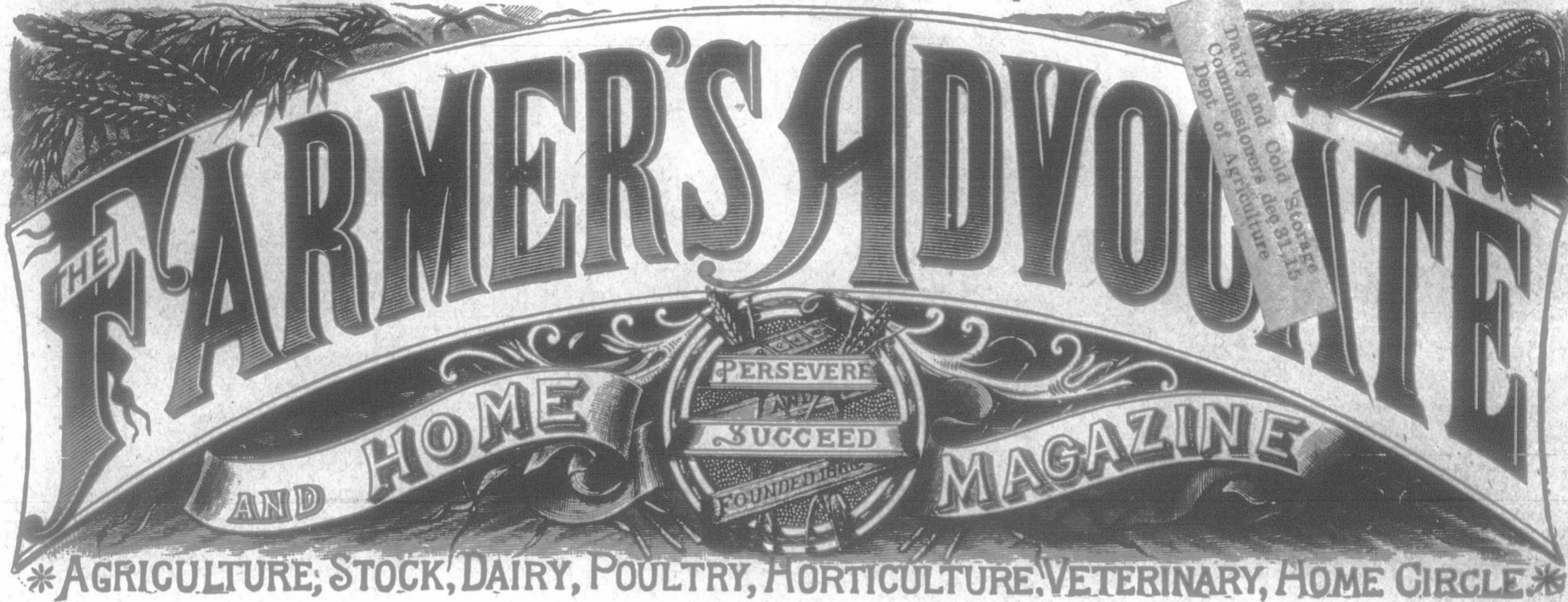


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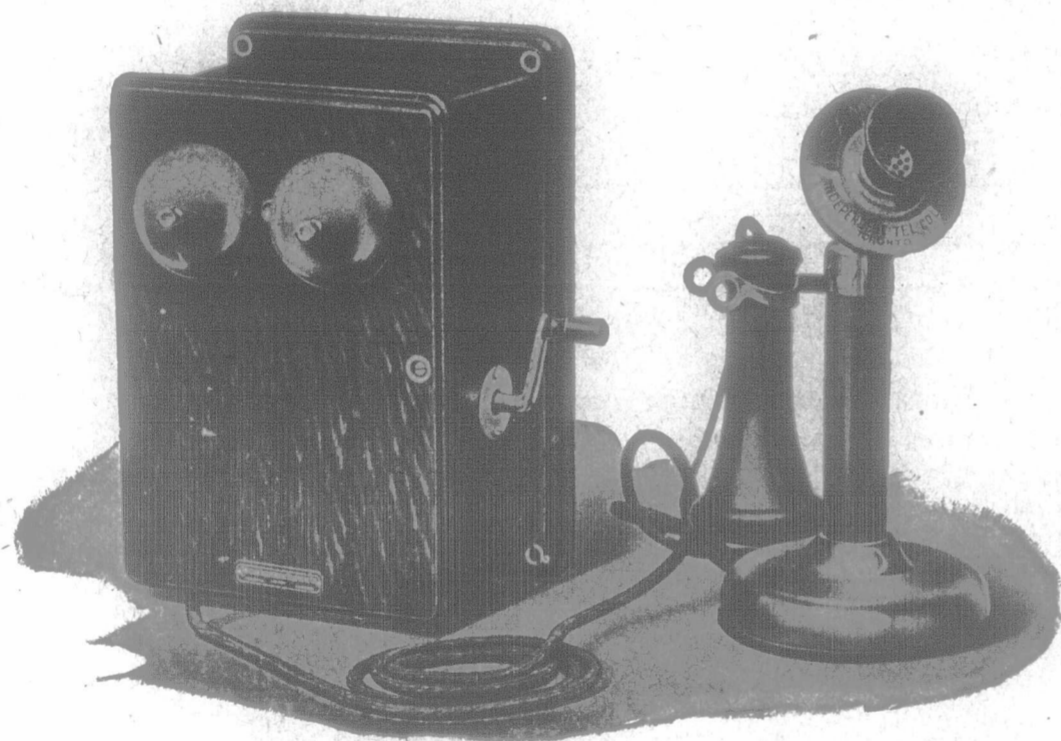


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Vol. L.

LONDON, ONTARIO, JULY 22, 1915.

No. 1191



The Independent Desk Set—The very latest thing in Magneto Desk Telephones

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Canadian Independent Telephone Co., Limited

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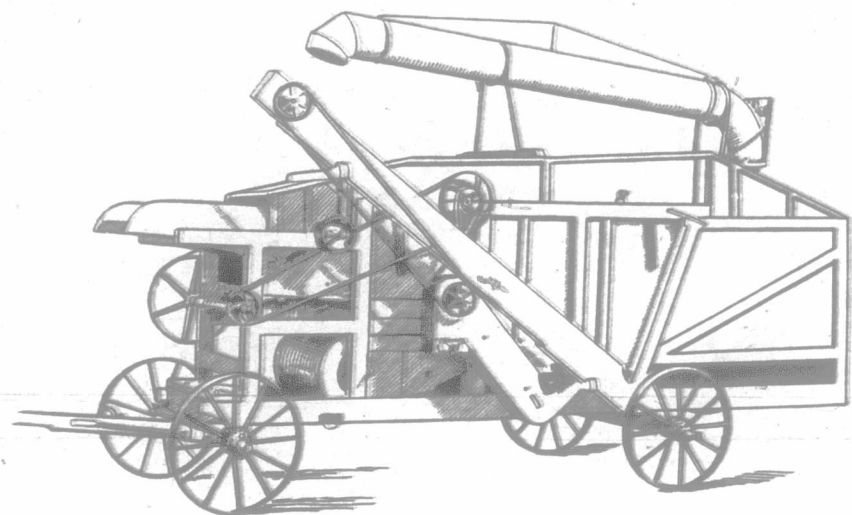
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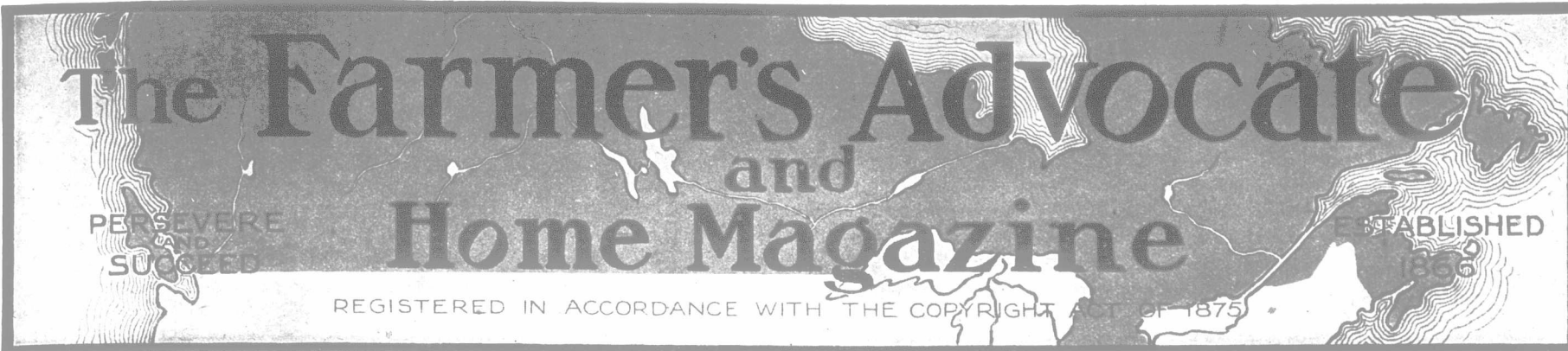
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VOL. L.

LONDON, ONTARIO, JULY 22, 1915.

No. 1191

EDITORIAL.

The Man and His Land.

It is said that Belgium now is a land haunted, not habited.

It is not too early to select the fall wheat land and decide on its treatment.

The man with the rusty hoe usually knows considerable about injustices and hard times.

The Kaiser's men cannot learn to appreciate the kind of jack knives used by the Canucks.

The Germans admit that they themselves must take second place to the Canadians as warriors.

Is the pasture sufficient for the herd? Perhaps a little chop or meal would give profitable returns.

Commerce is as peculiar as the weather and almost as changeable. We are now shipping butter to New Zealand.

Where mustard fields have gone to seed there is a heritage left to the next generation that will not be dissipated in a hurry.

Buying cattle for winter feeders is getting to be somewhat of a gamble. Who knows what the price of beef will be next spring?

Don't neglect the corn. After the two-horse cultivator is impracticable use a single horse, and keep the weeds down and the moisture in.

Secure barrels and boxes for the fruit crop as soon as the extent of the yield can be estimated. It will save time and prevent trouble when the rush comes.

Uncle Bije says it is easy to make the farm famous for Ox-eye Daisy, but it will not help us out with the tax collector nor buy the baby a new gown.

Commissions to clean up matters are unnecessary in one sense, but they are preferable to real warfare. Would that Europe had been satisfied with a commission to investigate.

It is unwise to plough down weed seeds. After-harvest cultivation will germinate the seeds, and another assault with the cultivator or harrow will destroy them. Take the offensive.

In a modern epic drama Satan sends the soul of Attila to the body of the Kaiser with these words: "To whom I send thee as a house prepared." It is evident that His Satanic Majesty is a good judge of accommodation for souls of his own likeness.

The hay crop has been light, but other departments of the farm look promising. A good harvest of farm crops will do much to bring prosperity to our door and insure the financial standing of Canada. The farmer is not generally looked upon as a financier, but upon him depends the status of our country in the money markets of the world. This is not flattery or idle talk, but the words of all commercial interests during the past winter. It has been admitted that the farmer has a right to live.

Fertile soils and resourceful, ambitious farmers make the country what it is. If the seed fall upon rock no effort on the part of the sower can cause it to take root and yield abundantly, but where these conditions are favorable, enthusiasm and will power are translated into yields that look good to him whose sympathies go out to "the man with the hoe." Ontario cannot be surpassed as an agricultural country, but within its confines, as in all lands, are sections where a farmer's ambitions cannot be transmuted into profitable and satisfactory rewards. If the land appears light and sandy, if the crops appear yellow and show a desire for more plant food, if buildings are modest or poorly maintained it should not always be blamed upon the owner. These circumstances can often be overcome, but in many cases it is an up-hill road. Throughout all Canada are circumscribed areas of limited extent that are not favored with the most desirable natural conditions, yet into the homes on these lands are born young men and women, and unto them is handed down the homestead with all its associations, ties and sometimes encumbrances. What is one to do when bequeathed the home, the traditions and the environments of the family? True, many could profit by an absolute change of farm and surroundings, but there is a link which is hard to sever, and that link binds many naturally ambitious and progressive young farmers to the soil of their fathers. Although a roving spirit is not to be cultivated it might sometimes be wise to desert the barren or stubborn fields for greener pastures. Such a move might arouse new aspirations and result in more remunerative labor on a more responsive farm. However, one should first understand his soil and apply the treatment that is liable to produce the desired change, for too many are inclined to blame the land and its surroundings for any unfruitfulness, and exonerate themselves from all responsibilities in such matter.

The Motor Cycle Terror.

Reports reaching "The Farmer's Advocate" indicate that the need has not yet passed for a sterner enforcement of the law governing motor vehicles on the public roads. These regulations are designed not only for the safety of pedestrians and those driving horses, but for the protection of those who drive or ride in motor conveyances. Nearly every day the newspapers are recording heart-rending accidents which should teach the lesson of care and moderation in car driving.

In Ontario Province, for example, it should be borne in mind that the speed limit for cities, towns and villages is 15 miles per hour, and on country roads 20 miles per hour except in special cases where specific portions are set apart. The drivers of motor cars are to slow down at 100 yards distant to seven miles per hour on approaching to meet or pass horse vehicles, and in case the driver of the latter signals with the hand the car is to be halted and if need be the motor engine stopped. In coming from the rear the driver of the automobile or other motor vehicle is to signal so that the driver of the rig ahead may be warned in time to avoid risks of danger, especially so in case the buggy tops are up. Only lately several cases were observed where parties narrowly escaped being run over by cars coming up silently and suddenly from the rear without

giving warnings with the horns with which machines are especially equipped for that very purpose. It is high time that motor traffic should settle into normal conditions free from the old-time spirit of dare-devil recklessness or other stimulants. Rural car owners are now as a rule setting a good example in the sensible use of the country highways. Motor cycles are governed by the same regulations as apply to the larger machines, and are as a rule a greater terror to horses because of the infrequency of their appearance and the startling noise made in their propulsion. There is no excuse for driving them at breakneck speed as reported anywhere from 25 to 40 miles per hour along thickly-settled highways where, as has been noticed in the dusk of evening, children and pedestrians coming out of gateways or rigs from lanes are in danger of collisions which would certainly result in injury and possibly death. Such exhibitions of senseless bravado, to put it mildly, ought to be sternly repressed and an example made of those who thus imperil their own and the lives of others.

Why Back to the Land?

It is doubtful if the farmers of Canada would benefit by a real back-to-the-land movement. There is sufficient staple farm products grown on the soil of this country to feed the people so any increase in production must find an outlet through the export trade. This, of course, is not inconsiderable at the present time and in the majority of cases prices are fair. It is understood that Old Country prices govern our own to a very large extent, so any increase in such articles as wheat or live stock should not influence prices very much. On these grounds farmers do not complain that the occupation is now over-crowded but they leave the door wide open to those who wish to return to the land.

On the other hand it has been requested that farmers produce abundantly, increase the exports and thus help to balance ourselves on foreign markets. We might ask why we owe on foreign markets. If money has been borrowed, who has been benefitted by it? It appears that a large percentage of loans have been expended in urban municipalities or on construction work from which the farmer has not yet felt the benefit. The farming community have been very good indeed to respond to the appeal, for anything they have acquired in the way of monies has been through the sweat of their brow not through the benevolence of the financial departments of the various Governments they have placed in power.

The door to the farming occupation is open. There is plenty of land waiting to receive the willing hands of the worker, but they must come on their own initiative and not upon the request of other farmers. It is undoubtedly in the best interests of the manufacturing and commercial world that the farm lands of this country be populated with an industrious and ambitious people, and it is with the former that the majority of back-to-the-land appeals originate. When the cost of living to the urban dweller becomes too high as compared with his wage then there will be a trek farm-ward but it will be conditions in the city and rewards for labor on the farm that will regulate the movement.

There has been some exodus from the city to the country but we should not neglect to discount many of these circumstances. There has been much of the fad element in the back-to-the-farm

The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

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JOHN WELD, Manager.

Agents for "The Farmer's Advocate and Home Journal,"
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 2. TERMS OF SUBSCRIPTION.—In Canada, England, Ireland, Scotland, Newfoundland and New Zealand, \$1.50 per year in advance; \$2.00 per year when not paid in advance. United States, \$2.50 per year; all other countries, 12s. in advance.
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 13. ADDRESSES OF CORRESPONDENTS ARE CONSIDERED AS CONFIDENTIAL and will not be forwarded.
 14. ALL COMMUNICATIONS in reference to any matter connected with this paper should be addressed as below, and not to any individual connected with the paper.
- Address—THE FARMER'S ADVOCATE, or
THE WILLIAM WELD COMPANY (Limited),
London, Canada.

movement. Farm summer-homes for city dwellers are not uncommon. These farmers, so called, during the summer months contribute nothing to the permanent social, educational and religious life of the people. Too often they are examples of extravagance which perturb the minds of the young people in the community and excite dreams of a different mode of living. When the farm-ward movement materializes the class that will have a lasting influence are those who go back with their all and make the farm their home and the home of their children.

