava talk with some nurseryman area, it is went as well as with fruit-growers of ex-
of reputation, as werise of good business principles
periene The perience. The exercise of good business principless
caution and common sense in buying trees will caution and common sense
save a deal of future trouble.

## VETERINARY.

## The Horse's Mouth as It Effects His

 Manners.There is no point in connection with a horse that contributes so much to the pleasure, comfort and safely of ealed a responsive mouth, which
mighty
obe the slightest intimation promptly of restraint obeysthe slightest intimation promptly of restraint or guidance. Dr. F., C. Greenside, who for a num-
ber of years was Professor of Veterinary Science at the Otario Agricultural College, read a paper upon
this subject at a recent New York veterinary conthis subject at a recent New York veterinary convention, which has appeared in the journal of
Veterniary Archives of Philadelphia, from which we summarize the chief points. He says:
"Horses whose mouths are not good are very
subject to soreness occasioned from injury from the subject to soreness occasioned from injury from the
bit and bit, and the result of this soreness is manifested in pieces often bruise the branches of the lower jaw at the points where the bit presses. Jointed or snaftle--
bits seldom injure the branches of the lower jaw, but sometimes press the cheeks against the for-
ward molars, and abrade the inner surface of the ward molars, and abrade the inner surface of the comfort in connection with results of soreness and dising faults and troubles are mentioned as being jaws, keeping the mouth more or less open, lolling jaws, keeping the mouth more or less open, aliling the head on one side or the other, pulling out in double harness, or crowding in, going cornerwise,
sidelelining, not going into the bit, carrying the side-lining, not yoing into the bit, carrying the
head unsteadily, pulling, balking, rearing, plunging
or rushing when starting off, especially out of the or rushing when starting off, especially out of the
stable, restlessness in standing, breakkng or oing speed, mixing, hitching or hopping either in front or behind, interfering, and brial lameness. Other cat the most prolific one in the majority of instances is some discomfort with the mouth.
sought to be corrected by rasping the teeth, when sought eo be corrected by rasping the teeth, when
the real source of irritation-the bit-is used day after day applied to the tender spots. It is not a matter for wonder that a horse with an abrazed jaw
should hang back, especially in the morning when first taken out. Such horses, if predisposed, become balkers. The high-couraged horse, though
he may hesitate at first, will, as soon as the part becomes numbed by pressure,
with the pain he is suffering, begin to pull and show evidence of the discomfort in the many ways already described, such as crossing the jaws, going
with the mouth open, head on one side, etc. The irritable, sensitive horse is apt to manifest his pain in a more demonstrative matner, and we may find him going of with a rear, rush or plunge, which
may soon become a confirmed, dangerous and disagreeable habit. Unfortunately, the condition is by no means uncommon and could be easily prevented mouth, and rational measures adopted
Triving a horse with a bad mouth there and danger of to be produced irregularity of the gait and impaired control of the legs. What is called "hitching" or
hopping off one leg, generally a hind one al though due to weakness, too heavy a load, driving beyond speed, heavy shoes, etc., is not infrequently
due to tenderness or soreness of the
 couraged horses whose mouths have become per manently injured from the bit, it is a difficult mat
ter to overcome the habit, but if the mouth is al lowed to heal thoroughly, the bit pleced ast low in it
as the animal will stand and face it with a moderate as the animal will stand and face it with a moderate
degreeof firmness. and not putt his tongue over it,
the foll degree of firmness, and not put hit
the fault will often be remedied.
"Seeming lameness from a
means uncommon. A horse will nod his head or hitch on a hind leg as rhythmically as if he were
actually lame. And it is very difficult to persuade people sometimes that a horse is not lame when he
nods or hitches from a sore mouth. Sown green horses with sore mouths will appear to be
lame when driven with a certain kind of bit, that
will wo in rixh with a will go all right with another, and occasionally a will show noirregulurity when wrive dive on the other be joregee on the line.
of weight in shoeing will to some extent cause mix ing of gait, trouble in the mouth is more comumonly to blame. A horse inclined to mix usually has an
unsteady mouth. He does not take the bit with necessary firmunuss, and keess ret retracting his tongue
or puitting it over the bit, so that the pressur or untting it over the bit, so that the pressure
usuall comes on the branches of the lower jav, giving rise to irritability and a want of confidence,
in the animal's manner of going. In such cases a comfortable bit shounler o o used and Ind such cases ap
in the mouth. Somet well in the mouth. Sometimes a bit with a flexible rub-
ber mouthpiece or an arched stiff one will answer, ber mouthpiece or an arched stifi one will answer,
and it at also well to leave the bit in mouth for
several hours aday in the stable on several hours a day in the stable so as to get the
tonnge used to tits pressure. Applied pressure from
day to day with dim
 bit is placed in the nouth, within certananer limitse
the better providing the horse will take it. With
a moderate degree of firmness keep his head steady and his tongue under it. In those horses, however,
which do not force the bit steadily, it is usually which do not force the mouth and, as the mout better to fraiser lower it. Fatigue, bad shoeing,
becomes rough and slippery roads, and the swaying of heavy cart, are all exciting causes of interfering
but there is do doubt that imperfect bitting, with but there is do doubt that imperfect bititing with
incidental soreness, is an inportant exiting factor
in causing the awkwardness of 'striking' or 'bruising."

## Abortion in Cows.

Soon after the Midland Dairy Institution was opened, abortion among the cows began to give
trouble, and continued up to the end of June, 1897. In the preceding year nearly thirty of the cows had tingham, was asked to take charge of the herd on the 20th of February, 1897, and in a pamphlet just issued by the Agricuitural Department of Notting
ham University College he reports his treatment of ham Unversit the reselts. He decided to proceed
the cows and one the lines suggested in a leaflet published by the
Royal Agricultural Society, giving directions for Royal Agricutural Society, giving directions or aren
the treatment of contagious abortion also to try
the interna administration of carbolic acid. the internal administration of carbolic acio It
the first place he ordered that each of the twentyfour cows shall receive one dram of pure carboic acid (diluted) twice a week. Three ounces (hwentyhot water, and two gallons of cold water were
added This weak solution was thoroughly mixed added. This weak solution was thoroughly mixed
with the manger food of the cows, and they showed no repugnance to it; but they did not improve in condition while they had the carbolic acid, and Mr. Cave thinks it may have hindered digestion. It is
doubtful whether it was of any value in warding off abortion, in our opinion, The other measures
adopted were as follows: The sheds were thoradopted were as follows: The sheds were thor-
oughly lime-washed, one pint of common carbolic acid being added to each bucketful of the wash, and the roofs were sprayed with a strong solution
of disinfectant fluid, while the channels behind the of disinfectant fluid, while the channels behind the
cows were washed down with the same solution several times in in each wek. The under part of
seate
each cow stil, the anus, the vulva, and the backs seacral cow's tail, the anus, the vulva, and the backs
of the thighs were washed with a warm solution of permanganate of potash every other day. Every paroring cow was removed to a seeparate shed, the
afterbirth being burnt promptly, the litter under


The first sod turned by a british
the cow removed and buried, and the stall in which
she had been washed with a solution of the fluid. she had been washed with a solution of the fluid.
Each aborting cow had her vagina syringed out with a warm solution of permanganate of potash,
either daily or every other day while the discharge either daily or every other day, while the discharge
lasted, and every such cow was fattened and sold, This treatment was begun on Feroruary 200th, ,1897, following June, nor had any cases occurred up to the time of the writing of the report, October 2 th,
1898 . On the other hand, six heifers out at pasture and not treated all aborted. Mr. Cave, therefore, has good reason to conclude that his treatment was
the cause of the immunjty of the cows.the cause of the
Journal (Eng.)

## MISCELLANEOUS

Canada's Greatness and Prosperity,
am in or crinam, of huses.
Iam in receipt of the Chistmas number of the
FARMER's ADvocate for 1898, and of which the manager, editors, and the great array of the sterling
farmers of the Dominion, whose illustrations appeat on its pages, shomild receive ence illustrations appear
gratulations from the people of con gratulations from the peopele of Canuada far por pro-
claiming to the world, through the FARMRR'S claiming to the world through the FARMER's
ADvocate, what Canad has ben in the past its
progress, its resources and prosperity in every progress, its resources and prosperity in every In 1857, I moved from Brant County, Ontario, to my , present priairie farm home in Illinois. Since
1sis8, of horses, cattle, and sheep the ime topoded breeds were Shorthorn steers for feeding pur of which were Shorthorin steers for feeding purposes, on
which Ihad to pay an ad ralorem duty Theefore,
I state what I kyow, that ontario is the I state what I know, that Ontario is the garden
spot of chl the British possessions the population
of which are the best spot of all the British possessions, the population
of which are the bestovorerned at the leastexpense,
the best fed and clothed, and enjoying the fruits of their industry better than thoyse thing under fruits
ofther government on anth. These
who were with me attending the breeders' meet Guelph, in December, from what they noticed in Ontario when there, can attest to those statements. There is quite a contrast between farming in
Ontario and our Western prairies. The Ontario farmer has to clear his land of timber and it for farming as a beginning for a home; and afterwards the soil requires nursing and care to continue to produce abundant crops; while on the
Western prairies is deep, rich soil, free from any Western prairies is deep, rich soil, free from any
obstructions. It is customary with us that one farm hand will sow and harvest 50 acres of oats and with three horses, and a a 16 -inch plow and a
cultivator, attend successfully and do all the work cultivator, atteno successnuly anthering fifty acres of corn in six, months. It is said that out west, where they sow spring wheat, that the plowman starts
out in the morning and gets to the other end of his plow land by noon, has his dinner, and returns home in the evening, having plowed four acres and only two furrows in a day
purchase fine stock, if it be in astern Canada to winter, he purchase fine stock, in it be hin a cold winter, he ble so comfortable that I have known many of their sheep cipped when the thermometer was 15
degrees below zero. Of course, this had to be done degrees below zero. Of course, this had then health of the sheep; so said te late Tom
Frinship, an old breeder and exhibitor near LonFrinship, an old breeder and exhibitor near Lon-
don. Let a Canadian visit our Western plains and Ion. Let a Canadian visit our Western plains and miles on the lea side of a barb wire fence when the thermometer is from 10 to 20 degrees below
zero. He can see them with eyes askance, as with zero. He can see them with eyes askance, as whith
a desire to say, if they could, "Can you do anything for us we thave elenty of feed, but no shelter from
the stormy blasts of winter." the stormy blasts of winter.
The joint meeting of the various live stock assoeitions, , ell ine the opera house, Brantford, on
the evening of November 30 , was more enjoyable to the Americans present than any similiar meeting
held in the states could be. What a grand spectacle to see the British and American flags hanging side by side on the stage, evidently an omen or a more brotherly feeling between the two
countries. I have noticed with regret the absence of our good old conservative Johnny Bull, so much talked of. Neither did the dear old clown-like apparel, show up, at the meeting.
The caption of this article would indicate that I would give your readers something worth reading; but like the schoolloy reiter, I must say the
FARMER'S ADVocATE has spoken my piece in ad-

The Farmer's advocate has given an eaborate and conciso evew of the greatness and prosperity of every one of its readers as a souvenir for future reference.
Cameron, Ill., January 6, 1899. D. C. GRAHAM.