The Significance of Weather Forecasts.

People of the twentieth century are losing confidence in the various phases of the moon and the signs of the almanac. From the dawning of intelligence in man observations have been made regarding natural phenomena, which have led men to form definite conclusions regarding weather. These have been handed down from time immemorial, and oft-times in the present era they act as a guide to people in various callings of life. Through the invention of the barometer, thermometer, hygrometer and other meteorological instruments accurate observations can now be made, from the study of which some of the laws which govern the changes in atmospheric phenomena have been deduced.

It is through the service of the meteorological stations that we are informed as to what the weather is liable to be in the succeeding 24 or 36 hours after the "probs" appear. These forecasts to mariners and even to transportation companies on land are of inestimable value, but we believe that farmers, especially growers of truck crops or small fruits, could make more use of this information than they have been doing. Growers in the sub-tropical states to the south have depended to a large extent upon the

Weather Bureau at Washington to inform them of threatening frosts and dangerous cold waves. The forecasts from this station reach nearly 90,000 addresses daily by mail. The greater part being delivered early in the day and none later, as a rule, than six p. m. of the day of issue. They are available to more than 5,500,000 telephone subscribers within one hour of the time of issue. This is entirely distinct from the distribution effected through the press associations and the daily newspapers. The information is first sent out to sub-stations and then distributed to the various centres. The rural free mail delivery system and the rural telephone lines are also being utilized to bring within the benefits of this system a large number of farming communities.

There is a meteorological office in the city of Toronto, and the farmers of Ontario could utilize



Fig. 1—Blow-out in the Sand Hills.

this service to better advantage. Forecasts appear in the daily papers, and the information which the Bureau dispenses is available at the central offices of telephone systems, so by proper connections farmers living somewhat remote from the large centres might get this information practically at first hand. However, atmospheric conditions arise that require subsequent announcements, and a more explicit interpretation of the warning as applied to different localities.

Through the system of District Representatives now established in Ontario farmers should be able to get forecasts of frost and cold waves in time to carry out what preventive measures they deem expedient. At St. Catharines and at Brantford, associations get special forecasts of frosts from the Weather Bureau at Toronto, and distribute it to the various members. The meteorological staff express themselves as willing to extend this service to other associations. If this information could be received at the District Rep-



Fig. 2—Active Dune in the Sand Hills.

representative's office it could be dispensed from there to associations and individual growers who would profit by these warnings, and the numerous societies could be so organized that through their officers forecasts could be distributed to all growers in the community.

The late frosts of the spring just past have shown the necessity of efficient preventative measures, to preclude serious injury to crops. The forecasts as handed out by our stations are not always accurate in every detail, but they are correct as far as instruments and records can make them. They are of inestimable value, and it seems that the time is ripe for a linking-up of all individual producers and associations in order that this in-

formation may be handed to them in time to effectively fortify against dangerous atmospheric conditions.

Nature's Diary.

A. B. Klugh, M.A.

I have recently visited a piece of country near the Lake Huron shore which illustrates very well the effect of unwise treatment of land, and from the results which we see here we can draw some lessons which may be of value in dealing with land in other parts of the country where similar conditions exist.

Back from the present shore of Lake Huron, and at a distance from it varying from one-half to two miles is a ridge of sand-hills. This ridge varies in width from less than half a mile to over two miles, and was at one time the shore of the lake. Geologically speaking the sand-hills constituted the lake shore very recently, as the snail shells found in the sand belong to the same species which exist in the lake to-day. The higher portions of the sand-hills are old dunes which were formed along the shore from the fine sand ground up by wave action. After the lake-level was lowered the sand-hills became covered with vegetation, and finally with a fine mixed forest. It may at first sight seem strange that this poor soil, a fine, white sand, should be able to support a heavy growth of timber, but we must remember that the trees not only tend to prevent evaporation and thus conserve moisture, the greatest need of light soils, but supply humus by the decay of their leaves.

This was the condition of the country in which the first settlers found it—a rolling country covered with a forest of Sugar Maple, Beech, Paper Birch, Hemlock and Pine. The Pine was the first to go, the Hemlock was cut down, barked, and the logs left to rot where they fell. Then they started to make clearings, and when they burnt off the clearings they allowed the fire to escape to the surrounding woods. In some places the fire licked up the timber and licked up the thin layer of humus in the soil. As soon as the soil was thus denuded the sand dried out—the old dunes which had been fixed for probably thousands of years became active again, the sand shifting under the action of the wind. In some places where the land was sheltered by a belt of hardwood forest from the winds from the lake, grass was able to establish itself on the cleared land. But as hardwood became more valuable this belt of forest was cut down, the result being as shown in fig. 1, where we see a field in which the wind has made a "blow-out" in the sand. The sand from these "blow-outs" forms active dunes, which move along, burying fields, roads and trees. In fig. 2 we see such a dune descending on a field, and protruding from near the top of the dune is a Maple tree which it has killed. The field upon which this dune is advancing was in 1908 a good pasture field, although sandy it lies in a hollow and is moist enough to support a good growth of grass. Now it is practically useless.

If all other evidence were lacking to show us that these dunes in the sand-hills have only been recently rejuvenated, the botanical evidence would be sufficient to indicate it, because there are none of the species of plants—such as the Sand Reed, Sand Willow, Beach Pea, Cackile, etc.—which are characteristic of active dunes in regions where they have been established for some time. This absence of sand-binders makes the problem of dealing with these dunes all the harder, and the only hope of checking the advance of the dunes lies in the introduction of these plants. Such introduction would have to be done by means of "sets" or cuttings, as seeds cannot germinate and grow in a seed-bed which is constantly shifting.

The lessons which we can draw from the present state of this piece of country are that in regions where there are fixed dunes as much of the land as possible should be kept permanently in timber, that the higher elevations should on no account be cleared, for even if cleared they are useless, and that the very strictest precautions should be taken to guard against the running of fires.

In fields where a good stand of red clover was cut fairly early it may be profitable to handle that plot in such a way as to obtain a crop of seed. Generally the weather this year seems favorable for a ready and vigorous after-growth. The price of seeds warrants a farmer growing his own if he can secure a tolerably good yield. It will be necessary, of course, to keep buckhorn and other undesirable plants out of the field as such small seeds cannot be cleaned out satisfactorily. Prospects are that alsike will be cheap, but there is no indication at present that a diminution of the price of other grass seeds will occur. If local conditions are favorable the matter of producing enough clover seed for one's own use is worthy of consideration. The acclimatization of crops to one's own community and farm is growing in favor.

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THE HORSE.

Color does not make a horse.

Teach the colt at home, not in the show-ring.

More oats and less whip should be the motto.

Visit the colts in the back pastures occasionally and handle them.

When the driver is having a cool drink of water the horse will often enjoy one as well.

If the brood mare and her foal can spend much of their time at pasture it will be better for both.

Horsemen and stockmen in general should exhibit at the fairs. It is good business for the breed.

The noted stallion, Baron O' Buchlyvie, died slightly over one year ago, but as each fair recurs his name is brought up as a sire of winning Clydesdales.

Don't allow the work horses to exist only on pasture unless the grazing is good. In any case some grain is necessary. There is still some hard work to be done.

Frequent washings with soft water and soap will cause many horses to cease scratching their manes and tails. This habit detracts from the appearance of many good horses.

Make the Horse Show Strong.

During a period of slow sale horsemen are liable to hold back their animals from exhibitions. From the standpoint of the horse business, this is poor policy, both for the individual breeders and for the industry as a whole. A business man must show his wares before he can make sales, and it is just as necessary for horsemen throughout Canada to exhibit good horses of the various classes in order to keep the idea of breeding uppermost in the minds of people at large. The preponderance of any one breed is liable to influence prospective breeders in the direction of that class of animal. There are many good breeds in Canada, adapted for various requirements, and they should be well represented at county fairs and large exhibitions. Few if any horses will be brought from Europe this year, so exhibitors will know fairly well how keen competition will be. Canadian-bred classes are getting stronger all the time, and there have been instances in the West where the imported animals have taken second places to horses bred in this country. Steps are being taken to unite the two classes and make the awards larger and more numerous for one class, including both imported and Canadian-bred. This indicates that the Canadian horse industry is being built up on a sure and firm basis, but it is the duty of all those interested in this development to assist it as much as possible through the exhibition of their good animals. Increased prize-lists are general this year, so no exhibitor should suffer a serious loss.

Training Young Horses.

It is a debatable question when young horses should be trained. Many leave them until they are three or four years old before teaching them the requirements of man. There are others who handle them from the first, and thus gradually impress upon them the ways of the educated horse and what is required. When young animals are to be shown at fairs it is necessary that some preliminary lessons be given the colt. Some of the line-ups of young horses seen at the country fairs are ridiculous in their manoeuvres. Especially with young colts when the judge wishes to see them trot, they walk; when he asks that they walk they often stand on their hind legs or move broadside to the judge and spectators. It is very unsatisfactory indeed when the entire line-up are executing different motions in a disconcerted manner, according to their individual wishes. Boys often make friends with the foals on the farm, and if they are given the responsibility of training them they will likely be more tractable at fair time. So long as the boy has the upper hand the education is liable to be all that is necessary. A little later on the colt should be accustomed to straps and harness, but the foal should first be taught to stand or lead.

The word breaking is often used interchangeably for training. The former word implies a pernicious or stubborn vice in the animal which must be curbed or broken, while the latter indicates an education which all horses must receive

before they are useful as servants of man. Train the colt so it will not have to be broken later in its life.

LIVE STOCK.

Feeds for Cattle on Grass.

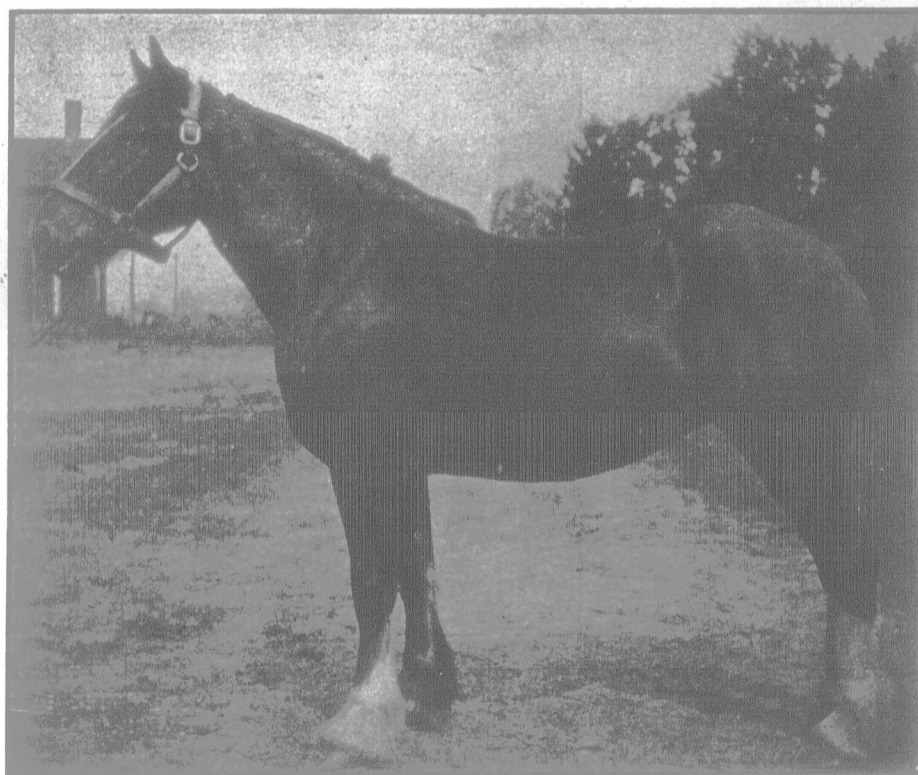
It is a fact well known to all stockkeepers that the grass begins to deteriorate in quality from the middle of July onwards, and that cattle grazing it fail to do as well as they did earlier in the season although there is plenty of keep. This change in the quality of the herbage is felt to the greatest extent by the cow-keeper, who finds that his milk yield begins to go down in spite of the fact that the cows have plenty to eat, while it is also apparent to the grazier who is fattening cattle at grass, for these animals fail to make the progress that they did earlier in the summer, and even young stock do not grow quite so rapidly. Very often the deterioration in quality is also accompanied by a decrease in the quantity of grass, owing to overstocking or to drouth, and although the fall in milk yield or decrease in the rate of fattening or growth may be partly due to this cause, there is no doubt whatever that it is very largely due to a decrease in the feeding quality of the herbage itself. Experiments and the analysis of the herbage at different periods during the summer have shown this to be the case. It was found, for example, in a series of analyses made at Cambridge University of the herbage of a rich fattening pasture at different periods during the summer that on May 8 the herbage contained 19.4 per cent. of dry matter and 4.45 per cent.

required when there is still a sufficient amount of grass for the animals to eat, but its quality has deteriorated. It also follows that should there be at the same time a shortage of grass so that the animals are not able to fill themselves easily, a feed may be required that supplies not only the deficiency in the albuminoids of the herbage consumed, but supplies the animals with a sufficient amount of both albuminoids and carbohydrates in a digestible form to take the place of the grass which they are not able to obtain by grazing. There are, therefore, two sets of circumstances under which feeding may be necessary in the late summer, and each requires a rather different class of feed to meet the case exactly, without waste and to the greatest advantage to the cattle.

Dealing first with the case where the cattle are obtaining a sufficient amount of grass, but where feeding is necessary to make up its deficiency in quality, it is evident that the most effective feed to use will be one containing a high percentage of digestible albuminoids, and there are four or five different feeds from which we may choose. The highest percentage of albuminoids in any obtainable vegetable feed is found in earth nut or ground nut cake which contains about 46 per cent. Next to this comes decorticated cotton and soya bean cakes, both of which contain from 40 to 44 per cent. Linseed cake comes next with 30 to 32 per cent., and undecorticated cotton cake with 20 to 23 per cent. None of these feeds supply any very large quantity of carbohydrates, the linseed and soya bean cake being the highest with about 30 per cent., and the remaining three containing about 20 per cent. The percentage of oil in these cakes may vary considerably, and although a certain amount

of oil may be useful to the stock it must be remembered that oil in any considerable quantity is not essential, either for the production of milk or for the fattening of cattle. This is apparent from the fact that good pasture grass, the very best feed of all, contains less than 1 per cent. of fat, and quite commonly less than half of that is digestible. It is therefore, of no great utility seriously to consider the question of the percentage of oil in a cake that is required for feeding of this kind; the main factor is the percentage of albuminoids, and it is for this the feeding stuff should be chosen, provided always that it is tasty and relished by stock.

In the second case, in which there is a shortage of grass as well as



A Canadian-bred Clydesdale Male.

of nitrogen, while on June 1 the same pasture contained 21.2 per cent. of dry matter and 3.6 per cent. of nitrogen, and on August 1 contained 38 per cent. of dry matter and 2.73 per cent. of nitrogen. Now, as the nitrogen is approximately proportionate to the amount of crude albuminoid in the herbage, it is apparent that there was a large decrease in the amount of albuminoid material in the herbage as a whole, and a much larger decrease in the amount of albuminoid present in the dry matter of the grass. The nitrogenous or albuminoid material showing in the analysis would, of course, be part of the dry matter, so that if the herbage containing 19.4 per cent. of dry matter, contained 4.45 per cent. of nitrogen, the 38 per cent. of dry matter in the late season analysis should have shown nearly double the quantity of nitrogen if the proportion of the albuminoid or nitrogenous matter had not decreased. Numerous other instances could be given showing similar decreases, such as one where the decrease in the nitrogen between May and August was from 3.22 to 1.87, but these mentioned are sufficient to indicate what it is that takes place. Even allowing for the fact that some of the nitrogen in the early analysis may have existed in the form of amide and not of albuminoid, it is evident that there is a considerable decrease in the amount of albuminoid contained in the digestible portion of the grass as the season advances. This fact gives us a clue to the kind of feeding that is required in the latter part of the grazing season, when it is necessary to give concentrated feeds in order to keep the animals up to the mark either in milk production, fattening or growth: it is the easily digested albuminoids that are chiefly

some deterioration in quality, it is necessary to supply a considerable percentage of carbohydrates in the feed as well as a fair amount of albuminoid. The exact proportions between these two, and the quantity of each that may be necessary, will depend upon the amount of the shortage in the grass. If the shortage is slight, then a comparatively small quantity of a feed fairly rich in both albuminoids and carbohydrates may be all that is required, but if the shortage of grass is considerable, then a considerably larger quantity of feed must be given, and it should contain a somewhat smaller percentage of albuminoids and a considerably larger percentage of carbohydrates. The best fattening proportion of albuminoids to carbohydrates is about 1 to 5, this being about the proportion of a first-class herbage at its best. Now, the average proportion in a decorticated cotton cake, reckoning the oil at its carbohydrate value, is about 1 part of digestible albuminoid to 1½ parts of carbohydrates, while in an undecorticated cotton cake and linseed cake it is about 1 to 2, and in such feeds as coconut cake and various compound cakes it is 1 to 3 or 1 to 3½. There are other feeds, such as maize and barley meals, in which the proportion of albuminoids to carbohydrates is about 1 to 10, and such feeds, if available at reasonable prices, can be used for bringing up the carbohydrates and reducing the albuminoids of the various cakes that have been mentioned. Generally speaking, the kinds of feed required for the use of cattle in which there is a shortage of grass in the latter part of the season, are those showing from 18 to 22 per cent. of albuminoids, 40 to 50 per cent. of carbohydrates, and from 5 to 7 per cent.

of oil. The exact proportions of these ingredients must be left to the individual discretion of the feeder, according to the shortage of the grass and the lateness of the season, remembering that the greater the shortage of grass the greater the necessity for an increase in the quantity of carbohydrates and oil supplied, while the less the shortage and the later the season the greater the importance of the albuminoids.