## POULTRY

American Poultry Association's Meeting. This Association held its twenty-third annual
meeting in Toronto on January 10th, during the drossion was held in a room adjoining the session was hel
where the show was taking place. There was a very fair attendance, which would doubtless have properly heated, instead of being the ice-chamber it propery heated, President I. K. Felch, Natick, Mass.,
really was in the chair
wat was in the chair
The warlike
The warike spirit that spread through our American cousins a few months ago did not pass
the poultrynen by This was evident from the
fact that Theodore Sternber fact that Theodore Sternberg, the Secretary-Treasurer for the past year, is now in Manilla with his
regiment. In his absence his duties have heen undertaken by A. E. Felch, a son of the President. In his address, the President, among other things, referred to some errors in the Brown Leghorn and
other standards, some of which were due to the printer's mistake, others had been overlooked by the Revising Committee. The color of the feathers on the back and hackle of the Brown Leghorns had
been described as dark brown instead of light
brown. Acting-Secretary Felch read an informal report from the Secretary at Manilla, but no definite which might be in March. He also read his own statement from the time he had assumed office been disposed of un to copies of the standard had Treasurerse part of to the end of the year. The
Finance Commite
report was referred to the $\underset{\text { Sinance Committee. }}{\substack{\text { Sixten new } \\ \hline}}$
Sisteen new members were admitted into the
Association. The election of officers resulted as follows: President, Allan Bogue, London; Secrefory He A. A. Bridge, Columbus, O. The competition didate and A. E. Felch. Some few changes were mate in the Advisory Board and Executive Comwith business meeting throughout was concerned journment was made to meet at the Elliott An adthe next evening, the members in the meanwhile Colleve the opportunity of visiting the Agricultural Colleye at Guelph.
few errors in the standards for Brated to order, the other government on earth. Those Americans Barred P. Rocks, and Pekin ducks, were Lectified.

## on's Meeting.

 aty-third annual Show. The first ning the pavilion d doubtless havethe room been the room been h, Natick, Mass. ago did not pass Secretary-Treas Manilla with his uties have been
of the President.
ong other things ong other things, on overlooked by
or of the feathers wn Leghorns had
instead of light informal repor but no definite his return, Iso read his own the standard had of the year. The dmitted into the London ; Secre The competition ew changes were
Executive Com$t$ was concerned re read. An adn the meanwhile
the Agricultural alled to order, the Brown Leghorns,
were rectified.

## Ontario Poultry Show.

 The pavilion in the Horticultural Gardens, To onto, has often held within its walls musical talent of a more or less high order, but it is safe concentrathat never bef musical sounds heard there as fell on ted volume of me visitor to the twenty-fifth annua the ears the Ontario Poultry Association, which show ofd in this building from January 9th to 13th, 1899. The trouble was that there was rather to much of it at a time. The shrill treble of the dimin utive but self-important bantam, the deep bass o the Brahma and Cochin, varied with the shriis cring of the geese and quackings of made up a con from hundres perfectly deafeningcert that was per a success.
The show was a grand success. The total entries, 2,422 , as compared with 1,812 at the last Londo Exhibition. Of these 2, 2,089 and simple, and 181 of 1,989 were of fowls pure and simple, and At the big New York turkeys, geese and shows last year the entries were only 1,668 and 1,819 , respectively. The Ontario show
thus takes the cake for poultry shows on this con thus tak
A number of American breeders had brought over their birds for exhibition. They found, how ever, in Canadian exhome birds more than held their steel, in the competition in most classes. Nearly ever
high order.
high order. Rocks.-Barred Plymouth Rocks easily excelled all other breeds in point of numbers, there being no
fewer than 171 entries of this popular breed in the fewer than 17 entries oflence could scarcely be surpassed. J. H. Thompson, jr.. Patterson, N. Y., had pase winning cock. E. M. and W. Ferguson, Fisher's London, N . Yxhibited a fine condon, exhibited a fine ockerel, whose under
markings were so good
that the judge gave him that the judge gave him erican entry. Jas. McCor mack \& Son, Rockton secured hen.
White Plymouth Rocks were good. E. M. and W Ferguson scored here for Whitby, won for hen and cockerel ; J. M. Muirhall for pullet.
Buff Plymouth Rocks
were well shown. Jas. Forwere well shown. Jas. For-
syth, Owego N. Y., took
the red ribbons for old the red ribbons for old
irds; T. H. Scott, St
Thomas, and J. J. Fol Brantford, having the best cockerel
spectively Wyandottes - There
were
Wyandottens nearly every

attending the annual meeting, torond was nicely Hyandottes, nearly every
one of which contained a
pair of birds In pair of competition, A. W. Graham, St. Thomas won 3 out of 4 firsts, viz., for cock, hen, and pullet cockerel from London Sather weak class in quality. Jas. Arthur, London, secured the leading prizes ribbons for cockers, and Wray Bros., respectively all four good birds.
Although Jas. Forsyth, Owego, N. Y., captured
3 of the 4 red ribbons for Buff W yandottes, it must 3 of the 4 red ribbons the class was a poor one. On the contrary, the grand character and feather o
the birds were a surprise to all. Mr. Shales, To the birds were a surprise to all. Mr. Shal
ronto, deservedly won first or a fine pulet.
There was a great display of White $W$ yandottes, 42 pens in all, and a grand lot they were. A. A. Shilling, Egypt, N. Y., secured first on cock and
cockerel; F. G.H. Moore, London West, and Chas. Massie, Port Hope, heading the roll for hen and Black Wyandottes were not so numerous. Here Jas. Wedgerey, Woodstock, excelled, winnig ail Grimsley, Toronto.
All the Leghorn classes had a good number of ntries. Jas. Forsyth, Owego, N. Y., won for hen Dewar Bros., Milton, had the leading cock, and James \& Taggart, Ottawa, the best pullet. The
winnings in the Black Single Comb class were winnings in the Black Single Comb class were
divided between C. J. Daniels, Toronto, and A. G Brown, Watford, the latter winning for males
Buffs were shown by G. Bemer, and Spry \& Wick Buffs were shown by G. Bemer, and Spry \& Wick Toronto. Rose Comb Browns and Whites by An
derson \& Billings, St. Mary's. and H. R. Kozer
London. Silver Comb Whites by H. G. Doyle London. Silver Comb Whites by H. G. Doyle,
Woodstock; John Ramsay, Owen Sound; and W. J. Wolfe, Toronto. White and Black made a fine



 divided up the prizes in
bred Spanish were not very numerous. F. C. Hare
Whitby won first for cockerel, hen, and pullet. Whitby, won first for cockerel, hen,
Mr. T. Brown, Tilsonburg, had the winning cock.
Black Javas. - Thos. Brown, Durham, who Black Javas. - Thos. Brown, the best collection of this breed Turpin \& Peters won first, first and special for hen. Brantford, won Andalusians.- Newton Cook, Brantford, won everything worth getting in this class.
Houdans Lave Cours,
Fleche Sultans, Crever and White Wonders had each a small representa tion. Turkeys.-There was a splendid show of all kinds of turkeys, especially Bronze. Besides severa
seconds, W. H. Beattie won first for aged and seconling hens, and hen of 1898. Jas. Ford, Drum quin, won on his old tom, and also on his tom under
a year old. W. J. Bell, Angus, had the best a year orm. Beattie was very successful in the White, and also in the class for any othe variety, winning easily in, the latter wits. Thos. Brown, Narragausetts over Luxton's Buffs.
Durham, had the best old White tom. Gurham, had thouse geese were very good. Allan Bogue won the largest share of the prize money,
with O'Brien \& Colwell and W. R. Knight next in order. O'Brien \& Colwell were strong in Bremen geese, their opponent being $F$. R. Webber, Guelph. The former won Ducks.-A. Bogue and O'Brien \& Colwell divided the honors in Aylesbury and Pekin, Guelph, was to mer being strongest. fhile Geo. Bogue scored with Cayugas, and M. T. Burns with Muscovies in the Cayugas, and
A. O. V. class.

attending the annual meeting, toronto, jan., 189

## RMER'S ADVOCATE

, thing worth taking. J. S. Carter, Toronto, had the best Black aged cock. Thos. for male and cockerel with a grand bird. H. Muirsections. Minorcas.-Robt. H. Ewen, Toronto, was
Buff a winner in this class.
winner in this class. good. W. McNeil, R. B. Millard, and H. R. K. Loser, which stood first. Hugh W yatt, London, exceeled in females, the hen having a grand enough to take feather; his cockerel was goo. C. Hare, Whitby;
first. Puffs were shown by F. How Dr. Bell, Toronto, Chas. A. Stewart, London; and Dr. Bell, Toronto. Brahmas were numerous and nicely shown. T. A. Cox, Brand breasts, which won in their sections.
with good, full bre
F. G. Hutton won the other red tickets. Sage \&
Garside made a pretty complete haul in the Dark

Brahma class.
Dorkings. -None of the Dorking classes were
A. Bogue won for Whites, and also very large. A. Bogue won for Whites, and also for Colored cock. J . Laurie, Malvern, beat other competitors with his cockerel and Mcker, Norwich, and were success ful among the Silver-Grays.
Orpingtons, of which so much has. been written
in English papers, were shown by $W$. H. Chambers in English papers, were shown by W. H. Chambers,
Toronto ; only Single and Rose Comb Blacks were forward. The Single Combs are hardly, if at all, distinguishable for Black Javas. \& Co., John Crow, and W. Main, in a of Black-Red Games, beat the American exhibits hollow; but in the Brown-Red class, which was not so well filled, Pierce Bros., Winchester, N. H., were
more successful. Duckwings, Pyle, and Indian Games were all fairly represented. Boogue, Strath roy; A. Fink, Woodstock; and A. G. Luxton, Georgetown.
C. J. Daniels, Toronto, had a display of poultry an incubator in working order, which hatched out its chickens during the show. On his stand could be seen the Pickhart-Renfrew Co.'s disinfectant,

Fattening Poultry in England.
At the banquet given on Thursday evening by the Toronto Poultry, Pigeon, and Pet Stock Asso ciation, Prof. Robertson gave the foll of fattening pouich poultrymen:


$\qquad$


$\qquad$


$\qquad$
$\qquad$
$\qquad$ .
$\qquad$
$\qquad$ William Macklin, Glenora :-"I came from England quite a greenhorn at farming, but by studying the different experiments published in the Farmer's advocate from time to time have made it the means of helping me. I
without it for five times the amon Co., Ont., writes David M. Ballantyne, Perth Co., Ont, writes
" We appreciate the ADVocate most highly, and "We appreciate the ADvocate downs anything think
ever
itself."
ANDREW G. BURTON, Roland, Man.:-"I have taken the FARMMRR's ADVocATE for nearly three
years, and I think it is as good a farm paper as I years, and
can get."