It is difficult to state any exact quantity of extra feed that should be given, for so much depends upon the circumstances of the case. If it is only the deterioration in the quality of the herbage that has to be met, then in the latter part of July or beginning of August it may be quite sufficient to give 1 lb. or 1½ lbs. of decorticated earth nut, decorticated cotton or soya bean cake, or twice these quantities of undecorticated cotton cake. In the end of August or beginning of September, as the deficiency of albuminoids in the grass will have still further increased the quantity of cake may be increased to 2½ or 3 lbs. of the first three, and by the end of September or beginning of October the quantity may be still further increased by another 1 lb. or so. Generally speaking, there is no necessity for any large quantity of cake, at any rate in the earlier part of the autumn, for rich cakes like those mentioned supply considerable quantities of the necessary albuminoid, but, of course, when there is also a shortage of herbage and the animals are unable to obtain enough to eat by grazing, then the quantity of feed required may be considerable, but will depend on the amount of the shortage. A comparatively small quantity—say 2 lbs. or 3 lbs. per head—of a cake containing about 18 per cent. of albuminoids, 48 per cent. of carbohydrates, and 7 per cent. of oil may be sufficient to meet the case of a slight shortage, whereas if the shortage is considerable it may be necessary to give as much as 6 lbs. or 7 lbs. and even supplement this with an allowance of hay or green feed, but in any case some feed, if only a little, will be better than none when such a shortage occurs.

The great point is that if the food is suitable to the requirements of the animal a much smaller quantity is necessary to produce the desired effect than if an unsuitable feed is given. For example, if one were meeting a deterioration in the quality of herbage it would be found that 1 lb. of such feed, as decorticated cotton or soya bean cake, would produce as much effect at this particular time as 3 lbs. of such a feed as bran or maize germ, whereas, were there a shortage of grass fairly early in the season the bran or maize germ might be added to the cake to supply carbohydrates with advantage. It is upon such points as these that economy in the feeding of stock at grass comes in. It is quite easy for a dairyman to make his cows milk fairly well, or for a feeder to get his bullocks to do well upon a large quantity of a somewhat unsuitable feed, but at the same time these men might have obtained the same result with a very much smaller quantity of a feed that was suitable in every way. No definite rules as to the exact composition and quantity can be laid down for any particular case, but by bearing in mind the reasons for the necessity of feeding it is always possible considerably to reduce the expenses of the feeding.—Live Stock Journal.

Prepare for the Fall Fairs.

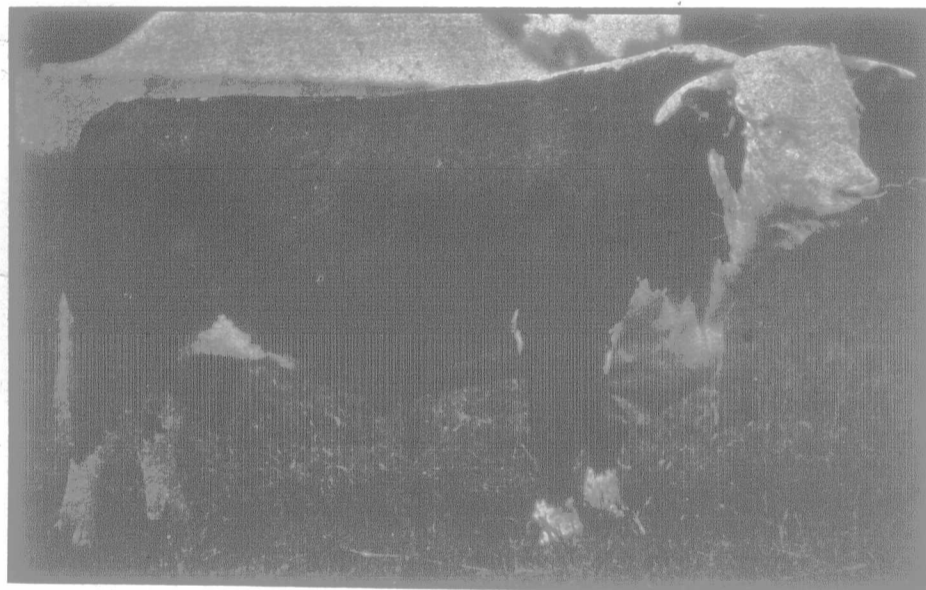
By this time most stock intended for the large exhibitions will be nearly in shape to enter the ring, only the finishing touches remain to be given. Breeders and feeders who exhibit at these fairs need little urging to prepare for the events nor do they need any information about getting their animals in shape for the fairs. Any advice given here is not intended for them, but it is hoped that it may be helpful to the amateur and small breeder who may be thinking of trying conclusions with his neighbors at the local or county fair.

At these fairs much of the stock exhibited is taken almost straight from the pasture to the judging ring, often not even halter-broken. There may be some satisfaction in winning prizes with such animals but there is always much more satisfaction in winning with properly fitted animals. More than this, as the real value of these shows to the exhibitor is not so much in the prize money won as in the advertisement gained by displaying his stock to the public, it always pays to have the stock in the best possible shape, and it is none too early to begin preparations now.

In selecting stock for the exhibitions, particularly where a herd or flock prize is to be competed for, one of the first essentials is uniformity. Select animals that mate up evenly and conform closely to one type, rather than outstanding animals of different types. Cattle intended for the shows should now be stabled at least during the day time. Supply plenty of succulent green feed so that the change will not be too radical.

Freshly cut grass, clover, alfalfa and rape are all useful and at least one or more of these are available on most farms. A little later, early sown corn and mangels can be used. Where good pasture is to be had near the stable the stock may be turned out at night. This solves the exercising problem. Where this cannot be done exercise must be given on the halter morning and evening. The meal ration should be light at first and should be very gradually increased until those requiring it are getting all they will clean up. Oats, bran and oil cake make a splendid mixture to start on, and may be safely fed to all classes of stock. The oil cake is particularly useful in producing that sleek, oily skin which is essential in the show-ring. If the animal "handles soft" the oil cake should be reduced and some peas added to the ration. Grooming is an essential part of the fitting and should not be neglected. A light blanket keeps off the flies and dust. A day or two before the fair wash thoroughly with luke-warm, soft water and soap, rinse with clean water and dry off. A cloth dampened with a mixture of sweet oil and alcohol is a splendid thing for giving the final touches before the show. This gives a bright, sleek, glossy appearance to the hair.

In preparing sheep for the show either open-air or house feeding may be adopted. With house feeding it is possible to bring the wool to a higher state of perfection, but open air feeding is the safest and sufficient finish can easily be obtained for the local shows by this method. Sheep, more than any other stock require a variety of feeds. Clover, alfalfa, rape, kale, cabbage and turnips are among the best of sheep feeds. These may either be pastured or fed in the pen. Plenty of this succulent feed should be given with a limited amount of grain. Most amateur shepherds make the mistake of feeding



A White-face that Won in England.

First and champion Hereford bull at the Bath and West Show.

too much grain, particularly to the lambs. This "burns" them as the old hands term it, and it takes a long time of careful feeding to get them started again. Oats, bran and oil cake are always safe sheep feeds, and a mixture composed of three parts of oats, two parts bran and one of oil cake makes an excellent ration. The beginner should limit the amount of meal to one pound per hundred pounds of sheep per day, and this amount should be reached very gradually. Fairly early shearing is advisable in the long wool breeds, but a shorter "live" fleece is now preferred by the good judge to a longer, "dead" fleece, so late shearing need not keep an otherwise good flock from the shows. Two weeks or so before the show the flock should be washed with soft soap and tepid soft water. This should be thoroughly rinsed out with clean water. Choose a warm, bright morning for this, so that they will dry off quickly and there will be less danger of colds. A week later the close-wooled breeds should be trimmed. The inexperienced shepherd should practice on some sheep not intended for show before he tackles the show flock. Always dampen the fleece before beginning to trim. After the sheep has been gone over and made as nearly perfect in outline as possible the fleece should be carded or combed and again trimmed, being careful to leave no shear marks. Just before showing the final trimming should be given. Oiling and coloring the fleece is sometimes done, but are not generally practiced at our local shows.

Pigs usually require less fitting for the shows than any other class of stock. Exercise is a very important matter with the show pig, for a pig that is crippled or that stands badly on its feet is a hopeless proposition in the show ring. Corn and barley may be fed to a considerable extent when mixed with skim-milk, middlings and roots, but fed alone are too heating, often being the

cause of a scurfy skin. A good washing followed by an application of sweet oil is an excellent thing to put the show pig's skin in proper shape.

The fall fairs need the exhibit of every stockman in the locality where held. The stockmen need the fairs so that the public may become acquainted with the quality of the stock handled by the different breeders. In this year of stress and strife let all put forth their best effort to make the fairs a greater success than ever. Begin preparations now. Get the stock fit. The results will more than counterbalance the cost, even if few prizes are won.

Significance of the Argentine Beef Production.

During the last fifteen years the export of beef from Argentina has assumed such proportions that the country has become of considerable significance to live-stock breeders the world over. It is considered, however, at the present time that the export of beef from the Argentine has reached its limits until further increases are made in the breeding stock. An interesting discussion of conditions as they exist in the Argentine appears in the Year Book of the Department of Agriculture of the United States, many points of which are of importance to live-stock men in Canada.

The area of the Argentine Republic is in round numbers 1,138,000 square miles. On this area there are 29,000,000 cattle, 80,000,000 sheep, and 3,000,000 hogs. Argentina ranks next to Australia in number of sheep, but is fourth in number of cattle. The hog industry, however, is a negligible factor, for hardly enough pork is produced to meet the home demand. There are approximately 25 cattle per square mile, very few of which are used for dairy purposes and an

average of 70 sheep per square mile, nearly all of which are used for wool production. Compared with the United States the latter country has only 19 cattle per square mile, and of these statisticians class two-fifths as milch cows. Against Argentina's 70 sheep per square mile the United States has 17, but the mutton qualities of sheep are more strongly developed in North America than they are in the Argentine. Beef exports from the Argentine Republic started in the year 1884, when 112 quarters of frozen beef were shipped. From that time it grew rather spasmodically until 1899, when 1,138,000 quarters were exported. It passed the million mark in 1904, and the two million mark in 1912. In the year 1901, 24,919 quarters of chilled beef were exported. With few exceptions there was a gradual increase each year until 1913 when 2,989,805 quarters were exported.

The destination of nearly all the Argentine beef is England, and Argentina is now the mainstay of the English beef market. Chilled beef from that country, normally sells on the English market within one and a half and two cents a pound of the price of English beef, and Argentine frozen beef from 1½ to 2½ cents a pound lower than Argentine chilled.

The extensive country from which this great quantity of beef comes is situated in the tropical and sub-tropical latitudes; pasture is available during the entire year and shelter is rarely used, except for high-class breeding and show animals. It is claimed that wonderful fatness and bloom are obtained by the cattle on the grazing land. Until quite recently grain was fed only to show and breeding animals. At present some grain is being used for fattening market stock. When prices are remunerative farmers of the Argentine prefer to raise cattle rather than grain, as the effects of drouth and pestilence is not felt so immediately. Alfalfa is used extensively for fattening cattle. It is making wonderful growth in acreage, and it appears that the increase in the beef cattle industry during the past fifteen years has been co-incidental with the development of alfalfa for grazing purposes.

The breeding methods in vogue are commendable. In the majority of cases herds are handed down intact from father to son, and in many cases herds established a century ago are still in the same family. The natives of that country are not slow to pay high prices for good bulls, in order to maintain the excellence of their herds

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and introduce new stock. This continuity of purpose and high ideals regarding breeding on the part of the Argentine farmer is responsible in part for the great production of beef, and the effect of that country's exports upon the beef markets of the world.

One feature in connection with the industry is that the majority of stock used for breeding purposes and improvement have come from Great Britain. Judges at the Argentine fairs are invariably from the Old Land, and it is not known that a judge from the North American continent has ever officiated at any of their fairs. Agricultural students are generally educated in England, and the effect of the entire system of education connected with the industry has been to bind trade relations with Europe. Breeders of America have this country in mind as a future market for pure-bred stock, but reciprocal relations must be established between the two countries through the offices of our stockmen before any results can be attained.

In conclusion the authors of the article believe that the Argentine beef output seems all that is warranted by the present supply of breeding animals. The Argentine beef output may be increased, the extent of the increase depending upon the maintenance of remunerative prices, and the use of alfalfa pastures, and the relative importance of grain growing.

More Ewe Lambs Retained.

The report of our Toronto Market Correspondent in the issue of July 15 has considerable significance as regards the status of the sheep industry. He says, "Sheep were fairly plentiful, but lambs were scarce and values were high. It looks as if farmers were going to raise more sheep by keeping ewe lambs." Considering the price of both mutton and wool this action on the part of stockmen is commendable indeed. All things point to high prices for meat products in the next few years, and in sheep and hogs returns are most immediate. The hog market, it is true, fluctuates considerably as more breeding stock is conserved or disposed of, but for the last few years there has been a decrease in the sheep population; in Ontario amounting to as much as 40 per cent. On account of fencing and other features connected with the keeping of sheep increases and decreases are not so marked as with hogs, and anyone increasing his breeding stock of sheep is not liable to suffer through a number of breeders jumping into the business, so to speak. If the indications, as seen by our market correspondent, materialize in a greater conservation of females it will no doubt redound to the advantage of those who have taken the step towards greater production of live stock. Particularly with sheep the returns are speedy and promise to be remunerative.

FARM.

Rules of the Hydro Electric Service.

Editor "The Farmer's Advocate":

Will you kindly state the terms and conditions upon which the Provincial Government propose to build Hydro-Electric Lines.

Ontario. J. M. W.

The Hydro-Electric Power Commission, in rural districts handles its business on the following basis:

(1) The property owners wishing electric power or light, make application, or sign a petition, for an estimated price, and lodge it with the Township Council, for the cost of electric power at any definite point, indicating as far as possible, the location of their buildings and the nature of the electricity required, whether for light or power. Upon receipt of this petition, the Commission proceed to investigate, and their estimate, when complete, is forwarded to the Township Council and they submit it to the petitioners. If the petitioners are content and wish to be supplied, they then sign contracts with the Township for the necessary service and lodge them with the Township Clerk. When these are in hand, the Township Council are then in a position to sign a contract with the Commission for a block of power sufficient to serve the petitioners. When the service is installed, the Township collects from the petitioners and the Commission collects from the Township. Only the parties signing the contracts are affected by this transaction.

(2) The factor that effects the cost to the user is the distance and quantity, made up according to the number of consumers per mile, and the amount of h.p. per mile.

(3) The Commission build the line to the farmer's gate, and the Township supplies the transformers, meters and secondary line for 120 feet from the pole on the road nearest to the customer and from that point the customer has to construct and pay for the line on his own premises. W. W. POPE.

After-harvest Cultivation.

Two general systems of after-harvest cultivation are practiced in eastern Canada. In one case the soil is thoroughly stirred to a depth of two or three inches immediately after the crop is removed. The nature of the soil and the amount of stubble determine the implements most suited to do this work. In all soils except heavy clays and coarse, gravelly soil a good, heavy, sharp disk harrow gives good results. On most soils two or three strokes of the disk are necessary before the surface soil is thoroughly loosened. The cultivator and drag should then follow. On light soils and soils rich in humus the spring-toothed cultivator alone sometimes gives good results. On coarse gravelly soils and heavy clays the two-furrow gang set to run as shallow as possible is the most satisfactory. This plowing should not be more than two to three inches deep and should be followed with the cultivator and drag. This system is particularly useful on fields where weeds have been allowed to seed. The shallow cultivation produces a fine seed bed for the weeds without burying them so deeply that they will not germinate. The consequence is that these seeds germinate at once and are killed by being turned under later in the fall when the land is again plowed. This later plowing should be several inches deeper than the first plowing or disking. After this plowing no further cultivation should be given as land left in the furrow has a greater surface exposed to the action of the frost than if the harrow or cultivator is used after plowing.