QUESTIONS AND ANSWERS. $\begin{aligned} & \text { beside the mercurial tabe may indicate too high or } \\ & \text { too } \text { Iow, just as } \text { it happens; ;int } a \text { thorought, at- }\end{aligned}$



## Veterinary.

E. A.,. Halton Co., Ont.- "1. I have a couple of

too low, just as it happens; but a thoroughy, at-
tested thermometer is what a farmer requires."
[Note.-We are obliged to Subscriber for his kindly interest on behalf of fellow readers as indicated by his revealed lessons of experience. We deem it necessary to point out the dangers that are ikely to follow the administration of the prescribed medicine. The aniseed and cumminseed are known in medicine as stomachics, and are useting its action, but the juniper berries and cantharides
have irritating action on the bladder, kidneys and urethra, causing an inflammation that may be dangerous to the patients life. The infamation nay have the result of inducing the aility be of no and likely to take place nder such circumstances
Regarding the temperature for churning, it is rue what subscriber says, it was folly to keep on churning so long with the cream at 60 degrees, as a naterally shortened the task. While this is true, it is a fact that very much of the present-day churn ing is done at a temperature lower than 60 degrees, especially in creamery work, when quite rich cream $\cdots$. des 70 deg. We must also find fault degre the 10 boiling water immediately to the cream, as it tends to cook a portion of the ream, interfering with the texture and flavor of the utter. A much more popular plan among practical dairymen, which involves some labor, is to heat the ream in a cream or milk can set into a vessel o quite warm water. By constant stirring in this position the temperature will soon rise to the desired temperature without injuring the texture or flavo of the butter.
The point regarding the unreliability of certain thermometers is well taken. Every thermomete in dairy work. To do this one should always keep correct thermometer with which to test others This can be done by tying them in water with bulbs at the same level, and water stirred to make heat equal.]
extracted honey production
G. L. P., New Brunswick :-"I have kept bees honey in the comb, but wish to change to that of extracted. What are the chief conditions to be observed in an apiary when running for extracted honey?
[Honey to be extracted like comb honey is stored oy the bees in supers above the brood chamber, the pound sections, and extracting honey in frames
extending across the hives. (We take it for granted Mr. G. L. P. uses modern box hives.). The writer used 1-inch Langstroth hives of a sufficient width to take eight frames. The frames used were six inche
deep, and were the same in the extracting super as deep, and were the same in the extracting super as
in the brood chamber. Some of the most successful ineekeepers use 12 -frame hives nine inches deep,
irom which they claim better results than with the smaller hives. When the swarms are set out in ipring they are confined to the brood chamber arly hones commences to come in freely from the oundation are then put on, and the brood is spread n the brood chamber by placing the center frames, hanging for them the outside frames, which ex hanging or less honey. This is uncapped, so that he bees can readily remove it to the super, leaving oom Ity. Is notadvisule to these combs whe mpty. It is not thatisabs are make this exchange nd strong to keep the outside frames of brood varm. As son as the fromes in the super become
Imost filled and capped the first time in the season, Lmost filled and capped the first time in the season,
he fullest half of the frames are selected out of each rive, and the remaining half shoved to one side, n the empty half of the super. The removed full irames are then extracted by a centrifugal extractor, after uncapping the combs with a sharp,
straight knife with bent handle. This allows the straight knife with bent handle. This allows the
bees to keep hard at work, and as fast as the bees to keep hard at work, and as fast as the
frames are filled they are exchanged for empties
and extracted. It is well to mark the date and the side extracted each time extracting is done. This
is the plan followed by Mr. S. T. Pettit, one of the is the plan followed by Mr. S. T. Pettit, one of the
leading Ontario beekeepers. This is the plan he adopts until the last extraction, when all the combs are exchanged for empties about the end of July.
From that time till fall a little honey is gathered. till brood rearing ceases a bout Sept. loth, when the
supers are all removed. This is done by Mr. Pettit supers are all removed. This is done by Mr. Pettit
throughout the whole yard as nearly as possible throughout the whole yard as nearly as possible
at the same time. Each super is left uncovered at the same the the ground in front of the hive from which it was thakn. In a short time the bees have
the honey in the super frames all stored in the
brood chamber where they are to pass the winter.
Areply to a
austion of this sort oculd
me made nuch more helptpul if ispecifitis questions were asked. and home reference made to the size of apiary, sort of hat ines used, etc. We might remark in closing, should be guarded against as mind has by poesibing
 tinuousty, because it is much easier to keep bees at

work than tos start them after a period of fored | Work than |
| :--- |
| ideness. |

GREEN OATS AND CLOVER FOR THE SILO
Augustus Converse, Richmond Co., Que.:Alease find enclosed, $\$ 1.00$ for my renewal subscription. I like your paper very much. I
want to know if green oats cut at the proper want to know if green oats cut at the proper
stage would keep in a silo and make good ensilage, and if so, when would be the best time to cut them? Could they be put in the silo
without having been run through a cutter? Would without having been run through a cutter? ture of oats and peas do cut green and put in silo Has it been ever tried? Would there be any risk in trying it? How does the second growth of those crops would make grand feed; in fact, a better balanced ration than corn. I would feel greatly
obliged for any information on the subject." lSuch for any inform LSuch crops as green oats, millet, etc., save been been generally unsatisfactory. The trouble seems to be that the fedder does not heat up sufficiently to destroy the decaying organisms, or does not pack that the entire bulk goes down in a rotten mass. A ew years ago green millet was repeatedly tried to
be siloed at the Ontario Agricultural College farm, with the result of furnishing the students with the job of wheeling it out to the manure heap. Late let with corn, and it invariably came out in mouldy condition. Whether or not success has been made of siloing green oats we are not prepared to anhave succeeded.
With regard to the siloing of green clover, bette results have followed attempts to do so than with
the other crops we have mentioned. In fact the the other crops we quie general in some sections practice has become quite general in soome and not allowed to wilt before being but into the silo. It can be put in whole, but greater risk attends the
practice. When so done it should be built into the silo in a systematic manner, beginning each laye at the outside and building round and round to wards the center. A great deal of tramping is
necessary to exclude the air thoroughly. The necessary fork or sling may be used, but the work of packing the clover closely enough in the silo is thereby increased. The surest way to succeed is to
cut the clover into two-inch lengths, and fill continuously and tramp firmly. A few loads of green corn filled in on top will help to weigh the clover
down and exclude the air. We would like to hear from persons who have succeeded in making good silage with other crops besides corn.]

CROPS FOR HOG FEED.
Geo. H. Johnston, Montreal, Que.:-" Will you kindly answer me the following questions through your valuable papher, the FARMER's ADVocate lige to know what kind of feed and how much per acr should the milk, after making butter, from twelve cows.
The breed of pigs are Yorkshire sows and Tamworth boar.
[The question before us would in all probability have been more satisfactorily answered for Mr poses to dispose of the pigs, at what seasons of the year they will be farrowed, and the suitability o his land for certain crops. We infer, however both winter and summer feed will be necessary and that the pigs will be turned off at the bacon
weights of about 180 pounds. at seven or eight weights of
months old.
Since the demand is for lean bacon, and long deep sides, pigs should be allowed plenty of exer
cise while growing, up till they are about 100 cise while growing, up till they are about 100
pounds, during which time they should be support pounds, during which bulky food. In summer this is supplied in such crops as clover, vetches, togethe
with skim milk and a small amount of grain daily, so that rapid growth and good condition be main-
tained. Whether feeding large quantities of these "soft pork", is a point not prot definitely settled, and until it is caution should be exercised. A run on a pasture plot or in the orchard we have always
found advantageous. In winter pulped wangels or found advantageous. In winter, pulped hangels or
sugar beets mixed with well-cured clover hay cut sugar beets mixed with well-cured cover hay cut
short forms a satisfactory bulky food to be given with milk and fine-ground grain or millfeed. It is important that a warm housse be provided at this
season, as roots are not conducive to the production season, as roots are not conducive to the production
of heat. It is well to have large pens, even though many pigs have to run together, as long as they are about the same age and size, so that plenty of
exercise be provided during the cold season of the exercise be provided during the cold season of the
year, but if exercise can be given otherwise the pigs, will do better in lots of from five to eight in a pen.
stons land will produce good crops of mane mots, red storis land will produce good crops of mangels, red
clover, vetches. peas, barley, and oats. To raise
eighty pigs a year to bacon weights would require, peas and oats, five tons of shorts, and 1,000 bushels of mangels, besides green clover and vetches fo
pasture or soiling, and the skim milk. Reckoning
the land to the land to produce per acre, of barley, 25 bushels mangels, 400 bushels, the following number o acres should be sown, at the following rates per acre: Barley, 8 acres, at 7 pecks of seed; peas, 11
ares, at 2 bushels of small or 3 of large seed; oats, acres, ates, at 2 bushels per acre [Nore.-It may be
well to sow 12 acres of oats, part of the crop to be exchanged for shorts]; and mangels, 3 acres, at to 8 pounds of seed per acre. Vetches may be sown time with clover a good pasture will be secured for considerable of the season if sufficient pigs are turned on when the crop is about ten inches high
to keep it cropped off fairly close. Five acres hanwill produce pasture for a considerable number o pigs. We have based our conclusions upon ou with whose methods we are conversant, and woul be pleased to hear from others who can suggest
more economical or profitable bill of fare.]
soft maple plantation.
Gordon L. Lamb, " River View Farm," Prescot Co., Ont::-"I am very well pleased with you please find enclosed one dollar to renew my sub scription. I shall be obliged also to get an answe from you as soon as is convenent for the foung soft maple bush that grows in the flat of the Ottawa, an is overflowed nearly every spring. When is th
best time of the year to save the trees that are left I ask this because I have noticed that some stand ing on the edge of the clearing made in recen winters have had the bark dry up and peel, and I
suspected that it was the spring frosts and sun coming too soon after the trees had lost thei shelter. The trees are very tall and slender, some not more than three or four inches through. Hem Where two or more grow in a clump, separating only a short distance from the ground, should I cu all down but one, or allow more than one
[Regarding the thinning of a sof mantahim to adopt:

1. Thin during the summer months, as at that ter what to cut out, so that the leaves on those remaining will shade the ground more or less completely, whi
2. Leave a belt unthinned, or but little thinned, ther trees from either the hot, dry winds or wind torms. This belt should vary in thickness accordto the density of the wood. In this belt undiel 3. Every man must use his own judgment to a rtain extent as to how many trees he should rees are grown very thickly and are tall and slender and have not much root growth, if they are be blown down or injured in other ways.
3. Your correspondent could probably thin his ut the poorest; and where two or more are growing together, leaving only the best ones, if he can do so without endangering its life. In a few years, when the trees seem 5. If a permanent crop of wood is desired, it is
very important that the seedling and smaller trees very important that the seed be preserved; and in thinning, care should be taken not to injure them, and above all things keep the cattle out of the woods. W. T. MAcoun,
Central Experimental Farm.
Nalysis.

READER:-"What is the cost of having samples of well water analyzed at the Central Experimenta Farm, and
[There is no charge, providing samples are sent Prof. Shutt, the chemist: "Procure from a druggist an empty 'Winchester quart' bottle, which, how obtainable, a clean, new, stoneware gallon jar may times with the water about to be sent. finally filling it up to the neck. Close tightly with a new cork new cotton, which will prevent the cork from com the bottle in sawdust or other suitable packing materiale. Ship the sample as soon as possible afte taking it, prepaying express charges. At the same soil or rock through which the well is sunk, the distance of well from barn, stable or privy; stat whether the well has been lately cleaned, the material and condition ing the water which may assis in drawing conclusions as to the nature of the source and the
for analysis."]