Sow Wheat on Suitable Land Only.

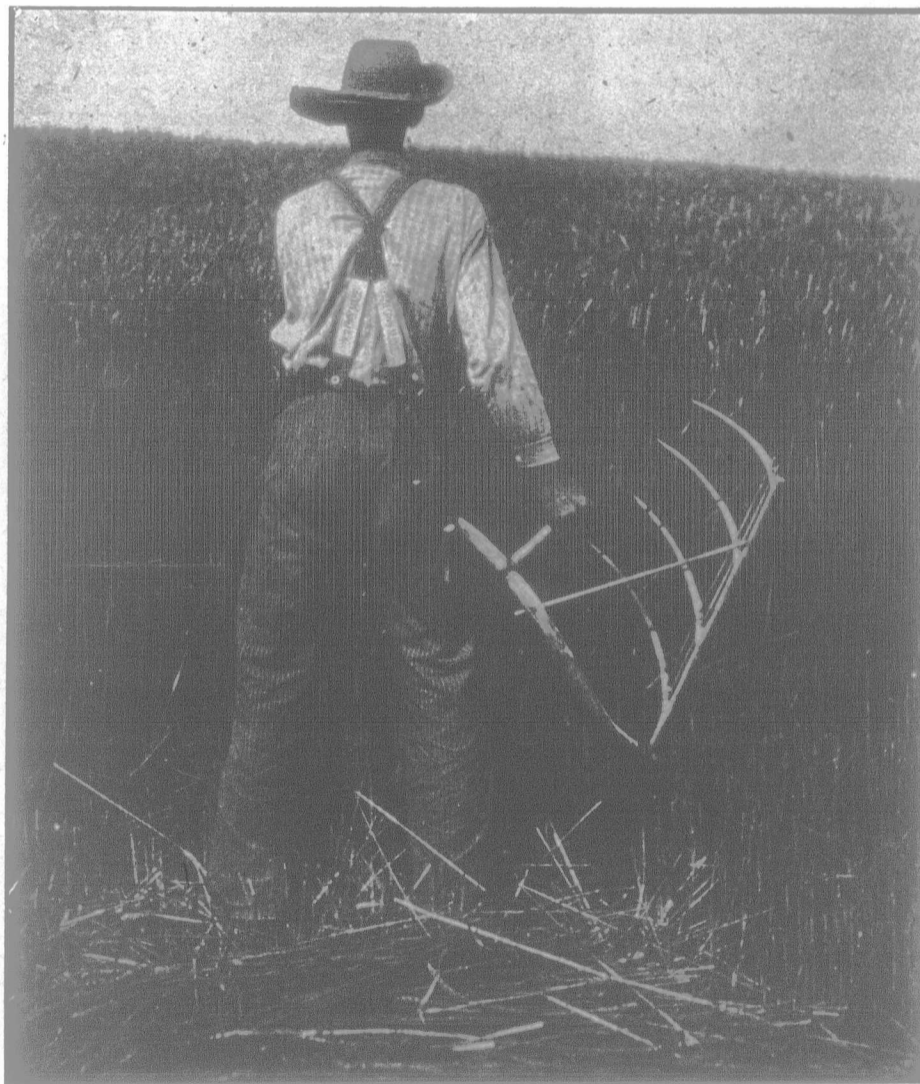
With wheat selling well over the dollar mark and with the prospect of a bumper yield from the crop now being harvested, there is little need to urge the farmers of Eastern Canada to sow wheat. The greater danger will be that much land not suitable or not properly prepared will be sown to this crop. While practically all kinds of soils are this year yielding a profitable crop, next year conditions may be such that only the most suitable land will yield a paying crop. Where such land is available wheat has many advantages to recommend it. With even an average yield at present prices it is profitable to grow, and is a product that can always be quickly converted into cash. It fits in well with the ordinary rotations, particularly when sown after clover or peas. It divides the work of both seeding and harvest. Seeding comes between the harvest of the spring grains and silo filling, and the crop is harvested between haying and the spring grain harvest. On many farms the extra straw from the wheat crop is a matter of considerable importance. It is usually a good crop with which to seed grass and clover. When not seeded thus the crop is off early, giving a splendid chance to kill weeds by fall cultivation.

Winter wheat does best on loamy, well-drained soils, containing plenty of humus. Only in exceptional seasons does it give good returns on low-lying, heavy land. Probably the best preparation for wheat is the summer-fallow, but this is now regarded as too expensive. An inverted clover sod gives almost as good results without

losing a crop, as must be done with the summer-fallow. The sod should be ploughed soon after the hay is removed. Manure may be applied before ploughing or it may be worked in afterwards by the disk, but in this case the manure should be short or it will give trouble at seeding time. Some claim good results from top-dressing the wheat during the winter. This has the advantage of holding a covering of snow, but unless the soil is already rich in plant food the manure is needed to give the crop a good start, and best results will be obtained when the manure is applied previous to seeding. Each day's ploughing should be rolled and harrowed the day it is ploughed. This firms the soil and prevents evaporation. Surface cultivation with disk and drag should be given every week or so until the wheat is sown.

Where a clover sod is not available a pea-stubble is the next best proposition. The pea ground should be disked two or three times, then harrowed and manure applied, the amount depending on the supply available and the richness of the soil. About 10 tons per acre is the usual amount. This is ploughed under, not too deeply, and surface cultivation again given. Wheat is often sown on manured barley or oat stubble, but unless the soil is already fairly rich in vegetable matter the results are not likely to be satisfactory. Good drainage and a good supply of humus are the first requisites in all soils.

Only good, sound, plump seed of a good variety should be sown. Imperial Amber, American Banner and Dawson's Golden Chaff are among the best varieties tested at the O. A. C., although many standard varieties give almost equally good results. Where there is danger of smut, and there is danger almost all over Canada—the seed should be treated with formalin before being sown. The date of seeding depends on the locality, the condition of the soil and the liability to injury from the Hessian Fly. Where the fly is prevalent the seeding should be delayed as long as it safely can be. In the northern part of the Province wheat must be sown earlier so that it may have sufficient vitality to stand the winter. From September 1 to September 20 will see most of the wheat sown in Ontario.



The Old Way.

Many bushels of good wheat have been harvested in Canada with a cradle.

In the other system the land is plowed deeply immediately after harvest. Surface cultivation is given with disk or cultivator and harrow at intervals throughout the fall. Late in the fall the land should be put up in narrow ridges. Advocates of this system claim that land plowed deeply early in the season will absorb and retain more moisture from the fall rains. The claim is also made that the plant food rendered available by frequent cultivation in the top few inches of soil remains at the surface, and consequently, as it is more readily available to the young plant in the spring the crop makes a quicker, stronger start.

"The Farmer's Advocate" would be pleased to have the experience of its readers regarding the relative value of the two methods previously outlined. Does one system keep the weed in check to a greater extent than does the other? Has there been any noticeable difference in the ability of the crops to withstand drought the following season? Is there any marked difference in the start and early growth of the crop under the different systems? Give your fellow farmers the benefit of your experience.

Wheat is best put in with the drill, as the seed is covered more evenly than when broadcasted. The drag should follow the drill. Where the seed-bed is not sufficiently compact the roller should be used, but in every case the drag should follow so as to form a dust-mulch to prevent the escape of moisture. When seeding to timothy and clover, the timothy is sown at the same time as the wheat, but the clover is usually put on with a hand seeder the following spring.

Where suitable land, properly prepared, is available, it looks like good policy to sow it to wheat this fall, but it is to be hoped that the high price will not induce the seeding of any other kind of soil. Spring grains are likely to be in as great demand as wheat, and are much more likely to give good returns, except on suitable, properly prepared land.

Individual Responsibility in Public Affairs.

During the last ten years any suggestion which was made that the country was generally in a continual "boom," or that values were unduly inflated, was strongly resented by the public generally, and the view advocated that the progress made was only indicative of strong growth of this Western country. The facts were that immigration was unusually good, the growth of the country was phenomenal, capital from the outside was being brought into Canada, particularly into the West and investments, particularly in real estate, were eagerly sought after. Purchasers, to a certain extent, at any rate, lost sight of the fact that properties were only valuable proportionately to the revenue which they were capable of producing; and a strong tendency was exhibited to consider it more from a speculative standpoint. This attitude was not confined only to buyers and sellers, including farmers, business and professional men, but extended itself to many leading corporations and to municipalities. In other words, the whole country became possessed with the idea that the real estate assets which they had under their control were of a greater value than the actual facts warranted. In 1913 this situation began to make itself apparent to the investing public, and we then found that purchasers of real estate and of real estate securities were becoming more conservative. There is no doubt that the attitude of the Canadian banks, as displayed at that time, had something to do with this condition, and the fact of the European unrest, especially in 1914, and the consequent declaration of war by the principal European powers have created a financial situation of which the present generation have had no previous experience. Consequent upon this considerable nervousness has been exhibited in high financial circles.

During the time that I have referred to (that is the past ten years) the ever-increasing circulation of money in Canada has resulted in a feeling being aroused among the public generally that money was easy to obtain, and the same public consequently spent it very easily and took little interest as to where it ultimately went. In this

way circulation became very rapid and money has been, in many cases, foolishly invested. A further result has been to make the public generally careless and negligent about public funds and the way in which they have been administered. There has been a notable apathy in connection with the administration of public affairs. This became so apparent in the City of Winnipeg in 1907 and 1909 that it became necessary, in order to enable the city to pass certain monetary by-laws, for it to ask the legislature to amend the statutes. Previous to this time it had been necessary for two-thirds of legally qualified electors to vote (of which three-tenths were residents) and to have a majority to pass a by-law involving the expenditure of money. The City of Winnipeg then asked leave to have the law amended so that a majority out of three-fifths of all legally qualified electors could pass such by-laws, thus abolishing the residence qualification entirely. This was caused simply by the fact that enough electors did not take sufficient interest in the monetary questions at issue to turn out and vote either one way or the other.

It is perhaps unnecessary to call the attention of your readers to the fact that it has during the last number of years been increasingly difficult to induce first-class men to become active participants in politics, whether municipal, provincial or federal. No doubt the reasons given above are partially a cause for this condition of affairs, but there are other reasons, one of which, no doubt, is that the public have found it so much easier to "sling mud" than to exercise a proper and rigorous censorship over their affairs that no honest man cares to lay himself open to have the epithets applied to him which newspapers and the public have been in the habit of loosely applying to public men without giving proper consideration to the question of whether condemnation were properly merited. Another reason why prominent business men do not care to enter into politics is, no doubt, to be found in the fact that public men do not receive adequate compensation in public life for the labor and responsibility involved.

The general result has been that public offices have been aspired to by adventurers and by men who at the time they tendered themselves for public offices had very little or no permanent standing in the community. The result could not have been other than it has been. Irresponsible men of inferior moral education have occupied offices of all kinds, for which they had little qualification, and not being possessed of means sufficient to enable them to gratify their ambitions, they have resorted to the use of public funds either directly or indirectly.

It is probably unnecessary to say that the vast majority of cases in which men occupying public offices have been guilty of making use of public moneys has usually been by the indirect method. No doubt a great number of our readers are aware of what these methods are, but to others it may be interesting to learn that at any rate in some instances they consist of bribing the public official for the purpose of obtaining his influence in connection with the letting of a con-

tract or the passage of legislation, or it may be issuing of a license. No doubt many of your readers, upon learning that any particular man has been guilty of any of the forms of speculation which I have indicated, have expressed very strong opinions as to the kind of punishment that should be meted out to such persons. Unfortunately, however, there is too great a tendency among the persons ready to condemn the public official for the abuse of confidence placed in him to forget that he is one of themselves, and that the same tendency displays itself whenever a person requires to be paid before he will exercise his vote. I regret to state that in my personal experience I have found frequent cases where persons who have had the right to exercise their franchise have declined to vote for either of two candidates unless they received a monetary consideration for doing so.

Until every man having the right to vote recognizes that it is his duty to vote and to perform that duty to the best of his honest intelligence, I cannot see that he has very much right to complain at the lack of morality in public officials. And further, so long as a man makes his chief aim in life the getting of money, he cannot blame his neighbor if he adopts the same principle. The sooner that every man, who has the right to vote (whether it be in a Dominion, Provincial or Municipal election), recognizes the fact that it is his duty to exercise such right in the best possible interests of his country, the sooner we shall have an honest administration of public affairs. And this brings us to another question and that is: What are the best interests of the country? Does it lie in a man to always cast a vote for the candidate brought forward by his party? While very many good thinkers believe that it is in the interests of the country that there should be party administration, I think it must be conceded that partyism has of late years run riot in Canada. The principle which must commend itself to every intelligent man, who thinks about the matter honestly, must be that he must have the most honest man available for doing his business, in other words, honesty must be an absolute essential in the administration of public affairs, and a voter, no matter how strong his party feelings may be, who votes for a dishonest party man as against an honest party man on the other side of the fence is not true to the best interests of his country. In other words, we must first insist on known honesty and integrity existing in candidates who are brought forward for political honors.

In view of the fact that Canada is at the present time in the midst of the most gigantic war which has ever occurred in the world's history, it behooves every man who has the interest of his country at heart to do the very best he can to conserve and use to the best advantage all interests both public and private. The present time must be a time of retrenchment and reform; it must be a time when the greatest care must be exercised in the ordinary expenditure and permanent investment of moneys. The future of this country is bound to depend to a larger extent than ever before on the method adopted by the Canadian people in dealing with the present public scandals. Is the present state of affairs to exist? Are the Canadian people too indifferent to prevent their continuance? If not, it is only sharp and decisive action that will eradicate the foul pest among us. Dishonest men must be punished severely. No excuse must be accepted. The idiotic sympathy which manifests itself among a large class of the people whenever a person charged with any serious crime is placed in the criminal dock must be eliminated. Unless the people are prepared to adopt stern measures of repression, they must be prepared to accept the only other alternative and go from bad to worse. -W. M. Crichton in "The Farmer's Advocate and Home Journal," Winnipeg.

The Hessian Fly.

Reports have been issued in the United States indicating some considerable loss to the wheat crop through the depredations of the Hessian Fly. It is not unlikely that some damage from the fly will occur in certain sections of southwestern Ontario, and the Entomological Department, at Ottawa, has drawn attention of the farmers who grow wheat to this fact, in order that outbreaks of this pest may be reported and every step taken to prevent injury.

From late June until late September the Hessian Fly is usually in the pupal stage. At this stage it resembles a flax seed. The larvae of the first or summer generation were responsible for this season's damage. These larvae transformed in the present "flax-seed" stage. From this peculiar condition the adult fly will emerge in August and September according to latitude. This second generation attacks and passes the winter in volunteer wheat and in all wheat sown before the disappearance of the adult flies, that is before the fly-free period. The Department at



Such Scenes as These Make Us Proud of Canada.

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Ottawa mentions the fly-free dates in Western Ontario to be approximately as follows:

For the Counties Essex, Kent and Lambton, Sept. 15 to 20; between these and south of the line through Goderich, Berlin, Hamilton and St. Catharines, Sept. 20; between this line and a line through Owen Sound, Peterborough and Belleville, Sept. 15; north of this line and the Ottawa River, Sept. 10. After these dates wheat may be sown to avoid Hessian Fly injury as much as possible. The dates are only approximate, and local conditions may affect the occurrence of the insect.

Where Hessian Fly injury has been experienced the following recommendations should be followed as far as possible. Destroy by burning the screenings and waste from threshing the infested crop, also burn the damaged straw, and if possible the stubble. If it is impossible to burn over the stubble disk it thoroughly immediately after harvest. Do not sow wheat on stubble if it can be avoided. Plough deeply stubble of all infested crops before August 15, whether burned or disked, and roll the ground to prevent the emergence of flies from buried "flax-seed." Destroy volunteer wheat by harrowing, disking or by pasturing. Before sowing make a good compact seed-bed by disking, harrowing and rolling. This is most important, especially where seeding has been postponed to escape the fly. Anyone in doubt regarding infestation can send samples weighing up to 11 ounces in weight, free of charge, to the Entomological Branch at Ottawa, and receive the consideration of the Department.

Some Losses Which Occur in Farm Manure.

Where no proper precautions are taken to conserve the plant food of the farm so much will be lost as to constitute a leak in revenues of no inconsiderable amount. In a circular issued by the Agricultural Experiment Station, Lafayette, Ind., the writer enumerates some of the losses that result through the leaching of manure and at the same time recommends practical means of curtailing this loss.

Leaching may be prevented if proper precautions are taken. This has been clearly demonstrated by the Ohio Station. As an average of three tests at that station where fattening steers were fed in stalls on good floors 61 per cent. of the nitrogen, 82.8 per cent. of the phosphoric acid and 82.4 per cent. of the potash contained in the feed and bedding used were recovered in the manure produced. In these tests the manure was allowed to accumulate in the stalls where the animals kept it tightly compacted. In another experiment conducted by the same station to determine the relative efficiency of earth and concrete floors under shelter for retaining the fertilizer constituents in manure showed that the manure from a 1,000-pound steer for six months was worth over \$2.00 more when made on a concrete floor than when made on an earth floor. The Director at that Station asserts that the increased value of the manure from a 1,000-pound steer for a year was more than sufficient to pay the total cost of the concrete floor, the work being performed by regular farm labor.

The loss sustained through the process of leaching is greater than is indicated by the number of pounds of plant food lost, as it is the water soluble and hence the most valuable portion that seeps into the soil or passes off in drainage water. The water soluble constituents are immediately available for plant food, while those not water soluble must go through a process of fermentation before they are made available. Steer manure exposed from January to April, a period of about three months, at the Ohio Station, during five different years decreased in plant food value from \$3.01 to \$1.85, or a loss of \$1.16 per ton or 38.6 per cent. If the manure from a 1,000-pound steer for six months sustained a similar loss the value of the manure would be decreased \$4.24. This loss is equivalent to reducing the selling price of the steer 42 cents per cwt. In other words the feeder who kept the manure produced from leaching could sell his steers for 42 cents per cwt. less than the feeder who allowed the manure to leach.

The New Jersey Station reports another case in which the solid and liquid manure, containing no bedding, from milch cows, lost on the average 51 per cent. of the nitrogen, 51 per cent. of the phosphoric acid and 61 per cent. of the potash contained when exposed to weather conditions for 82 days between February and October. In these experiments the greater loss occurred from the manure exposed during the summer months when conditions were favorable to rapid fermentation. The manure from a 1,000-pound dairy cow for a year, according to the last mentioned station contains 117 lbs., of nitrogen, 77 lbs., phosphoric acid and 89 lbs. of potash. The above amount of manure exposed to weather conditions in that State for a period of 82 days, during the spring and early summer, where leaching could take

place readily, would lose \$13.56 in value. This loss is equivalent to 27 cents per hundred pounds on the milk of a cow producing 5,000 pounds per year; that is if the fertility of the farm thus lost had to be replaced by commercial fertilizers.

In an experiment conducted at Rothamsted Station, manure stored in heaps in the open yard from January to April suffered a loss 20.5 per cent. of organic matter and 24.4 per cent. of nitrogen. In another experiment similar heaps were placed under cover so that no rain could fall on them and were left for three months at Rothamsted and six months at Woking. The loss of dry matter was 7.5 per cent. and 26.5 per cent. respectively, while the loss of nitrogen was 6.9 per cent. and 7.9 per cent. respectively.

The use of commercial fertilizers cannot be condemned but the foregoing data emphasizes the importance of conserving the plant food which is contained in manure produced on the farm. If losses such as these occurred generally the aggregate loss to the country would be enormous. When potash is practically unavailable except through manure and what is contained in the soil every effort should be put forth to retain it and conserve the fertilizer constituents of barn-yard manure.

Concrete floors for feeding runs, for manure pits and for all places where manure is liable to be stored go a long way towards solving this problem of conservation. If the pit is so arranged that the manure can be tramped by cattle, fermentation is reduced to a minimum while leaching is prevented through sufficient bedding and water-tight floors. A crude covering will answer for the manure pit which should be located conveniently both for the stable and for the operation of drawing out. This matter concerning the losses resulting annually in farm-yard manure is too serious to be overlooked and while the stock is at pasture is a convenient time to prepare for the winter storage.

Can Healthy Bean Seed be Procured?

The bean growing industry of this country is laboring under one obstacle which threatens to undermine the enterprise and that obstacle is disease. Almost every bean-grower in Ontario, at least, is acquainted with the fungous pest called anthracnose. It has spread from field to field and from district to district until it is altogether too common. Sprays apparently are of no avail and the only practicable and effective preventive measure is to plant seed free from infestation. There are varieties reported to be immune from attack but the farmers are not yet in possession of such stock for the particular kinds are yet under test. It is hoped that something of value in the way of resistant varieties may yet be discovered.

The nature of the spores of this fungous disease is such that they spread only when dew or dampness dissolves the gluey mass and liberates the seed of the malady. It is then manifestly unwise to cultivate or work in the crop when humidity runs high. Only during the dry part of the day and after all dew or rain has evaporated should cultivation be carried on.

Seed selection is the only means known to scientists at present whereby freedom from infestation in the crop may be accomplished. It is also practically impossible to pick pure seed from threshed beans when grown in or near infested fields. Although no evidence of anthracnose may be present on the bean it is possible that it existed on the pod and lies hidden in the seed itself. It would be to the advantage of producers if they would select plants from the field that show no evidence of the spots and thresh them separately. If anthracnose does not appear on the pod, the seed will probably be pure and this is the only effective way of selecting unaffected seed with any certainty. The discovery of immune varieties that have a commercial value will be looked upon with appreciation for anthracnose in beans is a serious pest.

What is Your Specialty?

When visiting farms one often asks of the proprietor, "what is your main line, or from what department of your farm operations do you receive the greatest revenue?" In the majority of cases one has occasion only to call upon men who are considered successful farmers in their own communities, and these parties can usually give a definite answer. They have discovered a crop or a class of live stock which they can produce to advantage, and from directing their energies in that direction remuneration has come and success has been attained. The man tolerably successful usually has obtained his standing through hard work and shrewd economy without specializing in any particular branch or having a liking for any special phase of his work. The unsuccessful are too often indifferent to the ideas of their more fortunate neighbors. No crop or class of stock

produced on the farm is considered to possess any outstanding advantages over any other lines. The whole routine of daily work is the same today as it was yesterday. There is a shade of predestinarianism about the whole life, and the farmer himself often assumes the Wilkins Micawber attitude and "waits for something to turn up." Agriculturalists cannot all be classified in this way, but in the act of making the acquaintances of many individuals these peculiar characters will be met. The farms themselves, the communities, markets, transportation facilities, and all the conditions, both natural and artificial have their effects upon people, yet if we select twenty farmers and place them upon holdings identically the same so far as possible, at the expiration of ten years there would undoubtedly be a difference in the surroundings of the various men. Sickness and misfortunes will, of course, exert considerable influence, but apart from this no little disparity will exist in the ambitions, aspirations and ideals of the different individuals. There is nothing peculiar or remarkable about these differences, but the lack of an accomplishment peculiar to each one is what we deplore. Each man should make himself a specialist in some branch for which he has a liking, and so blend his other duties in connection with the lines of work common to mixed farming so no department will suffer.

Upon a recent tour in Halton County one farmer admitted to the writer that his milk check for 1914 amounted to \$2,500, and for the month in which the visit was made he expected \$216. In addition to the dairy enterprise some wheat was sold, but selling milk was the main pursuit. In Middlesex County one morning early in June over one dozen baby beeves were sold to the drovers for \$8.25 per cwt. by a farmer who makes a specialty of this class of stock. They averaged about 900 pounds each, and were from 12 to 14 months of age. In the stalls were other calves coming on that promise another transaction early in 1916. This feature is becoming popular in mixed farming, for labor is reduced to a minimum while the receipts are fairly liberal. Growers of alsike clover seed announce returns of \$100 per acre and over, and one farmer in the County of Victoria recently remarked that \$1,800 had been received in one year for seed, and this was only one part of the farm income. Hogs have their growers and advocates; many get liberal returns from sheep; poultry too is remunerative as well as various kinds of farm crops and fruits. These instances are cited only to demonstrate what we mean by having a tight grip on one phase of the work, while other branches are secondary though not neglected. The idea of putting all the eggs in one basket is not so popular as it was a few years ago, but it is still important to have the majority of them in one container where they may be closely watched.

THE DAIRY.

Hot Weather Difficulties in Churning on the Farm.

Editor "The Farmer's Advocate":

Notwithstanding the fact that the Creamery business is growing in Canada at a moderate, but safe pace, there is yet much butter made on farms in this country, and, I regret to say, some of it is produced at a loss owing to its poor average quality. Much good butter is also made on farms, by farmers' wives, who are expert buttermakers and who turn out as fine a quality of butter as is made in any creamery. In fact, where farm dairy butter is made by a clean woman, who understands the art of buttermaking, the quality is of the finest. Such a person is an artist in the true sense of the word and deserves the reward which should come to a professional worker.

Before proceeding further, allow me, Mr. Editor, to relate a circumstance in connection with the opening word in our article which is said to have occurred in a Canadian city school. We are sure it was not in a rural school, because of the fact related. A teacher gave the word "notwithstanding" to a class and asked them to make a sentence containing the word. All gave it up, save one small boy. "Well, what's your sentence?" said the teacher encouragingly. "My dad wore holes in his pants, but not with standing." It is quite evident that the boy's father was not a farmer.

To return. When the cows go out to grass, the change from dry to succulent feed causes the butter to become soft, or what some creamerymen call "slushy." The skilful buttermaker needs to watch this point closely and at once make a change in the temperatures which are used for holding the cream and for churning. This is a case where the use of a thermometer is most valuable. The buttermaker who guesses at temperatures or relies on the finger as a heat measurer, will be sure to meet with many difficulties during hot weather. However, it is not

advisable to make changes in temperature too radical, or go to the other extreme. Suppose the cream has been kept at 60 degrees to 65 degrees F. before churning, which is a common temperature for farm cream during the winter time and about average house temperature, a drop to 50 to 55 degrees would be ample until it is seen how the cream "works"—whether or not it will ripen properly at the lower temperature. This is quite an important point where "natural ripening" is depended on such as is common on most farms, where butter "cultures" or "starters" are not used to any extent.

If the churning temperature has been 62 degrees to 64 degrees, which is a good temperature for churning farm cream in winter, lower the temperature, or cool the cream to 56 degrees to 60 degrees for a couple of hours before churning. It is not sufficient to simply cool the cream to say 58 degrees and then churn, if it has been standing previously at a higher temperature, because in this case there has not been sufficient time for the fat globules to harden before churning. Both temperature and time are factors in determining the degree of firmness in butter. Some buttermakers think that cooling the cream to churning temperature and then churning at once will cause firm butter. This is not so. Much soft, "slushy" butter is the result of this method.

Except cream which will not churn, nothing is quite so annoying to the buttermaker as to have the butter come in a soft, greasy mass, with which nothing can be done except to temporarily harden it by washing in cold water, or by the addition of lumps of ice; both of which tend to "bleach" the butter, but it is the lesser of two evils. Temperature is the key for making firm, waxy-textured butter and the temperature of the cream must be right before commencing to churn as it is very difficult to overcome defects in temperature after commencing to churn.

MOTTLES, WAVES, STREAKS AND SPECKS.

One of the American Experiment Station Bulletins contains this statement: "Since the presence of mottles in butter is primarily due to an excess of buttermilk in the mass of butter-granules, the most effective method of preventing mottled butter is to free the butter-granules as completely as practicable from the buttermilk adhering to the small granules." The foregoing is only partially true, as other investigators have found "mottles" in butter from which all the buttermilk had been removed before salting and working. While it is probably true that mottles may be caused by "the action of salt brine, upon the proteid of the buttermilk" there are other causes of mottling and waving of the color in butter. Salt tends to deepen the natural color of butter, therefore where the salt is unevenly distributed through the mass of butter, some parts are more yellow than others, causing a streakiness which is quite objectionable in fine butter. Persons who salt in the churn, in order to avoid bringing the butter in contact with warm air on a worker in the room, are more likely to have mottled butter than those who salt on a worker, although churn-salting has many advantages. As a rule it is safer to supplement churn salting and working in the churn with working on a butter-worker after the salt has dissolved in the butter, say half an hour or so after applying the salt.

Butter which is churned into large lumps is more difficult to get colored evenly, than where the butter is in granular condition, like wheat or corn grains, at the time of adding salt. This, to some extent, favors the brine-buttermilk theory of mottles, but the difficulty of even distribution of the salt in such butter is also a factor.

"Specks" in butter are more likely to occur where the milk is set in shallow pans and allowed to become sour and thick before the cream is removed. Particles of dried cream and curd are of a lighter shade of color than the fat and consequently appear as "specks" in the butter. The remedy is to skim such cream before the milk thickens, and to prevent drying of the cream by not allowing a draft over the pans in which the milk is set for the cream to rise. In all cases it is advisable to strain the cream through a moderately fine strainer to remove curd particles before churning.

UNEVEN SALTING AND GRITTY BUTTER.

There are two common defects in dairy butter at all times. The chief cause of uneven salting, that is, sometimes high and sometimes low, is not weighing salt or butter, but guessing at weights. While it may be pardonable to estimate the weight of butter in a churning, which some can do with surprising accuracy, it is never advisable to "guess" at the weight of salt required for a churning. On each and every dairy farm, there should be a scale that will weigh to ounces, or finer. Suppose there are twelve pounds of butter in the churn or on the worker, weighed or estimated, then salt should be added at the rate of one-half to one ounce per pound of butter,

according to taste or market requirement. If mild salting is desired, six ounces of salt will be sufficient to add. If, however, a quite pronounced salt flavor is liked then add twelve ounces or three-quarters of a pound of salt. Where a uniform rate of salting is followed, there will not be the variations in salt favor so common in farm dairy butter.

One of the most objectionable faults in butter is "grittiness." This is caused by the use of coarse salt, or too much salt—more than can be dissolved by the moisture present. In these days of fine dairy salt manufacture in our own country, which salt is sold at reasonable prices, no buttermaker should add coarse salt to butter. Rolling such salt with the rolling-pin will not make it fine enough for buttermaking. Salt should be in the finished butter as a "brine"—or be dissolved in water. Butter must carry a reasonable amount of moisture at the time of adding the salt, in order to dissolve it, else "gritty" butter will result. It is for this reason that butter must not be too dry at the time of salting. When the water evaporates from the butter, the salt is left behind as a crust on the butter, or in fine particles. Many are very much troubled with this condition. The remedy is to keep the butter moist by sprinkling water on the prints, or covering tubs and boxes with a brine or salt paste, made of salt and water by mixing these to the consistency of thin mortar.

LACK OF TIME.

Possibly one of the chief difficulties in farm buttermaking during the summer is lack of time to do the work properly. On most farms, making the butter usually falls to the lot of the women-folk, who are already "nearly worked to death" on many farms. Churning day means that much more work crowded into a day already full of duties. We would advise setting apart say two hours of the early morning for churning and allow some of the other work to go "undone" if necessary. Let the men get their own breakfast for one or two mornings of each week when churning is to be done. It will do them good and they will all the more appreciate a woman's efforts to have the meals on time.

O. A. C.

H. H. DEAN.

Canadian Butter Goes to New Zealand.

There has been considerable comment in recent years respecting the importation of butter from New Zealand and Australia into Canada. It would appear, however, that the tables are being turned, as the Dominion Dairy Commissioner has just been advised that the steamer "Makura," which sailed for New Zealand and Australia on the 7th instant, carried approximately 4,000 boxes of butter from creameries in the Prairie Provinces, and that orders have been received by Vancouver merchants for a further shipment of 6,000 boxes by the next steamer. It seems quite likely that in the very near future the output of butter from the creameries in Alberta, Saskatchewan and Manitoba will be more than sufficient to supply all western demands, and provide a very substantial surplus for export. The maximum importation of butter (7,989,269 pounds) was during the fiscal year 1912-13.

POULTRY.

Strong, vigorous, early-hatched pullets are the first essential in profitable winter egg production. Such birds properly housed and carefully fed will pay for their feed, even at the present high price of grain.

It costs no more to put a pound of meat on a chicken than it does to put it on a steer, a lamb or a pig. The finished chicken sells for from two to four times as much per pound as the others, yet many farmers sell thin chickens and buy other thin stock to fatten.

At this season of the year the grass becomes old and tough and a supply of tender green feed should be provided. Rape is an excellent green feed for growing chickens, but should be fed to the laying stock only in limited quantities as it taints the eggs and produces a dark colored yolk.

Feed the young ducks liberally and market them when from nine to eleven weeks old. At ten weeks is usually the proper time as they will then soon commence to get their adult feathers. Shade and grit are very necessary to the ducklings. It is sometimes necessary to mix the grit with the feed to make them take enough of it.

Notes on Summer and Fall Care of the Farm Flock.

When the chickens are from one to one and one-half pounds in weight the mother hen should be taken away from them if she has not already left them. Care should be taken that not too many chickens are allowed together in one house, or many weak, worthless chickens will result from the heat caused by crowding together in close quarters. The young stock should not be allowed to remain on the ground overnight, but should have a raised floor or plenty of litter until they are ready to take to the roosts. The roosters should be separated from the pullets early in the season. Those not to be kept for breeding should be put on good range with plenty of feed until the cool weather sets in, when they should be put into the fattening crates. The pullets should be accustomed to their permanent house before egg-laying starts, as a change of pens usually stops egg production for a time.