## table-cleaning Ca

W. J. Weir, Middlesex Co., Ont.:-"In the issue of June 1st, 1897, there was a manure carrier highly
spoken of., Would it be infringing on a patent to put it up?
|The stable-cleaning car described and illustrated nvented, constructed and used by Mr. Duck, in
ind ind whose stable we saw it in operation, but it was not
at that time covered by a patent. We understand at that time covered by a patent. We understand a manure carrier similar points, has been covered by a patent. This gives the patentee the exclusive right
to manufacture or sell the contrivance, the principle of which is covered by the patent. Unless the manure carrier referred to by Mr. Weir differs süb stantially from the one that is patented, his building in material or in the manner of operating the carrier would not free on
tion to the patentee.]
scalding hogs
H. C. R., Brandon, Man.:-"Can you kindly inform me what the exact temperature the water
should be for scalding a pig? It is known that the water stick as badly as if the the meat so that the hai or some of your subscribers will answer this ques tion, you will greatly oblige.
[Water should be at a temperature of $185^{\circ}$ or $195^{\circ}$ for scalding hogs. Whown to set the air and prevent cooking the skin. As soon as the bristles will com
off easily, the animal should be taken out as if lef off easily, the animal should be taken out, as if lef
too long the hair is apt to set. A shovelful of woo too long the hair is apt to set. A shovelful of wood
ashes thrown into the water helps to make a clean scald.] feeding racks for sheer

Ur F. O'Neill, Middlesex Co., Ont. :"Please give through the FARMER's ADVocate think the rack I saw at Ontario Agricultural College, Guelph, is the best, but I don't know the
dimensions of it or plan I think the Xmas num ber well worth year's subscription.
[See Oct 15th issue ]
[See Oct. 15th issue, 1898 , for description and cut of
useful rack on page 492, also Jan, 2 nd issue, page 16.]
MARKETS.

## Toronto Markets.


















 wandiol. Doiliveries still verg light foaders aro holiding off:





Ior coiveriv. Steadyj two load sold at $\mathbf{8 . 0 0 0}$ per ton; shear


 Grain Market.- Deliveries of farm produce were fair

 Clover Seen in tor
Timothy Seed wanted ; quoted at $\$ 1.25$ to $\$ 1.35$ per bus.
New Pork-Packing Enterprise at Toronto



Chatty Stock Letter from Chicago.






 deave.

Live Stock Association Meetings. The annual meeting of the Dominion Cattle eders' Association, Toronto, on Feb. 7 th.
Annual meeting of the Shorthorn Association, ronto, Feb. 8th.
Annual meeting of the Clydesdale Association, hire Horse Association, an
The adjourned meeting of the Dominion Swine Breeders' Association, Feb. 10th.
The Directors of the Provincial Winter Show on evening of the 7th.
Annual meeting Ayrshire Breeders' Association
Breeding Sows for Manitoba $\underset{\text { Mr. I. Young, Hartney. Man., was in the Toronto, Ont. }}{\text { Market purchasing breeding sows recently, and was recom }}$


peared again, flushed with exertion, and sank panting into
ehair:
atet rendr
 elift I can get you in harre u






 sho

$$
\text { it } \mathrm{n}
$$

> che the wa
bug
won
and
it:" "Where is Chaucer?" I asked, wishing to begin at the
 oldest-immediately. Such impatience I never saw! There now, make out that early knglish lettering if you can, and
be properly sorry that youve renounced your claim to be
proud of in
 "Oh, certainly" exclaimed Miss Corke . Thise way. And after that yout declare you' ve seen them all But you migh
inst take tine to understand that yourre walk ing over Orare
Ben Jonson') who is standing up in his old bones down thene

 its kind of you to wotice him. Blind you remember.,
author of several worksof some repitation rembland
"I knew he was blind, 1 Isaid. "and his daugghters used dictate to himi WWe have a picture of it at homegsisers used to
at me wide this remark very innocently, and Miss Corke looked
at Me With a anmical smile. she said and then, with an attempt
 ing solemn dissolution out of "The Tempest ". and turned
from him to Gay, whone final reckless words if read with as
much astonishment as if $I$ had never heard of it before:

has no significance at all read in an American school-book, two
thousand miles and a hundred and fifty years from the writer of it, compared with the grim shock it gives you when you see
it actually, cut deep in the stone, to be a memorial always of a dead man somewhere not far away,
 remarks about the spelling. as I perceive you are th nking of
doing. Try and remember that we taught you to spell over
there. And when Edmuand Spenser was turied to
 elegies" " their own composition?" I inquired.
"Stupid! certainly. And the pens that wrote them."
"Stupid! cortainly And the pensin that. wrote them."
I said thought it a most beautiful and poetic thi
have done, if thought kept no moosties of the the poend poendic and thing to Miss
Corke if she believed anything of the kind would be possible
now. "Bless you!" she replied. "In the first place, there aren't
the poets, jouthe second place, there innt the hero worship in in
the third place, the conditions of the poetry market are differthe third place, the conditions of the epoetry mare wet are difitior-
ent howadas, tex more expensive tran it used to be. The
poets would prefer to send wreaths from the florist's-you can
 made a little erimace expressive of disgust with the times
mWe used to have all poes and no pubit, noth whime
public and no poets." she declared, "now that he is gone-and Tennson cant tive forerer.", her parasol to a name in the stone
Misc Corke pointed with
close to my right foot. Ihad been looking about me and above
 away quickly and went two or three paces offt It was so
unlooked for that name. .o new to its association with death, unlooked for, hath name, so new to its association with death,
that Istood aside held by a sudden sense of intrusion. He had
always been o hivh and so far of in the privacy of his genius, so revered in his solitudece, so unapproachabele that it took,
ones breath away for the moment to have walked unthink-


1 know it was the "nriviv.




 newspaper-w who were there special cablegrams about it in our
to the extent of at least a column and the ware te tenerally corresondents in London glory in it and rival earch other
adjectiolyty in decribibing it Lad, Torquilin had been talking
about it a good deal, too. She said it was $a$ a hing to sea. adjectively in deseribing it. Lady Torquilin had been talking
about it a good deal, too She said it was a thing to sea, and
she meant otry to get me an invitation. Lady Torquilin went every year.
buthen whe the thirtieth day of A pril came, Lady Torquilin
told me in the evening, after dinner, that she hadnt been able
 dent and Members of the Royal Academy of Arts requested,
the pleasure of the company of Lady Torquilin," only. "Not
transferable." transferable. Its verresome of them,", sid Lady Torquilin,
that on. It meas that you positively must not give
 with the greatest pleasure ( don't care a pin's point about
耳oing and you could have gone with the Pastelle Browns.
But there it is!" Of course. nothing would have induced me to take Lady
Torouilins in itation and deprive her of the pleature of going.
butt pinned her veil at the back and saw her orf down the
elerator next dar vit







 brought how inour hard got
 c










































##     


"A Family Row."
A family row is generally rather an unpleasant enjoying the strife. However, as the poet says, enjowing the strife. However, bat the poet says,
"Leet dogs delight to bark and bite, but children
ought certainl to know better and ty to be ought certainly to know better and try to be
peacemakers, instead of rutfling the tempers of on purpose, I am and sraid
it, and a few eangry to starts a quarrel than to end it, and a few angry words often part friends for
years. Remember this, children, and learn to conyears. Remember this, chidren, and earn to con-
tron your tongues bofre they do any very serious
mischief. St. James says that the tongue is a "fire" - and you know what or camage even one matcy can do - so be very, very careful not to
start any fierce fires of anger which may easily
geet beyond control and oterribe hat start any fierce fires of anger which may
get beyond control and oasily terrible harm.:
C.
D.

A Revolt in the Kitchen.
Once upon a time there was a revolt in the
kitchen. Everything was tired of doing its own work day after day, year after year. "What is life without a change," cried the poker loudly. "Am I never to do anything but stir
the fire? I am certain I must possess other talents; I want to exercise them !
clang clang. Ind I want a change too." growled the
bucket; "let somebody else, go the well ; 1 have a crank in my neck." " Why should
The the chairs begagen
we be always sat upon?" we be always chat unpon?",
While a stool deman
WI While at stool demanded plaintively,
"Is rith that people should put their
heavy feet on poor tittle "I It rityht that people should
heary feet on poor little me?
i. Well if anyone deserves
surely I, ", if amyoned deserves a rest it is
in the corner "ed the clock that stood in the corner. "Somene else may tell
folks the time; I mean to run down and go to sleep."
"Yes, yes, we all want a change," was the general chorus; and it was decided that
in tuture everyone was to do the work
he fancied himself most titted for. They had been the slaves of custom long enough. order of things the crock rong down the new
loud whirr. Nobody else cown with loud whirr. Nobody else could tell the
time, which was rather upsetting, and the
show time, which was rather upsetting, and the
shovel overslept himself two hours in consequance. Well, the poker voluntered to sweep
the room - he couldn't manage it at al
 fast table, and knocked two cups and a proteded about the house and got in evevery
body's way. The coal box said he would be a bread pan for once, and you should have seen
what the loaves looked like! Then the tongs and what the loaves looked like! 'Then the tongs and
the milk jug went off to the well together, and on the milk jug went off to the well to ether, and on
the way the tongs quite by actident fell over his
companion, and the unfortunate milk jug got her companion, and the unfortunate milk jug got her
neck broken. "This would not have occu
bucket, gurgled the poor thing
"You are so very delicate, he "You are so very delicate?" said the tongs, but In the meantime the kettle declared that weary of sitting on the hob and singing. Down
the old gentleman gat and stumped int the old gentleman got and stumped into the garden but, alas, as he hawers. He fowe did it most carefuly;
the the thing water, the poor things curled up and died. VVery odd, very odd inded!" muttered the "ettle, but he he looked rather indeed !" muttered the So it went on throughout the day, until the
kitchen was in a perfect mudde It was such a tidy, well-regulated kitchen as a rule.
the poker with some hesitation ; "shall we persevere with our plan or""he paused suggestively). Ways!", cried the outspoken tongs; and the kettle, thinking of the flowers he hat tiiled, gave at melancholy assent. so did the broon, whose
activity had led it into all sorts of mischief. activity had le, it into al sorts of mischief. They
were, in fact, heartily tired of their all, that is, except the clock, who still slept peace-
fully "After all," observed the pepper caster, who
was fond of a moral, "there is nothing like doing your own work and leaving other people to do
theirs."
SHELI.
OBrien: "Oh, murther aloive : Barney, come
and help me ! Pat has, fallen into the mortar, and



## A family Row.

Next: "God made the firmament, and divided the waters which were under the firmament and God called the firmament Heaven" (Gen. I: : 7 ,
8). This is stated the work of the second day: the 8). This is stated the work of the second day : the
creation of the atmosphere and clouds-spread out like an "expanse" or "firmament" above the
earth. "God," says Isaiah, "stretcheth out the heavens as a curtain, and spreadeth them out as a
tent to dwell in "(Chap. XL: $: 22$ ). It is likened to "paved work of a sapphire stone" (Exod. XXIV : 18). For its magnificence, as well as its interest, 1 here quote the
writings of John Ruskin, the great artist, philoso pher and poet: "I understand the making of the firmament to signify that(so far as man is concerned
most magnificent ordinance of the clouds ; the ordinance that as the great plain of waters wa formed in the face of the earth, so also a plain o waters should be stretched along the height of air
and the face of the cloud answer the face of the ocean; and that this upper and heavenly should be of waters, as it were, glorified in their nature, no longer quenching the fire but now bearing fire in
their own bosoms ; no longer murmuring only when winds raise them, or rocks divide, but answering each othër with their own voices from pole to pole guided through unchanging channels, but going forth at His pleasure like the armies of the angels, and choosing their encampments on the heights of
the hills: no longer hurried downwards forever, moving but to fall, nor lost in the lightless accumu-
lation of the abys, but covering the East and the West with the waving of their wings, and robing divers colors, of which the threads are purple and scarlet, and the embroideries flame.
The waters under the firmament are the waters
upon the earth itself ; those above are the waters upon the earth itself; those above are the waters which float in the atmosphere and are separated by
it from those upon the earth, in waters which ac
cumulate in clouds, and then bursting these their bottles, pour down as rain upon the earth. water in the formation of the soil. We can only now remind the reader of the vast importance of the air and water in the shape of rain, mist, dew That rain foll the lifing of the formation of the sedimentary rocks is proven by the marks of rain-drops found upon them. $\begin{aligned} & \text { One would fain linger upon this intensely in. }\end{aligned}$ the next stage-the work of the third day. The work of this period was two-fold, yetclosely made, clothed in their garments of grearth were decked with a glory beyond all the art of man to imitate. First came the separation of earth and water, or rather such alterations in the surface of
the earth as left it in hills and valleys. Into the the earth as left it in hills and valleys, Into the and rivers, while the hills became the, "dry land." Gatod called the dry land 'Earth'; ; and the
gathering of the waters called he 'Seas' (Gen. I.:

## Recipes.

nut cake.
One cupful of sugar, half a cupful of butter, half eggs, one coffee-cupful of chopped raisins, one of eggs, one coffee-cupfur or chopped raisins, one of
chopped English walnuts, one teaspoonful of cream
of tartar, half a teaspoonful of soda. Beat the butter to a cream. Add the sugar gradually and when light, the eggs well beaten, then the milk and the flour, in which the soda and cream of tartar have
been thoroughly mixed. Mix quickly, and add the been thoroughly mixed. Mix quickly, and add the
raisins and nuts. Bake in rather deep sheets, in a raisins and nuts. Bake in rather deep sheets, in a
moderate oven, for thirty-fiye minutes. Frost, if you please. The quantities given are for one large
or two smal sheets. If you use haking powder or two

Onvllers.
One sour cream, one cup sugar, one egg, small teaspoon soda, spice to
taste, four enough to mix soft. Fry in
boiling lard. charlotte russe.
Two tablespoons gelatine soaked in a
ittle cold water for one hour, two cups rich cream, one cup milk; whip the creap
stiff in a large bowl or aish stifi in a large bowl or aish; set on ice,
Boil the milk and pour gradually over the gelatine until dissolved, then strain; when nearly cold add the whipped cream, a
spoonful at a time. Sweeten with sugar and flavor with vanilla. Line a dish with
lady fingers or sponge cake ; pour in the lady fingers or sponge cake; por and set in a cool lace to harden.
cream
This makes a delicious dish for an evening party., sponge cake.
One and a half cups sugar, one cup flour, two teaspoons cream tartar, pinch of sait.
Sift all through a sieve; add whites of ten
eggs, well beaten. Bake in a shallow tin. BAKKD HAM.
Most persons boil ham. It is much better Most persons boil ham. It is much betier
baked, if baked right. Soak it for an
hour in clean water and wipe it dry. Next hour in clean water and wipe it dry, Nex
spread it all over with thin batter, and
then put it in a deep dish with stick under it to keep it out of the gravy. When it is fully done, take off the skin and batter crusted upon from six to eight hours, After removing the skin,
sprinkle over with a tablesponful of sugar, a little sprinkle over with a tablespoonful of sugar, a little
pepper, and bread crumbs or rolled crackers. Put pepper, and bread crumbs or rolled crack.

## Golden-hair.

 Golden-hair climbed upon grandpapa's knee;Doar iltte Golden-hair, tired was she,
All the day busy as busy iould be Up in the morning as soon as 'twas light,
Oth with the bird and butterfies sright,
Skipping about till the coming of night. Grandpapa toyed with the eurls on her head--
"What has ind
"Sincrink been doing he heald,
Since she rose up with the sun from her bed." ". Pitty much," answered the little one.
"I cannot otel son much things have done,
Played with my dolly and feeded my bun.
 "Then I haver readed my picture book,
 Lower and lower the little head pressed,
Untilit iropped on grandppapa sbreast
Dear little Golden-hair, sweet be thy rest We are but children things that we do
Areas gportof of abbe tothe infinite view
That marks all our weakness and pities it too. God grant that when night overshadows our way.
And we thall be called od oce accuntor our
He shall find us as guileless as Golden-hair's lay!

MINNIE MAY'S DEPARTMENT.
My dear Nieces, -
This is the season "when the stormy winds do blow," and during the past few weeks they have blown very and we have heard of many disasters on sea and
land. But let us shut out the howling of the wind land. its eerie sighing and sobbing among the trees,
about storms.
Well, there are many kinds of storms. There are wind storms, and rain storms in teacups, and storms at sea, and so on. But there is still another kind, and that is when the Home-Barometer stands at "Storm"-when there is unpleasantness in the gentle manners were more prevalent there! There are people whose manners are considered charming when they are among strangers, but who never their own homes. They even think that in the family circle they are at liberty to be as rude and ancourteous as they please. How often at breakfast newspaper instead of taking part in the general conversation, and so helping to make it a cheery meal! They say, "It is only at home I do that, of
course. I should not dream of doing it elsewhere." A poor reason,
relations to
receive less relations to
receive less courtesy than
strangers?
Surely that is trangers?
Surely that is a poor
ment
eneself. eneself. to avoid huriing the feelings perso nal rewith people al out their little as Tennyson
says, we should "take no mean advantage of
ourknowledge
and yet some ourk yet some
and
times the most sensitive spo subject of some bitter and cruel
speech by those
who should be Who should be
the very ones
to shield from to shi When weg
outside th home to our daily duties we of trifles to annoy us and
ruffle our tempers. Do not this ruffed with us, and so make others
uncom forta
ble; but leave door-forget it if possible-and try to be as bright as we can, remembering that troubles just as well as the others whose duties take them out of the home. A pleasant greeting on both sides when one gets home again after the day's labors worry and maintaining peace in the family. We should refrain from disputing, and should hold back our opinions if we find that others do not like them.
There is no need for too much self-assertion. There is no need for too much self-assertion. know our own family so well that this familiarity may lead to argument, and that to high words, and
so the mischief is made. Now, our duty-which we so the mischief is made. Now, ourdity-which we
should always do, but don't -is clear: we should treat our own family as we would strangers in this respect. Listen to the story of the grievance
patiently and sympathetically, and try to smooth it away. But beware of the conciliatory manner, which irritates instead of soothes, and with the Scotchman "aye remember that a soft answer
turneth away wrath-forbye it maketh them all the turneth a,
Frequently, nay, very often, in a family where courtesy is "nknown, "oes "one hear such ugly, Strange that those contemptible phrases should be
addressed to loved ones, when they are carefully addressed to loved ones, when they are carefully
avoided towards acquaintances! But so it is - we are far less polite (as a rule) to our own flesh and
blood than we are to strangers. 1 do not mean that we, my nieces and I, go to such a length as to use
the above objectionable expressions-ladies do not-

but the fact remains that we are not so courteous
to our own as to those outside the home. We should tofy to remedy this; and what better time could we find than now when the New Year is young? These vulgar retorts never do any good, but usualy degenerate into a quarre-a dep
Careless and thoughtless habits too may bring the barometer around to "Storm. A Aoor len floor ; books tossed about; humming, to the annoyance of others; hats and coats left anywhere;
grumbling at everything; - these small thing are grumbling at everything do these sticerm. We cannot call them trifles, for they proceed from selfishness and disregard for the comfort of others. Some-
times one hears such a remark as "She is so patronizing! it seems to rouse antagonistic feelings at once. Besides, it implies a consciousness of one s superiong. Some people think that a patronizing syay be of a
correct thing to use towards those who mases. This is a cower social standing than themselves. This is a
great mistake. Everybody is human, and a kindly great mistake. Everybody is human, and a kindly
and sympathetic manner will do far more good than and sympathetic matever one's station mayy be. Try to keep the domestic barometer always standing at may rage outside, it may be continual peace and happiness in the home.
"Let gentle thoughts abide:within, And gentle deeds will follow them."
Your loving old Auntie, Minnie' May.

Christmas with My Old Mother. Oh! I never felt so happy as upon last Christmas night,
Coming near the ittof home where mother Coming near the little home where mother lives, Alight joy anticipation ever gives.
Eager fingers tingled gladly as I opened
Eaner fingorra antingled grian ever gives.
And my feet impatient hurried to the door;
But her ear haid cought my footsteps, and her love remembered
well! On the threshold mother met me as of yore.
Oh! I clasped her to my bosom, as she used to clasp her boy, Then she led me to the table, where the good things kept for me me all waiting, with the chair of auld lang syne
She remembered evrything Iliked, and how to make it best, Sorving meead though my place, were still a childs:
Cakes and jelies, homemade cany, and evry choioest thing Cakes and jellies, homemade candy, and ev'ry oho
Heaped before mith caresses and her smiles. Oh! I seemed a very boy again as we sat talking there,
And she told me how sho had thought of, prayed forme;
How Td been a jo and comfort to her all her widowed life,
 So sheme had love-waited for me all the So she had love-waited for me all the years;
Then, arising from the table sho would stand
As she breassing me,
Ene - In round On! 1 felt os oblissful, peaceful, and so full of tender love



This beautiful and touching picture by the celebrated artist, Luke Fildes, is well known and has story which goes straight to the heart There can story which goes straight to the heart. There can
be but few who do not feel a thrill of deepest sympathy with those grieving ones who, in wordless agony of suspense, a wait the verdict, "To live" or "to die"? The unconscious child lies hovering on the brink and seems as though already gone over to attitude born of utter weakness. But this is not
death, for there sits one who, with rare skill, helped death, for there sits one who, with rare skill, helped
by God's mercy, is straining every nerve to bring by God's mercy, is straining every nerve to bring
back to strength this frail flower. The whole figure
and expression of ""The Doctor" is forceful to a and expression of "The Doctor", is forceful to a
degree, as he watches that oung face, the light degree, as he watches that young face, the light
thrown upon it from the raised lamp-shade. The poor mother, with head bowed on her arms, is unable to longer look upon her darling. The father seems as though compelled to look, and that quiet
watcher with the kind and noble face, so full of strength and self-control, will stay at his post unflinchingly, and will make no sign until he is sure, who love her! that one might linger long over its discussion. The wonderfully natural position of the child's hands sacrilege to analyze thus. The picture is simply a grand study in human nature, and its masterly
drawing stands second to its exquisite conception.

Ah, brow with that look of scorn Ah, brow with that fatok of
Twere a cruel fate
Were the night to late
To wido the work of morn. Our Own. If I had known in
How worning
How wily al Hededay
The words;un
kind $\mathbf{~}$ The words, a
Find troubl
my mind 1 mid mind 1 Thad went away. Nor given you
needress pain
But $w e$ vex With look own tone
We maynevertak
back again.

Fir though in the
quiet evening
You may give
 Men pain of the
heart
hease should Ho
ceasen
forth in
win
 night!
And heart
have brok For harsh
Wordsgoken
That sorrow can
neer set right We have careful the stranger
And simes
or
the sometime And the sometime
Buest.
But oft for Tour own
The bittertone,
Thugh we
our own ove the
bout own
liisp
curve ith the h, lips with the
curve impe
tient!