It generally pays better to sell the old hens before the fall moult takes place. Although the price is not usually as high then as it is later in the season, the difference in price is scarcely enough to pay for keeping them through the moulting season. For this reason the old hens should be liberally fed for the next month or two. Corn may form a larger part in their ration than in that of the yearling hens and pullets. Wheat, barley and oats, with an occasional feed of buckwheat or corn will give good results with the females to be kept over winter. Clean, fresh water should at all times be accessible to all the flock. Buttermilk or sour milk should also be liberally supplied to the entire flock.

HORTICULTURE.

The Process of Budding.

From the latter part of July to the first of September is the proper period in which to propagate varieties of fruit through the operation of budding. Many trees that are known to be undesirable were not worked over last spring by grafting, but the season for budding is now at hand, and this operation may be put into use in order to perform what was left undone last spring. Budding is performed when the bark will slip easily on the tree, yet when not too much sap is flowing. In northern climates stone fruits, such as plums, peaches and apricots respond more readily to budding than soft fruits, but almost all fruit trees as well as shade and ornamental trees can be propagated or worked over in this way.

A young shoot should be selected, but if the buds in the axils of the leaves are not matured sufficiently the tops of the twigs should be pinched off. Ten days later the buds which are to be used will have developed adequately. The stick containing these buds is known as the bud-stick, and usually contains from six to ten usable buds.

A common shoe knife with the corners rounded off makes a very cheap and excellent budding knife. There are many specially designed forms of knives for this purpose, and most of them have an ivory point or blade in the base of the handle for lifting the bark, but the rounded corner on the back of the shoe knife is serviceable for this purpose. Besides a shoe knife tying material is necessary. Cotton warp, corn husks or woolen yarn answer very well, and a tying material called raffia is now used more widely than any other material for budding. This material is used some times for baskets, and is made from the leaves of a palm. When everything is ready to work secure a number of bud-sticks, but do not allow them to dry out. With one slice of the knife cut underneath the bud, taking with it a very small quantity of the wood. Sometimes this wood is dissected out and thrown away, but if it is not too thick it will not interfere with the connection. Sever the dissected bud from the stick with a square cut at the top and allow the bark to extend one-half inch above and half an inch below the bud itself. A smooth place is selected on the stock of the tree, preferably on the north side, but this cannot always be regulated, as the top of the tree must be designed by the location of the inserted bud. A cross cut should be made at the selected point, and from it a cut about 1 1/2 inches long at right angles to it or lengthwise of the branch. The bark should be loosened and raised at the same time. The bud is now inserted under the bark of the cross cuts and is gently pushed down under the bark of the stock. In order to handle the bud more conveniently the leaf is plucked off, but about three-quarters of an inch of the leaf-stock is left. The sides and ends of the bud should come under the bark, but if the wound is not large enough to permit of all the bud any small part that may project above the cross cuts should be cut off again, drawing the knife through the cross cut. The bud should then be securely tied in place, taking care to cover all the wound with

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which you speak before it ripens, as summer rape does not usually persist more than two years in a field under a good system of cultivation. However, if possible I think it would be wise to hand-pull the flowering rape before it forms seed. The advisability of this, of course, depends on the prevalence of the plants in flower. If they are very abundant it might be a good plan to cut the crop for green feed or hay."

Summer Jottings.

By Peter McArthur.

Have you ever noticed that no matter how careful a man may be in describing a thing he is sure to leave out something important? I find that that is the chief fault with our agricultural bulletins. They apparently tell everything necessary, yet when a fellow tries to follow their instructions he fails because of some little twist of the wrist that they neglected to mention. I remember that when I first started to use a spray pump in the orchard I had all kinds of trouble trying to apply the spray around the trunks of the trees until I saw an expert at work, and noticed that he could get almost all around the trunk without moving from his tracks. My trouble was so simple that I am almost ashamed to mention it, but it had never dawned on me that the elbow in the nozzle was put there so that I could twist and turn it around the trunk and the branches. Of course the purpose of that elbow should be perfectly obvious to anyone, but as a philosopher once said, "Nothing is so hard to see as the obvious." Those who are giving us instructions should not hesitate to tell everything, no matter how absurdly simple it is. Some of us are bound to miss it if they do not.

Now, when I sat down to write I had no intention of writing the above paragraph. What I meant to do was to lead up to a confession that when giving some valuable information a few weeks ago I left out an important point. You may remember that I told of the value of a wire fence in feeding calves. The calves can be kept in their place on their own side of the fence, merely putting through their heads when being fed. Since writing that article I have found that there is another point in favor of the wire fence. When a vigorous calf bunts the pail in such a way as to splash the milk all over the feeder or bunts the empty pail against a tender shin, the wire fence keeps the enraged feeder from kicking the calf. This is an important point, for I understand that rough treatment retards digestion and is liable to make the calf shy and nervous. Of course, the calf means nothing wrong by bunting exuberantly and unexpectedly, but some people have hair-trigger tempers, and unless they are restrained by a wire fence that is hard to climb they might do the innocent calves grievous bodily harm. After delivering the bunt all the calf has to do is to back away from the wire fence and listen. Hard words break no bones, and if the festive little creature does not come back too soon he may escape unhurt. I hope that this new point will convince people who have never tried the method of feeding calves through a wire fence to adopt it without delay.

The colt—the first that has been on the farm for many years—is now about three months old, and is daily becoming more interesting and more worthy of a nature study. At first he was a gangling, sprawling, little thing, but he evidently was inspired by the thought expressed in a recent scientific poem—

"Said the little Eohippus,
'I am going to be a horse.'"

He is quite evidently going to be a horse and a spunky one at that. His mother is very proud of him, though she seldom makes a demonstration of any kind except when he gets out of sight, but the other mare—his maiden aunt, is perfectly silly about him. If anyone goes to the field she keeps between the visitor and the colt, and acts as if she would not hesitate to use her heels if necessary. And her affection is not misplaced. The colt appears to be more fond of her than of his mother, except at feeding time. They often leave her altogether and go for a stroll to the other side of the pasture, and I often see them nibbling at one another with their teeth, a trick that seems to prevail among chumming horses just the same as licking does among cows. When we take the aunt away driving the colt runs along the fence and nickers inconsolably, while she answers him in tones of undoubted affection. No matter what hour we get home the colt will be waiting at the pasture gate for his chum and protector, even though his mother may be nowhere in sight.

The wild life on the farm is once more becoming interesting. There were sandpipers in both the hay field and the pasture, and judging from the amount of their whistling I hear in the evenings and when driving to town this district must be

full of them. Best of all the quail have come back, and I am inclined to think that they will find a satisfactory shelter in the wood-lot where the young trees are planted. The young trees are not yet big enough to serve as cover, but the cattle have been kept out and briar patches have grown up. The quail do a lot of whistling from the little thickets, and if I can manage to get around to it I shall prepare some shelters for them to protect them through the winter. I am told that the cause of the disappearance of the quail in this district a couple of years ago was due to a gang of pot-hunters who travelled along the sideroads hunting the whole territory carefully. When they found themselves warned off by "No Trespass" signs they sent in their dogs to drive the quail to fields that were not forbidden. In this way they made a clean sweep. I wonder if a fellow would be within the law if he took a pot shot at a dog that had been sent on his place to drive off the quail. I know I should be tempted to take a chance if I found any spike tailed dog at that trick.

One of the most unusual things on the farm just now is a killdeer's nest in the vegetable garden. It is only a few rods from the house, and the bird is disturbed whenever we go to get lettuce or onions or anything of that kind. Apparently the birds decided that the garden was the only spot where they would be safe from Sheppy, the Collie, who has the bad habit of chasing them. The chicken wire fence around the garden keeps him out and the birds with their nest are safe. They have three eggs that are so near the color of the earth that visitors who are taken to see the nest find it hard to distinguish them until they are pointed out. We also have rabbits visiting the garden, and judging by the frequency with which they are to be seen popping from cover to cover on the place I may have trouble with them in the young orchard next winter. They say that dry seasons are favorable for both quail and rabbits, and the first months of this season were dry enough to give them a start.

Some years ago a city business man who had been brought up in the country said to me, "When I go back home the only thing I find on the farm that hasn't changed is the young cattle."

District Representatives in Convention at Guelph.

The annual conference of the District Representatives of the Ontario Department of Agriculture was held at the Ontario Agricultural College on Wednesday, Thursday and Friday of last week. There were about 35 in attendance, all the representatives except those in the New Ontario districts, who hold a separate conference at exhibition time. C. F. Bailey, Assistant Deputy Minister of Agriculture, presided and directed the proceedings with skill and energy.

The purpose of the conference was to discuss the various lines of work which the Representatives have in hand, to compare notes and to give each the benefit of the experience of the other. Much of the time was necessarily taken up with a discussion of methods of conducting different lines of work with a view to systematizing and securing uniformity. Incidentally brief addresses were delivered during the various sessions by W. B. Roadhouse, Deputy Minister of Agriculture; Dr. G. C. Creelman, President O. A. C.; Prof. J. B. Reynolds; Prof. W. R. Graham; Prof. R. Harcourt, and other members of the college faculty. In the discussion on short courses it was

shown that over 1,000 boys took a course of six weeks or more last winter, and confidence was expressed that the number could be increased to 1,500 next winter. The plan of holding the courses at a different point in the county each year is having very satisfactory results. In connection with these courses it was announced that an inter-county live-stock judging contest would be held at the Winter Fairs at Guelph and Ottawa. Hon. Jas. S. Duff, Minister of Agriculture, is donating a handsome silver trophy to be competed for at Guelph and a similar trophy will be offered at Ottawa. This will be awarded to the best team of three boys showing the highest number of points in the judging of different classes of live stock to be arranged. In addition there will be individual prizes for individual classes of stock. The boys will be selected from among those who have taken the six weeks' short course, and it is expected a great deal of interest will be developed.

Out of these courses there has also grown the acre-profit and feeding-hogs-for-profit competition, which are conducted on the boys' home farms. It was reported there were about 600 boys taking part in these competitions this summer.

Considerable time was devoted to the discussion of School Fair work. This, it was shown, is extending very rapidly, and will soon take in almost all the rural schools. This year upwards of 250 fairs will be held. It was also reported that the war plot idea had been taken up very generally. Early in the season, it will be recalled, the children were asked to grow a special plot of potatoes, one-eighth of an acre in size, the product of which is to be sold and the proceeds devoted to Red Cross or other war purposes. The number of plots ranges between 150 and 300 in each county taking part, and it is expected there will be a very generous aggregate of potatoes to be sold in the fall. It was announced that the Department would award a handsome silver medal to the boy or girl securing the highest yield in each county. It was decided to include a garden competition in the school fair work next year. It is claimed that only a comparatively few farmers grow any early vegetables or fruits for their own use, and it is thought that by getting the children interested in the work its value to the farm home as well as its educational possibilities will be appreciated.

Prof. C. A. Zavitz led the discussion on the alfalfa demonstration plots which the representatives are conducting in the counties with hardy seed supplied by Prof. Zavitz. The reports showed that in almost every case a good catch had been secured. Little difference was found in the Ontario variegated and the Grimm, each proving very hardy. Planting in rows was reported on very favorably by many. L. H. Newman, of the Canadian Seed Growers' Association discussed seed centres and registered seed work. There was also a discussion on the variety tests of corn which are being carried on in every county to determine the varieties most suitable to the district, and thus standardize the varieties. A similar experiment is being carried on with potatoes, of which it is recognized there are altogether too many alleged varieties at the present time.

In closing the conference Mr. Bailey expressed the appreciation of the Department for the uniformly good work being done by the men. He also announced administrative plans for the central purchasing of supplies, such as seeds, ribbons, etc., for school fairs, tires, gasoline, etc., for automobiles of which there are now 30 in the service. With District Representatives in 40 counties and districts, these things are needed in



The District Representative Convention.
This illustration shows the Representatives, a few of the College Faculty and officials of the Department of Agriculture during one of their sessions at Guelph, Ont.

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giving the names and owners of pedigree stud goats selected by the committee, and recommended for stock purposes.

In Bavaria the country is noted for its larger number of centenarians. This fact is attributed by doctors to the daily use of Yoghurt, a product of goat's milk.

Goat's milk being very digestible and rich, is recommended by doctors for the use of babies and invalids.

The goat is immune from the dreaded disease tuberculosis, or the white plague, so common among cattle and people.

With millions of acres of the finest brush land in the world lying idle in the mountains, with the babies in the cities clamoring for proper food, the Pacific Northwest, and in fact the whole United States, offers opportunities for the milk-goat industry, the possibilities of which can hardly be estimated.—Our Dumb Animals.—Canada, too?

CHRISTIANITY NOT A FAILURE.

William Lyon Phelps, in the North American Review.

From the standpoint of Christianity there is no such thing as a foreign war. Every war is a civil war.

It is a curious result of this war that many persons are wondering whether or not Christianity is a failure. Without stopping to inquire how a remedy can be a failure when it is not given a trial, it looks to me as if everything was a failure except Christianity; and that it might be a good idea in the future for America to try Christianity and see how it works.

Diplomacy has totally failed; one of the chief purposes of diplomacy is to avert disaster, to ward off bloodshed, and we are witnessing the worst war in history. Socialism is a total, ignominious, laughable failure; before the war the Socialists in Europe, knowing well that if they all united, regardless of boundary lines, they might put a stop to war, told the world what great things they would do for the cause of peace; how they, at any rate, would not be deceived by any false sentiment about a country's flag. But at the first outbreak of the war the Socialists in each country flew eagerly to arms. Science and learning are failures, for all the efforts of lonely men in laboratories to preserve human life and to save the body from suffering are negated in a day. Learning is a failure because it did not prevent the tide of barbarism from controlling Europe; and during the war there is not even the pretence of going on with it.

Armaments which have stolen the money that might have been used to elevate and improve mankind are a colossal failure, as we who believe in peace have always known. We were never deceived by the legend that the surest way to prepare for peace was to get ready for war; it was certain that sooner or later those who had the guns would use them. It is to be hoped that their scientific curiosity on the question of efficiency is already satisfied.

Even now some Americans are insisting that we go in for increased armaments and a great navy; that we should take money needed for education and internal improvements and spend it on fighting machines.

Would it not be well to give Christianity a trial? The religion of Christ is as reasonable as it is noble. It is the only method of settling quarrels that combines absolute good sense with pure ethics. In time of war, for the purpose of inflicting death, mutilation, and destruction on those whom we call our brothers, everyone is called upon to make heroic sacrifices. Would it not be fine in the future if the United States of America should make some actual sacrifices to prevent war? Would it not be splendid if we actually sustained insults and material damage from some other country and did not fight? A faith is no good unless one is willing to suffer for it.

Peace will never come to this uncivilized planet until some nation shows, not by its professions, but by its behaviour, that it believes in peace. Some nation will have to suffer in the cause of peace as so many nations have suffered in the evil cause of war. Will it not be fine if that nation should turn out to be our own?

The Windrow.

The Overseas Club is going to sow maple seeds over the spots where Canadians lie buried in Flanders and Northern France.

Sold 120 times, a small pig worth 30 shillings, realized 130 pounds for the Red Cross Society's funds at Haverhill, Suffolk.

What is believed to be the biggest hole caused by a shell in the history of warfare was made by a German "Jack Johnson" in soft ground near the entrance to the railway station at Ypres. According to Corporal Hatcher, of the military mounted police, who is visiting his home at Guildford on leave. It was 66 feet wide and 45 feet deep.

On an area of 15,000 square miles Switzerland produces yearly \$8,000,000 worth of goats and goat products. Spain, Italy and Greece are heavy producers of goats and goat products.

France, Belgium and Germany are heavy producers, and are noted for the high-milking qualities of their stock.

In Great Britain the British Goat Society (under supervision of the government) yearly publishes a stud register

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people. For, where all come to the fore together, in a common cause, inspired by a great purpose, who that is worth while can be wrapped up in self, caring greatly for little personal eminences? Truly the very greatest people to-day are those who are just working on, utterly forgetful of self.

One of the changes of the war—almost smiles to think of it—is the different light that has come over the entire question of woman's work and woman's standing as an economic factor in the world's affairs. Not so very long ago women were fighting hard for equality of opportunity—based on their capabilities—in the world's work. Remembering how hard had been the struggle to attain the privileges of education, they were not discouraged, even in the face of very little encouragement. They had fought for the right to a higher education and had won it: now they were begging to be recognized just as human beings in other lines, and they hoped to win. They could not conceive that men would always continue to enforce upon them restrictions woven about them long ago, in the time when men were little better than savages, and women only chattels.

Of course they—these women, aspiring to be just human beings—were hooted at. Their processions, made up of doctors, lawyers, teachers, business women, women of wealth, working women—were jeered at. What could women do that was worth while except bear children? "Church, Children and Kitchen" for them, as the German Emperor said—and take care that they do not have too much power in the church. Above all things, don't let them vote? Take their money for taxes, make them obey the laws, but for the sake of all that is just and right, don't let them vote! Don't let them have a word to say about how the money is to be spent or the framing of the laws which they must obey!—And, whatever you do, don't pay them according to the standards of men's salaries. If they do quite as much work as a man—or more—when called upon to work for the public or to ward off starvation, see to it that they receive only half the salary. Keep up the pretense that their work is not as well done.