The old Year and the New.
Toll, toll, ye bells!
The old Year calmly dies;
So he shroded lies
He neath the the pasts sill wave
Farewell ! seld Year, farewell
Kinds deeds still live to tell
Thy life was not in vain;
Fond memories still remain
A monument to thee
Wiould bury all regret forget,
Our sins bikes and wrongs forg to
Our sins bide turn to dust;
Live goldene preacious hours, flowers
That bloom, but fade and fow
That bloom, but fade and fold
Ere we have caught thir
Have vanished
Have vanished ;they have flown
They are no more our own.
True gems those byone days
Those priceloss wountes ways
For good we might have done,
ase priceless, countless ways
For good we might have done
All, all are dea a are gone.
Toll, toll

Upon hisin infant brow Year.
Peace ,
OGod forbid that we
ould mar that purity.
Thrice
We hail theo without New Yeat fear.

I had known thee morning ail
How wearily ail The day
lind
kind
WounWould, trouble
my mid mhen
Ishen you Ghaw bent away, more Nor given you
 With look and Wemannevertake
back again.
Fir though in the quiet evening
You may give tive kiss
me the kin
of peace
That it might ne
That never for The pain of the
heart should
Hest How many go
forth in thie Thorning nerer come
home at night!
A harts
have broken
 That sor spopo ean
nee ser set right.
We have carefal the stranger
And smiles
the sometime
the guest:
But four for
our own" The bitter tone,
Though we ne
cour own the Ah, lips with the curve im

FOR SALE... ImPORTED AND CAMCDIAM-BRED Ciydestaldestallions
From One to Four Years Old. Also


SEVERAL : All registered and warranted sound. Inspection invited. ROBT. DAVIES,
-om Thorncliffe Stock Farm, TORONTO. CIYDESDALES

D. \& O. SORBY, GUELPH, ONT. ARTHUR JOHNSTON
Greenvood P. O. and Telegraph Office,


 BERKSHIRE BOAAS AND SOWS FOR SALE

W. D. FLATT,
hamilton P. O. and telegraph office,


TEN CHOICE SHORTHORN BULLS FIFTEEN COWS AND HEIFERS,

##  

Clydesdale stallions


Pure-bred Ayrshire Impoorted Cattle,

$\qquad$
$\qquad$

SHOR THORNS
Crimson Flower and Minnie Strains

 sold sheep. fylendia soung bill ready now.
DAVID BIRRELL,

## WE ARE OFFERING FOR SALE

8 HIRH-BLASS YOUMG SHORTE SHORTHORN BULLS
of the best scotch breeding,

H. CARGILL \& SON., CARGILL, ONTARIO.
Cargill station and Post omice on G. T. R., within half mile of barns.
ḊENTONIA PARK FARM EAST TORONTO, COLEMAN P. O.
DENTOMIA JERSEY HERD Winners of the Herd prize at both the Toronto and London Fairs hast fall,

 ,



SUMMER HILL YORKSHETRE HOSS. LARGE, LENGTHY, ENGLISH TYPE.
 -om D. C. FLATT, MILLGROVE P. O., ONTARIO.





WM. BUTLER \& SONS. DEREHAM CENTRE, ONT.


3- Shorthorn Bulls for Sale -3 7 - SHORTHORN BULLS - 7


SPPIIIG GROVE STOCK FRRIM
 T. E. ROBSON, Illderton, ont, Shorthorns Seven Splendid Young Bulls, Two descended from Wanterion OLD. Two descended drom Waterloo Daisy (World's Fair
dairy tetst), balance Missie and Lamy Jane strain, and
by Kineller of York ias well
 YORK, ONT F. MARTINDALE, Maple Bank Stock Farm


15 SHORTHORN BULLS with Sootch-topped pedigr ees
Splendid reds and roans, and sired
by Valkrie
 few good females and Imp. Mariner ages and in good form. Also am
one marm
T. DOUGLAS \& SON, Strathroy, Ont. W. R. BOWMAN, MT. FOREST, ONT., OFFERS




## Shorthorns


 Visitors Always Welcome.
 ROBERT MILLER, STOUFFVILLE, ONT
Importer and Breeder of
Shorthorns and Shropshires
 Station, Telegraph, Telephone, Post omice, Maple Lodge Stock Farm SHorthorns.-- Imported K nackle Duster
and the grat sine and show bull, Abbotstoral in

 W. SMITH,

SHORTHORN CATTLE and LINCOLN SHEEP.

 J. T. GIB'SON

SCOTCH-TOPPED SHORTHORNS

 heifers, mothll byamumam Guasman.
JOHN GARDHOUSE.
 and Minnie Strains

## HORNS

## DAVID．MAXWELL \＆SONS，${ }^{\text {sTontarris：}}$

Manufacturers of
High－class Farm Implements


洮潫㴆澲業業

Binders，Reapers，Mowers，
Hay Rakes，
Hay Loaders，Hay Tedders， Disk Harrows，
Scufflers，Turnip Sowers，
Turnip Slicers and Pulpers，
Hand and Power Straw and Ensilage Cutters， Churns，
Wheelbarrows，
Cider Mills，Corn Shellers， Pea Harvesters，
Lawn Mowers，Etc．
Send for Illustrated Catalogue．
AGENTS WANTED
IN ALL UNOCCUPIED TERRITORY．


8 ShORTHORN BULLS 8 and FITZGERALD mt．St．Louls，Ont．
 HORTHORN CATTLE

$$
\begin{aligned}
& \text { Good young bulls of Sootch breoding } \\
& \text { and a desinale lot ot heifers formente. }
\end{aligned}
$$

## H．SMITHH，HAY，ONT．

 Exeter station，G．T．R．，hair mile fromfarm．
HAWTHORN HERD OF DEEP－MILKINQ SHORTHORNS．
For SALLE： 4 young balls of the choicest breeding and good quality，and from A A dairi yoowa． Highland Park Herd of Shorthorns，Berkshire Are stricty upy－t－datet in style，quality，and breading． and Sows of various ages．
－MAC．OAMPBELL．NORTHWOOD．ONT． ITOIE ERTHIコ： Four Shorthorn buls，three Berkhire boars，seven
Southdown and Leicester rams；females anl
Rags ；and B \＆W．Leghorns．Write or come and see．

- E．JEFFS \＆SoNs，Bondhend，Ont． H．K．FAIRBAIRN． Rose Gottage Stock Farm，Theiford，Ont．， a SHORTHORN BULLS，one 3 years，old and
one 14 months alabo five heifers 2 years old，dired dy one 4 months；alles Avve heifers 2 years old，sired by
om
Great Chiet $=16098=$ ． SCOTCH SHORTHORN BULLS AND HEIFERS SERD ESTABLSHED iN 1877 ， Wartare have put us where we are：
A．\＆D．BROWN． ELQIN COUNTY．－om IONA，ontanio． SPRINGBANK FARM． Shorthorn cattule，oxford sheep，and Bronse Tur
keys．Young bulls tor sale． JAS．TOLTON，WALKIERTON，ONT． Glen Rouge Jerseys． WILLIAM ROLPH，Markham，Ont．，offers
twelve Jersey Bulla and Heifers（pure St．Tamberto）



The unqualified superiority of the ＂Alpha－De Laval＂to all other cream separators in thoroughness of separa－ tion，actual capacity，necessary power， greater＂churnability＂of cream，and in all other essential respectis，is the universal basis of its sale，and is subject to practical demonstration in actual test or otherwise，

```
SEND FOR DAiry." catalogue no. 268,
```




## CANADIAN DAIRY SUPPLYCO．，

sole agents for canada．
MONTREAL．


DAVID DUNCAN，
Nine mllowe trom Toronto Market．－

N
 J．H．SMITH \＆SON， St．Lambert of Arcfost 36943 yhae ifif was iop per cont dam，st Lambertis

 GLENGARRY STOCK FARM AYRSHIRES $\begin{gathered}\text { ARE STILL } \\ \text { to the FRONT }\end{gathered}$ Orders taken for roung stock．specialty． John A．McDonald，Jr．， whlhamstown．ó ontario． W．F．STEPHEN，

ATYRSHIRES
 BROOK HILL FARM，
MEADOWSIDE FARM

 ATMEBTMEXE：

 AYRSHIRE CATTLE．
 AYRSHIRE CATTLE of the morn filidianaiki any



at
is

Wm．GOSSIP choioc young
poroved breatin
porn
proved breeding．
H．c．Graham and an


 s

## jo

 ．
 a

| ac |
| :---: |
| it |
| ire |


，

．
．
is b
imp
imse

| use |
| :--- |
| dan |
| $=4$ |
| 1 |



 3rd，and Maid of Sylvan 5th，all bred by Thos
Nicholson \＆Sons，now R．\＆S．Nicholson，
Sylvan，Ont．
The Poland－China sow，owned by W．\＆H．H．
Jones，Mt．Elgin，Ont．，and whose portrait is
Siven given in another column of this issuu，furnishes
undeniable evidence that by skiltul breeding
and treatment hogk of that breed may readily
bity and treatment hoge of that breed may readily
be produced．．＂which will frle the bill ror a
＂bacon hog．This sow was considered by ＂bacon hog．＂This sow was considered by
good judges，the Tor thonto and Brantord
Exhbibitions，atyical bacon hog having great
length，deen sides，smooth shoulderg，well－
 in which too many of the so－called baconers
arevery deficient．
Mr J．Gaureness Leicester shearling Mr．J．M．Gardhouse＇s Leicester shearting
ewe ing model of the breen，straigh and true
in all her lines，with a handsome head well set
 prize in her class at the Provincial Winter Show，she was understood to be the reserere
number for the sweepstakes，all breeds com－

Raising Poultry．－Whether for pleasure or
profit，this industry requires
 rertisement ofsechere
Shoemaker，or Freport，Ill this who has of issued at
a low rate an interesting
vol




 The exhibit of the Ontario Poultry Asisocation，
held at he Pavilion in the Horticiltoral（Gar－
dens Toronto，this month，har hitracted wide－
 the sime time，making the mot complete
poultry and pet animat how cerer hell tin
Canad．The managenent took unusual care






## Choice Ayrshires <br> BY AUCTION．

The undersigned will sell by auction，
at his farm at Petite Cote，on FEBRUARY THE 16TH，
without reserve，the whole of his farm stock，
implements，eto．，including his choice herd of AYRSHIRE CATTLE．

Catalogues are beecung prepared and will
be sent on application to
TERMS．-50 and under，cash；over that arount，
approved notes at 12 ，months，with interest at
and DANIEL DRUMMOND， Choice Ayrshires and Poultry FOR SALE．


CHOICE AYRSHIRE BULLS
 old，all sired by prizeexinning imported bulls，and
from high－clasy imported
from 1 to 4 months old． W．W．BALLANTYNE，

INGLESIDE HEREFORDS．
UP－TO－DATE HERD OF CANADA！

## HAMMVOIRHEES

 Orders booked for Spring Pigs．Pairs not akin． Send Adres
H．D．SMITH，соmpton，que． HAVEN＇T YOU SEEN our
There is no quarantine law，and now is the oppor－
tunity for youto get angood Holstein cattle as there
is in the United States．
Our herd is near the Cane dian line．Expense of transportation is comparative li suall．We have 100 head， 90 per cent．of them are
strong in the blod of De Ko 2 nd and Netherland
Henserveld the two



 Holsteins，Tamworths and B．P．Rocks．
 for spring pigs from prize
winnins
boars．Stock and importe best quality