But the war is changing all that. Everywhere women are quietly filling men's positions that men may go to the front. Since the war began men have never even pretended that they could not do such work; they have simply handed over the reins. And so women are farming, doing office work, tending cattle, doing all sorts of things without fuss or blare of trumpets. "The first London railway station manned entirely by girls," says an item of English news, "has just been opened. It is Maida Vale Station, on the Bakerloo Tube. There are two collectors, two porters, two booking clerks, and two additional women who are to act as relief collector and relief booking clerks respectively at busy times. The uniform worn by these quite, serious-minded young women is as unassuming as the girls themselves. It consists of navy blue skirt and jacket, with modest white facings on the collar, and a hat that resembles a cross between a policeman's helmet and a girl scout headgear."

All doors, in short, are being opened to women, and the whole attitude of the world in regard to them and their capacity for useful labor of all kinds is being changed. Henceforth they will be more willingly permitted to live their own lives, as God fitted them. Men will remember how they agonized to smooth away some of the awful suffering of war, and will be generous.

Nor will the women themselves be in any wise spoiled. Such a thing as real sex-antagonism never existed. True women do not want to oust men from anything. They do not want to get out of having children,—the best women want to have just as many as they can educate and start well in life, no more. They do not want, however, to be forced into any marriage except for love (and is any other really marriage at all?) simply for the sake of a living. They want to have the chance of developing mentally—for the mental life is the only real life. And, if provided with a special talent for any kind of work, they want

to have the opportunity of doing it, on the same terms as men would do it. They want to be, in short, just simple, rational human beings, following their best impulses.

As women they will never object to the frills and femininities that are their prerogative, but they refuse to be held down to nothing but frills and foolishness.

So, strangely enough, the awful war is helping to raise woman to her ideals.

The War is all dreadful, dreadful! It cannot come to an end too soon, provided that end makes for a satisfactory and lasting peace for all nations. War is always diabolic, this one the most so of all.

Yet we may still hope that out of the darkness may come a ray of light, that the future, at least, may wax brighter and brighter. In the words of Keats,

"Other spirits there are standing apart
Upon the forehead of the age to come;
These, these will give the world another heart,
And other pulses. Hear ye not the hum
Of mighty workings?—
Listen awhile, ye nations, and be dumb."

JUNIA.

PIANO DRAPE. NUT CAKE.

Dear Junia,—I have a low, old-fashioned piano cased organ and would like to put a drape on it. I was wondering how about felt, or are they not using it now? If not what would be best? Will send you a recipe for a nut cake: Three eggs beaten separately, 1½ cup brown sugar, ¼ cup butter, 1 cup sweet milk, 2 cups flour, 2 teaspoons baking-powder, 1 cup chopped nuts. Icing.—Powdered sugar and butter creamed together, then add a little milk and vanilla.

Halidmand Co., Ont. ANXIOUS.
Drapes for pianos, etc., are seldom used, nowadays, a tiny mat of embroidery or lace being used for protection if an ornament is placed on top. If, however, a drape is used, it should be simply a flat runner of shantung silk, with fringe at the ends, or of brown linen worked across the ends in a conventional design with silk.

I am sorry your letter was overlooked for so long.

COUGH DROPS.

"G. D.," wishes a recipe for cough drops. Can anyone send one which has been found to be effective?

TO MAKE SALT YEAST BREAD.

Salt Yeast Bread.—Early in the afternoon boil up 2 tablespoons sifted cornmeal, a pinch of salt and a pinch of sugar with enough milk to make a thin batter after boiling. Keep as warm as you can all afternoon and night. If as warm as necessary it will be "up" in the morning. Now take a teaspoon of salt, 1 of sugar and 1-3 teaspoon soda; add 1 pint boiling water, and cool with cold water until it will not scald the yeast, then add the yeast and beat with flour into a light batter. Put this in a warming closet or in a kettle of water as hot as it will stand without scalding. In an hour or so it will be light. Finally make as much batter as you wish for your final setting of bread with warm water and salt and add your yeast quite as you would for any other kind of bread. Keep in a warm place. It will rise very quickly. When you mix use just as little flour as you can to get it nicely into loaves. You may let the loaves rise right in a slow oven. When light build on a good fire, close the door and bake half an hour or more.

Seasonable Recipes.

Stuffed Beets.—Have ready young beets; boiled and skinned, and a little cabbage chopped fine with nut meats and mixed with salad dressing. Take the centers out and trim the beets so they will stand. Keep the trimmings for a salad for next day. Fill the beets with the cabbage mixture, place on lettuce leaves and serve.

Cream of Cucumber Soup.—Two medium cucumbers, 3 cups milk, 1 level tablespoon butter, 4 level tablespoons flour, 1 level teaspoon salt, pepper to taste, 1 teaspoon chopped parsley, dash of nutmeg. Peel and cut the cucumbers into dice, cover with boiling water, add the salt, and cook slowly until tender. Drain and measure 2 cups of the water. Melt the butter, add the flour and mix well. Add the cucumbers and water to this and stir a moment. Add the milk and seasoning and cook until creamy. Add the chopped parsley and serve. Carrots, turnips, celery, or squash may be made into soup in the same way.

Fried Cucumbers.—Peel and slice the cucumbers into rather thick slices. Dip each slice into beaten egg, then into cracker-dust, and fry in deep hot fat. Drain and serve very hot.

Creamed Cucumbers.—Peel and slice, then stew in a very little water. Mix with a cream sauce and serve on buttered toast, with a little chopped parsley sprinkled over.

Cucumber Puree.—Peel and slice the cucumbers, then boil in a little water. Press through a sieve, and add 1 pint rich milk and a large tablespoon of butter creamed with one of flour. Cook until smooth, season with salt, white pepper and a dash of sugar (if liked) and serve at once with toast on biscuits.

Huckleberry Cake.—One quart berries, 3 cups flour, 4 eggs, 2 teaspoons baking-powder, 1 cup butter, 1 cup milk, 1 scant teaspoon each of cinnamon and grated nutmeg, 2 cups sugar.—Beat the butter and sugar together, and add the beaten yolks of the eggs, the milk, spices, and the whipped whites. Also add the flour, into which the baking-powder has been sifted, and mix well. Dredge the berries with flour and add carefully to the dough. Pour into buttered tins in layers about an inch thick, dust the top with sugar and bake. Do not use the cake for 24 hours.

Yellow Tomato Preserves.—Two lbs. ripe yellow tomatoes, 2 cups sugar, juice and grated rind of 1 lemon, 2 tablespoons green ginger root. Let all stand overnight and in the morning cook slowly. Seal as usual.

Tomato Conserve.—Wipe and peel 4 quarts ripe tomatoes and cut in pieces. Add 6 lemons sliced thin, 2 cups Sultana raisins, and 4 lbs. sugar. Bring to a boil, let simmer 1 hour, and store in tumblers.

Canned Huckleberries.—Wash and drain the berries and put in a kettle with just enough water to prevent from burning. Let simmer until soft. Put into well-sterilized jars, heaping high. No sugar is required, but a very little salt may be added. Sweeten when used.

Blackberry Wine.—Use very ripe berries. To every quart allow 1 scant quart clean rain water. Place the berries in a granite kettle and mash to a pulp with a wooden masher. Boil the water and pour over. Let stand overnight. Strain off the juice and for every quart allow ½ lb. sugar. Place the sugar in a jar and strain the juice over, stirring until dissolved. Cover with a thin cloth until the juice is done working, then add the beaten whites of 4 eggs. Let stand until next day, then cover closely. Bottle in 2 months.

Blueberry Muffins.—Two cups flour, 2 teaspoons baking powder, ¼ teaspoon salt, 1 cup berries, ¼ cup butter, 1 cup milk, 1 tablespoon sugar, 1 beaten egg. Sift the baking-powder and salt with the flour and rub in the butter. Then add the milk, the sugar and the beaten egg. Mix well and add the berries, which have been well dredged with flour, distributing them evenly. Place in muffin tins and bake in a rather hot oven for 20 minutes. Blackberries may be used instead of blueberries.

Canned Green Beans.—As vegetables mature, the sugar in composition becomes changed to starch. It is almost impossible, without the aid of preservatives, to put up or can mature vegetables; but, with proper care, young green vegetables may be canned without preservatives. To insure tenderness, can only such vegetables as are known to be fresh-gathered. On no account use such as have stood much longer than an hour. When possible, use a "canner," as it simplifies the process.

Wash young and tender string beans, and remove the ends and strings. Keep green beans, about two inches in length, whole. Cut butter beans into two or three pieces, each. Pack in glass cans, and set on a folded cloth, on a rack, in a steam kettle or canner, in which there is boiling water nearly to the height of the rack. Dissolve a tablespoonful of salt in four quarts of boiling water, and pour the water slowly over the beans in the jars, filling each to overflow. Put the rubbers and lids in the kettle to be sterilized (not on the jars). Cover and cook from one hour to one hour and a quarter. Then adjust the covers, and cook fifteen minutes longer. Tighten the covers, when the jars are cold.

If one has snap-top sealers it is well to loosen the tops and cook three times, when canning any kind of vegetables. This usually ensures that they will "keep."

Ideas for Picnic and Camping.

When you go on a picnic or camping, go with the idea of having as little responsibility and as much fun as possible. There as anywhere else, too much impedimenta means added cares. To be care-free do away with the impedimenta. Don't go to camp with an oil-stove, wire bed springs, and a victrola. Leave these things at home and trust to "pot-luck" for both amusement and comfort. And don't take along all your fancy dresses and prepare to go through the same old routine of primping as on every other day in the year. Really "camp," and really rest. If you don't need rest and can't be contented without pretty frocks and dances in the evening then go to a fashionable summer resort. Don't try to "camp" unless you are a born camper, in love with wild nature and ready to take a joy in really roughing it.

For a single day's picnicking the chief requisites are (1) a dress that will wash, (2) a good lunch basket, and (3) a jolly crowd. Perhaps that order should be reversed. Other incidentals are a pretty picnicking ground, beside a lake or river if possible, and a pair of field-glasses if one is interested in birds, and a book on botany if one cares to identify any unusual plants that may be found. If fun only be the object these last two may, of course, be dispensed with.

In preparing the lunch-basket make plentiful use of paraffin or butter paper. It keeps things clean and prevents them from drying out. Sandwiches are commonly made at home before starting, but a much better plan is to carry the bread in the loaf and the filling in a jar, and make the sandwiches on the spot. This prevents them from having the usual untidy, soggy look so common at picnics. And don't take too many sweet things. Chicken, pickles, salads, cream cheese and Boston baked beans are much more appetizing, with, of course, plenty of fresh fruit. Always carry the salad dressing in a separate jar, and make up the salad a short time before serving. Cucumbers will be much more crisp and fresh if carried whole and prepared when needed, while lettuce will go in very good condition if washed and put into a paper bag while still wet.

The paper or wooden plates which may be bought for a trifle take up little space, weigh almost nothing, and may be thrown away when used, thus saving dish-washing. There are also aluminum cups made on purpose for outing expeditions. They are very light and fit into one another splendidly. You will find it a great convenience to own a few.

Tea can be made on the spot, wherever a few sticks for fire and a few stones for a kettle-support can be found, hence thermos bottles for hot drinks may be dispensed with. It is not generally known, however, that a thermos bottle serves excellently for carrying things that must be kept cold e.g. ice-cream. If one has not such a bottle a fair substitute may be made as follows: Get a tight wooden box of the size required, and line it with asbestos paper. Put the ice-cream in a covered vessel, wrap well in oiled paper, then in flannel and cover closely in the box.

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YOU will get quicker and greater returns from a silo than from any other investment you can make. An Ideal Green Feed Silo returns its cost the first year and every year thereafter.

Silage is the greatest milk producing feed you can use. As compared with dry feed and hay it will increase milk production more than 25 per cent.

While especially desirable for milk cows, all kinds of stock thrive on good silage. Beef and mutton can be produced cheaper on silage than on any other feed.

Like all succulent feeds, it has a beneficial effect on the digestive organs. Silage-fed stock are healthier and go through the winter in a much better condition than if kept on dry feed.

There is no waste in feeding good silage. It is so palatable that

all kinds of stock eat it up clean. When silage is fed, stalks, leaves and all are eaten. When dry fodder is fed, only a small part of the fodder can be eaten by the stock.

A large part of the feeding value of your corn crop is in the fodder, and most of this is wasted when the fodder is allowed to dry and stand exposed to the weather.

The cost of filling a silo is less than harvesting a corn crop in the ordinary way, and clears the land for fall cultivation. The harvesting can be done with little regard to weather conditions, and there is less field loss in harvesting green crops.

Silage requires less room to store than dry fodder of any kind. There is also less work in feeding it. The convenience and the saving of labor through having a silo alone is enough to make the building worth its cost.



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YOU surely do not wish to go through another winter without silage, and it is therefore necessary that you get your order for an Ideal Green Feed Silo placed at once.

Silos ordered now can be supplied promptly on receipt of your order; but it takes a little time to erect a silo, and you must get your order in early, so you can be sure of having your silo up in time for filling this fall.

Ordering now will also enable you to get your

silo up without the expense of extra help to hurry the work through. You gain nothing by delaying and will save much by prompt action on the silo question.

Ask for catalogue, prices and terms, of the Ideal Green Feed Silo, stating the size silo you wish or the number of head of stock you wish to feed.

We can give you facts and figures that will prove that this silo preserves silage better, lasts longer and will give you greater value than any other silo you can buy.

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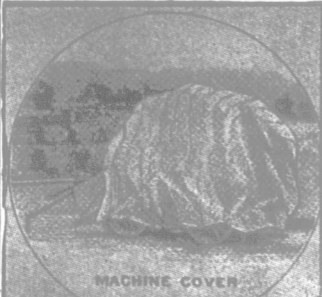
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Principal Vice-Principal 18

Please mention "The Farmer's Advocate."

Flax as a Farm Crop.

Editor "The Farmer's Advocate":

Much of the low-lying land in Western Ontario is suitable for the production of flax. The fact that much of this area is in the hands of Belgians, either in a free or leased condition, together with the fact that Belgians are famous flax growers, makes it likely that this crop will become an important feature of established rotations. Marshy land which lies towards some of the rivers and lakes is suitable owing to the moisture content, and there are whole farms turned into pastures in many of which the grass is of scant growth owing to the tramping of cattle and other reasons. Flax is a superior crop to put such lands in shape.

Farmers are beginning to learn the truth about flax as a soil exhauster. They are losing their prejudice against it. The facts, as presented by government investigations, were alone apparently insufficient to convince them. It is being explained why it did look as if flax used up the soil richness. The explanation is this:

Ploughs—Wilkinson

TRADE MARK REGISTERED
U.S.S. Soft Centre Steel Moldboards, highly tempered and guaranteed to clean in any soil. Steel beams, steel landsides and high carbon steel coulters. Clevises can be used either stiff or swing. Each plough is fitted especially with its own pair of handles—rock elm, long and heavy and thoroughly braced. The long body makes it a very steady running plough. Shares of all widths—specials for stony or clay land. The plough shows turns a beautiful furrow, with minimum draft and narrow furrow at finish. Ask for catalogue.

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25 styles
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Sugar
Buy St. Lawrence Granulated Pure Cane Sugar in original packages, and get pure, clean, perfect sugar

Please mention "The Farmer's Advocate."

Flax has a shallow and small root system as compared with wheat, oats, or corn, timothy, clover, or roots. Its rootlets penetrate at most but two or three inches into the soil. The nourishment for the plant is therefore secured from the upper few inches of soil, while in the case of a cut crop of grain there is always more immediate return to the upper soil of some plant-food values in the form of stubble, clover, etc. Again, the common grain crops with which flax has had to compete in the farmer's reckoning, are usually sown as nurse crops for clover or grass, which enrich the soil greatly before a new test crop is put in again. Flax, on the other hand, has to stand alone, and is misunderstood more than the other crops because the farmer usually has been concerned only with renting his land at so much per acre to the mill man, or with selling his flax in the sheaf at so much per ton. He has never had to study fibre-flax culture in all its phases. I refer now to the Canadian farmer.

The present shortage of fine fibre for spinning is making us get up steam in the flax business here in Canada. As high as \$14 an acre has been paid for flax land in Western Ontario this season. Agreements have been signed for flax in the sheaf—seed on—at as high as \$14.50 a ton. The demand for flax from Canada is becoming so insistent that next season the acreage will undoubtedly be much increased over the 4,000 acres sown to flax this season. Wherever there is a mill within ten or twelve miles the opportunity awaits the farmer.

On clay land fall plowing is demanded by flax men. After corn it is not so essential, but disking, harrowing and packing in the spring is sometimes accepted.