STOCK FOR SALE
 of the very best dairs quality，that we will
sell，one or more at a time，on reasonable
terms Correspedence tole ELLIS BROS．，Bedford Park P．O．，Ont HOLIDAY OFFERING
 For particulars
H．BoLLERT，
european advertisements．
Hampshire Down Sheep，
 This highly valuable English breed
of sheep is unrivalled in its
Rapid and Wonderfully Early Maturity，
possessing，too，a hardiness of con－
stitution adapted
whilst in the all climates， MUTTON AND LARGE PROPORTION OF LEAN MEAT IT IS UMSURPASSED．
At the great Smithfield Club Show in London，
December， 1 gh7，Hamphire Downs again held their
own，the class or wether lambs with twenty entries
December，1897，Hampshire Downs again held their
own，the clast or wether lambs with twentenentied
exceeding in umbers that of any other breed，whilst exceeding in numbers that of any other breed，whilst
a pen of wethers stood resere tor the champion plate
for the best shot wooled shep in the showat
Hampshire Down also aacain took first prize in the Hampshire Down also again took first prize in the
dead carass competition against all other short－
woolled breeds Full information of

JAMES E．RAWLENCE，
Secretary，Hampshire Down Sheep
Breeders＇Assoclation， salisbury，england．

J，E，GASSWELL， | Laughton， |
| :---: |
| $\begin{array}{c}\text { Finkingham，} \\ \text { Lincolnhhire }\end{array}$ |




W．W．Chapman，
Seeretary of the National Sheep Breed－
ers．Association，
Secretary of the Kent
Secretasy or the Kent or Romney
Marsh heep Breeders＇Assoclation， Marsh Sheep Hreeders＇Assocletion，
and rate Secretary of the Southdown
Sheep Soeity． Pedigree Live Stock Agent，Exporter and
Shipper．All kinds of registered stock personaly selected and exportered on coom
mission；quotations given，and all enquiries
answered．
 ．．MAPLE HILL．．
HOLSEIN－FRESIANS


 G．w．clemons，st．george，ont．
Brookbank Holstein Herd 50 CHAMPIONS FOR 50 A number of desirable eoung BULLS on hand，from
one to eight months old，from our great milikers．Write
for just what you want．Females of all ages．
－o or just what you want．Females of all ages．
A．\＆G．RICE，Currie＇s Crossing．

 SYDNEY FISHER，
YORKSHIRES 呟 COTSWOLDS Nam －IR EFONEET，
HILL HOME FLOCK of SHROPSHIRES
At Hill Home are a few of the best rams and
ewes and ewe eamst that money can buy．
Write for prices before you huy． D．G．GANTON，

Shropshire Sheep，Chester White BRONZE TURKEYS， W．E．WRIGHT，o GLANWORTH，ONT． HENIRY AREREL， Importer and breeder，of OXFORD Down SHEEP
Ewes in lamb to Royal Warwick and imp．Hero sth．

January 10, 1890
THE FARMER'S ADVOCATE.

HW. C. Edwards IMPORTERS AND BREEDERS Laurentian
Stock and
Dairy
Farm, Ayrshires, Jerseys, Shropshires, Berkshires.

 We can be reach

## FEED BOILERS.

Boils
Quickly
with
Little
Fuel.


the $\mathbf{M}^{\circ} \mathbf{C L} A R Y$ MANUFACTURING CO.
London, Toronto, Montreal, Winnipeg, and Vancouver.
if your local dealer cannot supply, write our nearest house

EXTRACT FROM ANNUAL REPORT FOR 1897 CONSULTING CHEMIST OF THE ROYALETY OF ENGLANDICULTURAL Published in their Journal, 31st December, 1897, page 732





THOMAS-PHOSPHATE POWDER
$\qquad$ WALLACE \& FRASER.




GOSSIP.
messrs. A. \& D. BROWN's shorthorns. The extensive farming and stork operations
conducted by Messrs. A. \& D. Brown, near
Cond conducted by Messrs. A. ${ }^{\&}$ D. Brown, near behind the the in kidgin or Co., Ont., are in no way way
state that the proprietors are, extensive we
state
 their best steers are fed on their own farm, it
will be well understoo that the farm in in
suld
full desceribed The olooes box method or feeding.

 adopted several Years ago, and proved conclu-
sively to them the the proper course with
such stock At the time of our visit we maw a
splendid, well selected bunch under preaparasuch stock. At the time of our visit we saw a
splendido well selected bunch under preparau
toon for the English bookr which were arout
ready as soon as the market would warrant
their
















Non-Poisonous Fluid Dip
Still the favorite dip, as proved by the testimony
of our Minister of Agriculture and other large FOR
Kills
sHEEPR
Kills tioks, maggots; cures scab, heals old soress
wounds, etc.; and greaty increases and improves
CATTLE, HORSES, PIGS, ETC.:
Cleanses the skin rrom anl insects. and matiee
the coat beautitully soft and glosyy Prevents the attack of warble tosy,
Heeals sadile gall, sore shoulder, ulcers, otc.
Keeps animals Tree from infection.

NO DANGER!
SAFE, CHEAP, EFFECTIVE. Sold in
large tins
at..... strength regurea, gpecisi lerme quatitiess
men, and others
Sold by all druggsits.

ROBERT WIGHTMAN, | DRUGGIST, $\begin{array}{c}\text { OWEN SOUND. } \\ \text { Sole agent for the Dominion. }\end{array}$ ONT. |
| :---: |

|  |
| :---: |
|  |  |
|  |  | Canadian Office: WEST CHEMEAL COMPANY,

15 Queen Street East, Toronto,



LARGE YORKSHIRES

R. G. MARTIN, Margsvile, Ont PINE GROVE FARM HERD OF LARGE YORKSHIRES. Imported and Canadian - berd, from the Haket
Camily, which hass
tuken more prize ant he
 JOSEPH FEATHERSTOM, Streetsville, Ont. DUROC - JERSEY SWINE The earliest established
the greatest prizewinning


 Berkshires, Berkshires, Berkshires.
 Duke, and other iupported sirains, with the cele
brated sire, First Prize, at the hed.
$-\quad$ WM. MeALLISTER, VARNA, ONT

## How to Succeed on the Farm!

The Wilijam Weld Co. (Limited) London
Dear Sirs,-I believe the Farmer's Advocate contains more reliable information pertaining to all the branches of agriculture than any othe year without being money in pocket by doing so.
Middlesex Co., Ont., Dec. 26th, 1898.

Fvery farmer desires to succed and
Every farmer desires to succeed, and he may do so by applying principles is not a matter of luck nor waiting for dead men's shoes. During 33 year past the FARMER's ADVOCATE has made an honest effort to promote thi
object, and we are encouraged every year by the testimonies of thousands o object, and we are encouraged every year by the testimonies of thousands of
farmers that have been helped to prosperity by it. We have the best of reasons for knowing that we will aid more farmers next year than ever b fore, and in better and more practical ways, we believ

A NEW DRESS.-Among the many improvements in the Farmer's ADVOCATE for 1899 is the co
to its handsome appearance.
CHE SUPPLYS LASTS.-Every new yearly subsciriberrs WHILE THE SUPPLY LASTS.-Every new yearly subscriber will receive the Christmas number, with its wealth of illustrations and instructive reading
matter, and all the issues for 1899 at the ordinary subscription rate of $\$ 1.00$ Extra copies required by subscribers we will supply at 250 . each; to non subscribers, 50 c .

GOOD BOOK PREMIIUMS.-We have made special arrangements with the publishers for a supply of the following valuable works, which we
offer on very favorable terms: "Feeds and Feeding" ( $\$ 2$ ), by Prof. $W$. offer on very favorable terms: "Feeds and Feeding" (\$2), by Prof. W. A. Domestic Sheep" (\$1.50), Hy. Stewart, 3 new subscribers; "Horses, Breed and Management" (heavy and light breeds), 3 new subscribers each;
"Cattle, Breeds and Management" (\$1.25), by Wm. Houseman, 3 new subRush Your List of New Subscribers.
free sample copy sent to all applicants.
address The WILLIAM WELD CO., Limited, London, Ontario,

## HAMILTON <br> Engine and Thresher Works

COMPOUND AND SIMPLE TRACTION AND PLAIN ENGINES.
THRESHING MACHINES, CLOVER HULLERS, HORSE POWERS, SAWMILLS,
ith all htest improyemeyts. also
ROADMAKING MACHINERY, STONE CRUSHERS, ROAD ROLLERS AND GRADERS.

Sawyer \& Massey Company, Limited, HAMILTON, ONTARIO.

PLEASE MENTION FARMER'S ADVOCATE.










 som the mon.
OAK HIL HERD OF TAMWORTHS For sule (rougy bank and som, 3 and tmontur

LOTS OF PEOPLE HAVE Hatched 90 to 100 per cent. TORONTO INCUBATOR
You can do as well. Write for circulars. Address
T. A. WILLITTS,

9SHOEmAKEERSPOULTRY

BRONZE TURKEYS AND TOULOUSE GEESE

 barreo plymouth rock cockerels

 Sllver and golden wyandottes
 JAMES LENTON
PARK FARM. -o OSHAWA, ONT W. H. BEATTIE, GROVE, ont offers 110 Bronze Turkers (farmers' Graughter strain)
50 White Holland and Bremen Geese. Won All first prizes at Toronto, 1898 MAMMOTH BRONZE TURKEYS.
 T. \& H. SHORE, White Oak, Ont 12 Buff Cochin Cockerels, 12 Barred Plymouth Roc
 POULTRY w. r. Graham. Bayside. Ont
 13; \&2 for 2co satisfaction guaranteed. BRONZE TURKEYS.
weiching te to 23 pounds for sale.
H. C.GRAHAM, AILSA CRAIG, ONT nd Li. fur Poultry, Anual and Almanac for 189
 oxford co. -om mt. ELGIN, ONT. POLAND-CHINA BOARS
 R. wiLusis, JR.,

## E. D. GEORGE,

PUTNAM, ONT.,
Importer and Breeder of Onio Improved Chester White Swine.


$\mathbf{C h e s t e r ~}^{\mathbf{W}}$ hites
 Bred, Formed and Priced Right. Henry Herron,
$\underset{\text { want }}{\text { if you }}$ Chester Whites $\begin{gathered}\text { write me for } \\ \text { proticulars. }\end{gathered}$

County.

## 3 FAMWORTH BOARS 3

By a Bell.bred bar, and out of an O. A.C. . hred sow.
JOHN PULFER \& SON,
Prices Right.
FAMMVOIEFTEIS


IR. O. MORIROW, Hilton P. O., STRATFORD BROS. BRANTFORD.