To grow flax successfully thorough tillage and a solid seed-bed are very important. Sod in a dry year is likely to dry out before the seed has got a start. It should be fall plowed. Clay land, unless well drained, is liable to become too dry for successful flax. Flax requires a good deal of moisture, either in the form of rain or as obtained on low-lying land. Light sandy loam ordinarily is not suitable. Where chosen, spring plowing will be satisfactory.

Two kinds of flax—seed are used in Canada for fibre production. These are blue blossom and white blossom. White blossom is a recent introduction from Holland. It has an advantage and a disadvantage when compared to blue blossom. The white matures later, yields twice as much seed, grows several inches longer, but, so far as is yet known, is coarser in fibre than the blue blossom. It appears due to become grown extensively in Canada. New seed must be obtained at least every third year, according to the best practice here. Careful winnowing is necessary in casting out weed seeds such as mustard. Early planting is the best, as flax needs the early moisture, and is good to stand frost, except when the plants have become unusually tender from quick growth during an early hot spell, but that rarely happens. Middle-time sowing is the worst because of dry spells that are likely to occur at a critical stage in the growth of the plants. Weeding is important while the plants are about six inches high. You need not fear to tramp through the crop with a spudder in hand, as flax stands such ordinary tramping without injury.

Pulling begins about July 20, or when the first few leaves near the roots of the plant have dried up. When everything is said about harvesting flax, hand-pulling is still the best method. That may be changed, because different men have had considerable success in developing pulling machines. I shall not say more about these here, except a word about cut flax. When the crop is short and inferior it will be all right to cut it with a harvesting binder. Cut flax is worth \$2 to \$3 a ton less than pulled flax. It is not used for first-class fibre.

Flax is quick money when the farmer rents his land. He has merely to till it, sow the crop and haul in the straw. The seed is furnished by the mill factor, and the weeding and harvesting are done by him.

JAS. A. McCracken,
Perth Co., Ont.

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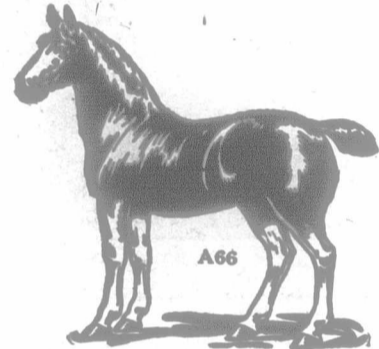


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You Can Do It While He Works.

We want to show you that there isn't any affection that causes lameness in horses that can't be cured, no matter of how long standing. We want to send you our instructive book, "Horse Sense" No. 8. We



also want to send you an expert's diagnosis of your horse's lameness free. Simply mark where swelling or lameness occurs on above picture and write us how it affects gait, how long lame and its age.

We absolutely guarantee Mack's \$1,000 Spavin Remedy to cure Spavin, Bone or Bog Spavin, Curb, Splint, Ringbone, Thoroughpin, Sprung Knee, Shoe Boll, Wind Puff, Weak, Sprained and Ruptured Tendons, Sweeny, Shoulder or Hip Lameness and every form of lameness. We have deposited \$1,000 in bank to back up our guarantee. Cures while he works. No scars, no blemish, no loss of hair.

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Lyman Bros. Co., Ltd., Toronto, Ont. Distributors to Drug Trade.

Dr. Page's English Spavin Cure
Cures the lameness from Bone-Spavins, Side-Bones, Ringbones, Curbs, Splints, etc., and absorbs the bunches, does not kill the hair, absorbs Capped Hocks, Bog-spavins thick pastern joints, cures lameness in tendons, most powerful absorbent known, guaranteed, or money refunded. Mailed to any address, price \$1.00. Canadian Agents: J. A. JOHNSTON & CO., Druggists, 171 King St., East Toronto, Ont.



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DOG DISEASES
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Clydesdales and Shorthorns. Young stallions of superior quality; Certain winners at the big shows. Young bulls and some heifers bred from cows milking up to 52 lbs. a day. Come and see them. PETER CHRISTIE & SON, Manchester P.O., Ont. Port Perry: Station

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Silo Curbs for Sale—Complete outfit for building concrete silos, including curbs, hoist, circular platforms, block and tackle, etc. Cost over \$250. Will sell for \$100. W. A. INGLEHART, Oakville, Ont.

Questions and Answers.
Veterinary.

Joint Ill.

When a week old my Clyde colt's left hind leg became swollen and sore, and it is becoming worse. J. R. McL.

Ans.—No doubt this is joint ill. When treated in the early stages by a veterinarian, who will inject a special serum, a reasonable percentage of cases recover, but under ordinary treatment it is usually fatal. Get a liniment made of 3 ounce each of tincture of iodine and oil of turpentine, 2 drams gum camphor, 4 ounces extract of witch hazel, 8 ounces alcohol, and water to make a pint. Bathe well with hot water three times daily, and after bathing rub well with the liniment. Give the colt 8 grains of iodide of potassium three times daily in a little of the dam's milk, and give the dam 1 dram of the same three times daily in damp food. Help the colt to nurse every hour, and keep as quiet as possible. If an abscess forms, open it and flush out the cavity three times daily with a four-per-cent. solution of carbolic acid. V.

Lame Colt.

Colt 3 1/2 weeks old became lame in hip. It gradually got worse, until now it cannot rise without assistance. It seems somewhat swollen and sore in the hip. E. C.

Ans.—The symptoms indicate joint ill, which is very hard to treat successfully unless attended to by a veterinarian in the very early stages. At the same time the trouble may be due to a bruise or sprain. Get a liniment made of 1/2 ounce tincture of iodine, 1/2 ounce oil of turpentine, 2 drams gum camphor, 2 ounces extract of witch hazel, 8 ounces alcohol, and water to make a pint. Bathe the part well three or four times daily with hot water, and after bathing rub well with the liniment. Give him 8 grains iodide of potassium in a little of the dam's milk three times daily, and give the dam 1 dram of the same three times daily in soft food. Keep as quiet as possible and assist to nurse about every hour. If an abscess forms open it freely and flush out three times daily with a four-per-cent. solution of carbolic acid. V.

Cough—Renal Calculi.


1. Mare has had a cough and nasal discharge for more than a year. I can check the symptoms by treating her, but so soon as I cease treatment they return. How can I cure her permanently? If not cured will she develop heaves?

2. Last November another mare developed stones in the kidneys. She was treated all winter without results. She is now on pasture, and I am told she will come all right. She urinates frequently, and suffers great pain during the act. She has not been worked since the first symptoms. I have bred her. Will this help the trouble? A. G.

Ans.—1. Chronic coughs are very hard to treat successfully. In some cases the patient develops heaves, while in others he does not. The most successful treatment we have known consists in giving every morning 1 1/2 drams gum opium, 2 drams solid extract of belladonna, 1 dram camphor, 30 grains digitalis, with sufficient oil of tar to make plastic. Roll in tissue paper and administer. This may be dissolved in water and given as a drench, but it is generally easier to give as a ball. A man soon becomes expert in administering balls.

2. This is called renal calculi. Treatment is seldom or never successful. In some cases all the calculi may pass, and then there will be no further trouble, but in most cases they continue to form, and eventually cause death. It is claimed that the administration of one dram hydrochloric well diluted with water twice daily will dissolve them, but this has not been our experience. When the stones reach the bladder they can in many cases be removed by a spoon-billed forceps, or by an operation. There is no reason why she should not breed unless the trouble causes death, but breeding will have no effect upon the trouble. V.

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"Why Bill paid only \$140 for his Rattler."

"Yes, and he paid \$25 for repairs. Also he will pay a lot more before he is through. It isn't the first cost, Jim, that determines what you pay for an engine, you've also got to consider the after cost. With a cheap engine this usually means paying for it two or three times. Now Tom has had his F-M Engine for seven years and his total repair bill was 9 cents—5 cents for an ignitor spring and 4 cents for two ignitor gaskets."

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"Tell Bill to scrap his Rattler. You get an F-M, Jim. Write for their booklet, 'Power on the Farm.' It's worth reading and tells you all about it. Then come over and watch me save time and make money. Some day you'll thank me for the tip. You can get the book by addressing—"

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Three, four and five years of age, prizewinners and champions at Ottawa and Guelph, up to 2,100 lbs. in weight, with the highest quality and choicest breeding. When buying a stallion get the best, we have them; also several big, well bred, tried and proven sires from 7 to 12 years of age, cheap.

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CLYDESDALES Imported and Canadian-bred. With over 25 head to select from. I can supply, in either imported or Canadian-bred, brood mares, fillies, stallions and colts. Let me know your wants. R. B. PINKERTON, ESSEX, ONT. Long-Distance Telephone

Percheron Stallion For Sale—Three-year-old, grey, a 15 good one will make a ton horse and will be sold at a reasonable price. ALBERT MITTFELHLDT, Port Davison, T. H. & B. R. R. WELLANDPORT, ONTARIO



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For Sale—Three-year-old, grey, a 15
good one will make a ton horse and
will be sold at a reasonable price.
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“Manana”

THIS is a favorite and fatal word much in use among the Mexicans: it means “To-morrow.”

If one asks a Mexican to close a deal, he smiles and says, “Manana, Señor.” This habit has made the nation poor.

“To-morrow I will give you an application for a \$10,000 policy,” said a contractor to a life agent a few days ago.

That “To-morrow” cost his wife \$10,000, for she was a widow before the day dawned on which her husband intended to apply. If he had only said “To-day!”

No life on which other lives depend should be left uninsured for one hour. If in good health you can secure an ideal policy in

THE MUTUAL LIFE ASSURANCE COMPANY OF CANADA
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Secure a Mutual Life Policy TO-DAY

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A SPECIAL FORMULA FOR EVERY REQUIREMENT.

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Cure the lameness and remove the bunch without scarring the horse—have the part looking just as it did before the blemish came.

FLEMING'S SPAVIN CURE (Liquid) is a special remedy for soft and semi-solid blemishes—Bog Spavin, Thoroughpin, Splint, Curb, Capped Hock, etc. It is neither a liniment nor a simple blister, but a remedy unlike any other—doesn't irritate and can't be imitated. Easy to use, only a little required, and your money back if it ever fails.

Fleming's Vest-Pocket Veterinary Adviser describes and illustrates all kinds of blemishes, and gives you the information you ought to have before ordering or buying any kind of a remedy. Mailed free if you write.

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Scientifically built to keep silage fresh, sweet and good to the last. Built of selected timber treated with wood preservatives that prevent decay.

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Angus Cattle

For Sale—Nice young stock of both sexes with good breeding and individual quality.

J. W. BURT & SONS
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Questions and Answers.
Miscellaneous.

Tenant Removing Straw.

A has been renting a farm from B. B sold the farm. A has been living on B's farm, and has fed all his stock and put the manure on the farm and kept it up well. A's farm joins B's. The farm is sold, and A gives up possession in November.

1. Can A take the straw? There was about one load when A came on the place. When A rented farm there was nothing said about straw.

Ontario. A READER.

Ans.—A can take the straw obtained from his own crops.

Heating a Home.

As I am building a new house and want it well heated, I should like readers of “The Farmer's Advocate” to give their experiences with heating with either hot water or warm air. Some claim warm air is such a dry heat that it dries the furniture out. As hot water is so much more expensive to install, a person is inclined to install warm air if the heating is satisfactory. Perhaps some of your readers have changed from one kind of heating to another, and they can give their views on which kind they find most satisfactory. As this is a question which relates to farm homes, it could well be discussed through “The Farmer's Advocate.”

W. W. M.

Rib-grass and Catch-fly.

Are the enclosed plants injurious to stock? What are their names?

T. W. A.

Ans.—Number One, bearing chaffy heads of flowers on long stalks is a narrow-leaved plantain known as Rib-grass or English Plantain. In Europe it is sometimes sown as a forage plant, but in this country it is regarded as a weed, especially in clover intended for seed. Number Two, the Sleepy Catchfly, is a useless weed, but it is seldom abundant enough to be troublesome. It is characterized by its numerous ovoid seed-pods, and still better by the glutinous portion of the internodes of the stem. These sticky sections of its stem give it its name. Grazing animals are not likely to be injured by it.

J. D.

Gossip.

Stockmen generally will be interested to know that very thorough and extraordinary precautions are being taken by the Canadian National Exhibition, Toronto, to thoroughly disinfect all sheds and buildings to be occupied by live stock during the coming fair, August 28 to September 13. A large force of men are engaged in the work of immunizing every inch of space, and after this is complete, inspection will be carried out by the Federal and Provincial Governments independent of each other, and it will be a very elusive germ indeed that will be able to dodge this combined attack.

The Central Canada Exhibition Association at Ottawa announce a considerable increase in the premiums in the Horse Department. The total money to be awarded will amount to about \$10,000. Additions have been made to the prize list for Heavy Draft Clydesdale Stallions, imported or Canadian-bred. Also in the open class of Heavy Draft (any breed) the totals rise from \$114 for last year to \$210, and will run to sixth place instead of fourth. These two instances are indicative only of what has been done to the entire prize list for horses.

SHARPENING HIMSELF.

When the train stopped at the little Southern station the tourist from the north sauntered out and gazed curiously at a lean animal with scraggy bristles, which was rubbing itself against a scrub oak.

“What do you call that?” he asked curiously of a native.

“Razorback hawg, suh.”

“What is he doing rubbing himself against that tree?”

“He's stropping hisself, suh, just stropping hisself.”

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Do not buy wooden tanks or build concrete ones until you have investigated the Wayne Steel Tank. The Wayne Tank is moderate in price and has twice the life of a wooden tank and many advantages over cement. If your dealer does not handle the Wayne, let us hear from you direct. We guarantee quick delivery.

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Blairgowrie Shorthorns Having bought out two Shorthorn herds puts me in a position to have cattle suitable in breeding and ages for all who want to buy. Cows, heifers and bulls all fashionable bred.

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Shorthorns Pure Scotch and Scotch topped—Booth. Also five (5) young bulls from ten to twenty months old, of the low down, thick kind, good colors—reds and roans. Prices reasonable.

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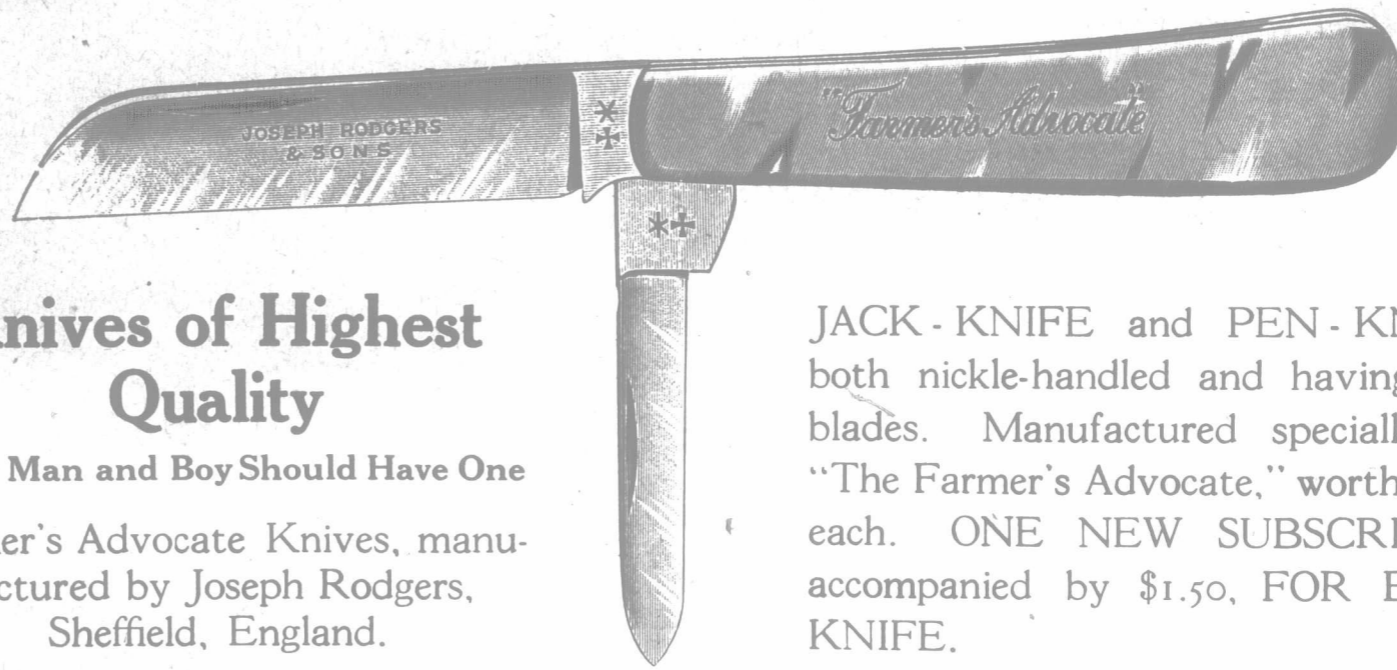
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China Tea Sets.....	\$2.50
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