##  <br> Dr．Ward＇s Blood and Ne

 Dr．Ward＇s Blood and NervePills are sold at 50 c per box． 5
boxes for $\$ .00$ at druggists，or mailed on receipt of price by
The Dr．Ward Co．，Lim．ted ${ }_{7 I}$ Victoria St．，Toronto．Book 7 I Victoria St．，Toronto．Book
of Information free．Dept．F．


Cure Stomach Trouble，Nervous Diseases and all Blood disorders． They restore health and strength to the weakened system．

GOSSIP．
 Thoronto on wednedas，，feb．sth and ithe Ayr． Mr D．Mecrae，Guelph，has recently bought
for tin Newtunt
 Nailes，Arkeoll（ ），James Heste（2） The annual meotings of the Manitobe and Heral Associations will be held in Wininipeg on
February， 7,9 and 10 Good programme





 Mr．w．



 class top croses of
type and breecing．











The COSSITT BROS．CO．，Limited， еstaвціянеd 1849．－om BROCKVILLE，ONT． BINDER TWINE


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

Farmers ：Don＇t be taken in．There is none＂just as good，＂ These twines will not bunch at the knotter，and a Binder will ru
all day without stoppage，thus saving time，annoyance and a＂lot all day witt
${ }^{\circ}$＇cussinin．＂
and we are not ashamed to put our name upon it．Don＇t take any other．
CONSUMERS＇COROAGE CO．， MONTREAL．
Engines and Boilers
FOR CHEESE AND BUTTER FACTORIES．
during 1898 we solo


## E．LEONARD \＆SONS，

LONDON，CANADA．
Estimates on iCE and refrigerating piants of any size，for creameries，

## 

## Jub hent cont


 Covss and Heifera．
Miss Mary． 3 years old ；purohaser Joon Pear－




 Red Bessie 2nd， 2 yris：John Miller \＆Sons，




 Ficklon；Fortune， 1 yri：Jas．Leaekk，Greenbank，






 Borna0， 1 yr．；Robt．Miller，Stouffille，Ont．
Baron Skene， 11 ，


 3 head＂．\＄10．350 ．＂$\$ 3014$


WEEDS．




 Nabetrod asd Racluanso
CLOVERS and GRASS SEEDS， SEED GRAINS axs ENSILAGE GORII； Field Carrot，Mangel and Turrip Seeds． Write for our Catalagiene which is JOHN AI BRUCE \＆GO． HAMILTON，ONT． AMERICAN Cream Separatori．
 RICHARDSOH \＆ WEBSTER，
 s

ROGERS＇
S＂PEERLESS SHumor


 Gexkral storks mall it．
QUEEN CITY OIL CO．，Limited，TORONTO． 9 GORDS III 10 HOURS

 LIVE STOCK AUCTIOM SALES
 JOHN MI TH，BRAMPTon． EDMUND WELD， Marrataer，sololeor，Notary Pablic，Eta，


BELLEVILLE BOELE \& BUSINESS JEFFERS, COLETESE
simb io : ine
 1. Bookkeeping
2. Shorthand.
3. Typewriting.
4. Telegraphing.
5. Civil Serciar and Railyay Work
5. Civil Service Options.
students may commence telegraphing on the first
of each month, and the other departments at any
J. FRITH JEFFERS, M. A., Principal. Address: BELLEVILLE, ONT.


CENTRAL


 m W. J. ELLIOTt, Principal.
 SEPARATORS.
Write to Headquarters or Ask Name of Local Agents.
${ }_{¿}^{¿} L I S T E R \stackrel{i}{\circ}$
18 St. Maurice St., Montreal, or King St., Winnipeg, Man.

the ortario veterimary college (LIMITED).
TEMPERANCE ST., TORONTO, CANADA Atliated with the Univerity of Toronto.



92BAYST CUTS BYAT Procss SES LIVE STOCK A SPECIALITY
PLEASE MENTION FARMER'S ADVOCATE.

GOSSIP. Fipat coman oumo butur tivil min buman mod tumatime

 ing Hare 12 matare sows bred for spring


 mported with her are beautios -5 boars and 3
sows.My Holsteins never did bettor than this
season." ${ }^{\text {B }}$ H. Bens.




 Ridgetown, Ont, is located in one of the con a splendid farming, and highly-improved
collers of Which in years gone by gave the
tile tillers of the soil handsome returns for their
abundant crops of No. $\begin{aligned} & \text { beans For a fow } \\ & \text { bears past prices have not }\end{aligned}$ years past prices have not been so encouraging
for this protuct, yet immense granaries of No.
ibeans are to be foumd in that part of the
 in December we were shown several hundred
bushels ${ }^{\text {awaiting }}$ infore favarable harket,
which we were informed was on the rise. bushels awaikng nerored avorabe harkis,
which we were informed was on the rise.
while the abovenamed enentlemen have be berper in the cultivation of beans, they

 of splendid yrain and pasture land all of which
is kept in a hiinh condition of coltitation. One
strong part in the policy pursued by the firm is strong part in the policy pursued by the firm is
the improment
purpose an exceelent their cattle, tor which
Shorthorn bull was purpurpose an excellent Shorthorn bull was pur-
ehased. some three years ako. from Mr Arthur
Johnston, by the noted Indian Chief unmir

 stred. and that in a creditable way too. The
stronghold, as is well known, is heir herds of
Dis.


 to the front, both in the show and breeding
pens. Many of her daughters were retained as

 inch favor with the firm, his progenv all wor
ing splendid backe a and, werothrify doer-
Janie won a distin
with the ing splendid backs and were thrifty doers
Janie won a distinguished place for herself
with the firm and gave them much rroftathe
stock. Bv the same sire we saw the four year $\left\lvert\, \begin{aligned} & \text { stock } \\ & \text { slo } \\ & \text { Nhe } \\ & \text { Kent } \\ & \text { cent } \\ & \text { bie } \\ & \text { his }\end{aligned}\right.$

##  <br>  <br> <br> thin

 <br> <br> thin}srariety of pedigrees with stock of much the the the
Amone the first impo ted boars we heard the
name of Duke of Kent. who remained three






 heong keeping so to the thimes. but are stili
doing so according to their demands. At present few very choice six months-old boars
are held for disposal, and orren are being
booked for suring stock. The firm report
 deating and cound judgment is a sufficient
kuarmee of the business they are doing.


barn of allan memane, elima township.
Hasement Walls, $84 \times 100 \times 9$ feet high. Built with Thorold Cement
Rstate of John Battle, Manufacturers of the Thorold Cement, Elma Township, Nov. 15, 1898



 Yours respectully,

Allas McMank, Atwood P. O., Ont.
For Free Pamphlet with full particulars, address ESTATE OF JOHN BATTLE, THOROLD,
we FROST \& WOOD CO., עuman,
SMITH'S FALLS, ONT.


It pays to make the best Machines. We do!
It pays to sell the best Machines. Our agents do !
It pays to buy the best Machines. Leading farmers buy the FROST \& WOOD !
We are the Oldest IMPLEMENT MAKERS in the Dominion of Canada.

Special attention to GRAIN and GRASS CUTTING MACHINES. Great demand for our NEW LIGHT BINDER.

Toronto Branch, 77 Jarvis Street.
ORDER EARLY

## MACHINES

.. THAT MADE ..

## AMERICA FAMOUS!


deering all-steel hay rake
Main Office and Factory:
CHICAGO, U.S.A.

Farmers, it is for your interest to see these machines before you buy.
Seeing is believing. Believing,you are sure to buy. They lead; all others try to follow.

## Permanent Branch House :

 LONDON, ONT.GOSSIP.

 like reciprocity and may be good policy on the
part of breedeix.




James dorrance's berkrbires. Mr. James Dorrance's (Seaforth, Ont.) Berk-






$C^{0}$OLOR and flavor of fruits, size, quality and ap pearance of vegetables, weight and plumpness of grain, are all produced by Potash.

## Potash,

properly combined with Phosphoric Acid and Nitrogen, and liberally applied, will improve every soil and increase yield and quality of any crop.
Write and get Free our pamphlets, which tell how to buy and use
greatest economy and profit.
aERIAN KALI WORKS,
Vollmar's Perfeet Washer
and
witwiwizw wiwn


## ——"





## The Hoosier Needs No Introduction.

Over 40,000 Drills and Seeders of our manufacture in use in Ganada. The only Brill made with lever for instant and perfect regulation of depth of hoe in all kinds of soil while team is in motion. Sows absolutely correct to scale; saves seed, as every kernel is deposited at a proper depth to grow. Purchase only the best and you will be satisfied. We also manufacture Binders, Reapers, Mowers, Rakes, Cultivators, and Pulpers, as good as the best. Send for illustrated catalogue.

NOXON BROS. MFG. CO., Limited, Ingersoll, Ont., Canada.


## the No. I2 Cullivator is a marvel of success.

The only Cultivator made that both lines of teeth will cut an even depth in the ground. Examine it and you will see why. The only Cultivator with a movable yooth seat so that the angle of the teeth can be regulated too suit any condition of soil. Pressure can be regulated to suit any condition of soil. Pressure can be regulated to act differently on every section requiring it. The teeth are carried between the wheels instead of trailing behind, as in other machines, thus securing lighter draught. This machine is furnished with grain and grass seed box when required. It has reversible dia-
 mond steel points for the teeth ; also extra wide thistle - cutting points can be furnished. Examine it and you will buy no ther.

NOXON BROS. MFC. 60.,
Limited, ingersoll, Ontario,
Canada.

## The Buffialo All-Steel Disc Harrow.

This is the only Disc Harrow made or sold in Canada having independent adjustable spring pressure upon the inner ends of the gang dises, allowing any amount of pressure to be thrown upon the inner ends of the gangs by the
 foot of the operator. By this means a perfectly flex-
ible action is secured, and the ground can be worked at a uniform depth. Examine this machine carefully and compare with others.
NOXON BROS. MFG, CO., LImTEE, INGERSOLL, ONTARIO.

56
TUBERCULOSIS IN CATTLE IMPORTANT TO FARMERS. The following letter is sent by the Department of
Ahriculture ato Otawa to personis desirous of having

 charok dommion of canada. DEPARTMENT OF AGRICULTURE DEPARTMENT OF AGRICULTURE

THE FARMER'S ADVOCATE.
 The BELL ORGAN AND PIANO COMPANY, Limita,

GUELPH, ONT.

"The Scientific Compounds for Stock and Poultry." Formulhted by an Phyitilan
and veterinary
surgeon DR. HESS' STOCK FOOD
 DR. HESS' POULTRY PAN-A-GE-A Cures Diseases and Makes Hens Lay. INSTANT LOUSE KILLER KILLS LICE.




OR. HESS \& CLARK, Ashiand, O., U. S. A. Send for Sclentific Book on stock and Poultry, FREE.


## RAPID- GRINDERS

 EASY wit pay you to have a Grinder, and none Your saving comestron using safinder that neverwears ong tame








J. FLEURY'S SONS, Aurora, Ont. Good Medeal for Plows, etc., at Wordd's Fair, Chicago


Founded 188


Persiatic Sheep and Animal Wash





 In sour deater rasint it, write us ior it,

THE PICKHARDT
RENFREW CO., Limited, stouffyilite,

## BUTTER,

 Honey, JamiFarmers and Dairymen !
The best packages for putetc., whether for shipment or for storage, are made
from our
Antiseptic Ware
write for catalogue
and prices. and prices.
E. ${ }^{\text {THE }}$
E.B. EDDY CO., Hull, Montreal, Toronto, Quebec, London, Hamilton, Kingston
St. John (N. B.), Halifax, Winnipg, Victoria,
and Vancouver, St. John's (Newfoundland).

## West's Fluid


Contagious Abortion and Hog Cholera



THE WEST CHEMICAL CO., TORONTO ontario.



[^0]:    MPRovel, and uniuproved, in choicest
    district, at lomat pricur. Close to best markets, mans nijucur. to Winnipeg. some at less than cot of impro enents. Buy me or wite for

    William Harvey.
    COR. MAIN St. 210 portage ave.. WINNIPEG, MANITOBA.

[^1]:    Non-Breding
    will Someone may have non-breeding sows that ingregnated. Give them daily a will not hecome impregnated. Give tem dail
    gill of fine ground hemp sed. , in dry meal of
    and shorts, or ground feed."

