

FARM AND DAIRY

RURAL HOME



DEVOTED TO
BETTER FARMING
AND CANADIAN
COUNTRY LIFE



Peterboro, Ont. March 30, 1916



MODERN SILO EQUIPMENT ON A MODERN DAIRY FARM.

Photo on the farm of Robt. McEnery, Wellington Co., Ont.

Two Factors Influencing Dairy Development

Definite Information on Much Disputed Points.

How I Am Preparing For the Spring Rush

Helpful Suggestions By Our Folks.

The Story of A Pure Bred Herd

How a Pioneer Breeder Achieved Success.

Activities of the District Representatives

Progress Reported From Many Counties.

An Autumn Tinted Room

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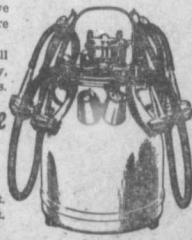
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The Potato Rot*

Prof. C. A. Zavitz.

THE potato rot was exceedingly prevalent throughout Ontario last year. In a season like the past one, it has been difficult to get full advantage from the spraying materials owing to the fact that the rains were so incessant. The yields per acre of potatoes were exceedingly variable. This was owing to different causes, one of which was the injury caused by the rot. In the experiments at the College, for instance, one variety gave as low as 13 and another variety as high as 396 bushels per acre. The Extra Early Bureka, a medium early variety, gave an average of 334 bushels per acre in 1916, and an average of 222 bushels per acre for the past five years. In the average results for the past nine years, the Davies' Warrior stands first with 235 and the Extra Early Bureka second, with 210 bushels per acre per annum.

In 1915 two varieties of potatoes had more than one per cent. each of rot, and two other varieties had upwards of fifty per cent. of rot under similar conditions. Taking the average of experiments for five years, it has been ascertained that those varieties which were the freest of rot were the Davies' Warrior, the Extra Early Bureka, the Stray Beauty, and the Heberton Abundant. In those most subject to rot were the Early Rose, and the Beauty of Hebron.

In the cooperative experiments throughout Ontario in 1916, each experimenter was asked to give the number of rotten potatoes in the crop produced of each of the varieties under test. In more than one-half of the experiments there was not a trace of rot in either the Extra Early Bureka, or the Davies' Warrior varieties. In those experiments in which rot occurred it was very slight. In the results used in the summary, the percentage of rotten potatoes was only one per cent. in the Extra Early Bureka, and only one-half of one per cent. in the Davies' Warrior variety.

The experiments at the Ontario Agricultural College emphasize the importance of planting potatoes which are the least susceptible to the rot. We now have much evidence to show which some varieties are comparatively free from rot every year, while others have a large amount of rot in those seasons in which the conditions are favorable for the development of rot, and are unfavorable for obtaining the best satisfaction from the spraying materials.

Cooperative Experiments in Weed Eradication

By Prof. J. E. Howitt, O.A.C., Guelph.

DURING the past four years the Ontario Agricultural and Experimental Farms have carried on co-operative experiments in the eradication of weeds. Some fifty-eight farmers have taken part in these experiments. The weeds experimented with were Perennial Sow Thistle, Twitch Grass, Bladder Campion, Wild Mustard and Ox-eye Daisy. The results obtained may be summarized as follows:

1. That good cultivation, followed by rape sown in drills, provided a means of eradicating both Perennial Sow Thistle and Twitch Grass.
2. That rape is a more satisfactory crop to use in the eradication of Twitch Grass than buckwheat.
3. That rape gives much better results in the eradication of Twitch Grass and Perennial Sow Thistle when sown in drills and cultivated than it does when sown broadcast.
4. That thorough, deep cultivation,

*An address at the annual meeting of the Ontario Experimental Station.

in fall and spring, followed by a well-cared for hoed crop, will destroy Bladder Campion.

That Mustard may be prevented from seeding in oats, wheat and barley by spraying with a twenty per cent. solution of iron sulphate, without any serious injury to the standing crop or to the fresh seedlings of clover.

Those who took part in these experiments profited by the experience in nearly every instance; they cleaned the field experimented upon, demonstrated to their own satisfaction the effectiveness of the method tried, and at the same time the results furnished practical information to others.

These cooperative experiments in weed eradication will be continued this year (1916), and it is hoped that a large number of men will take part in them in order that sufficient information may be gathered to warrant definite statements being made as to the best methods of controlling these pernicious weeds. The experiments for 1916 are as follows:

1. The use of rape in the eradication of Perennial Sow Thistle.
2. A system of intensive cropping and cultivation, using Winter Rye followed by turnips, rape or buckwheat, for eradicating Perennial Sow Thistle.
3. The use of rape in the eradication of Twitch Grass.
4. A method of cultivation and cropping for the eradication of Twitch Grass.
5. A method for the eradication of Bladder Campion or Cow Bell.
6. Spraying with iron sulphate to destroy Mustard in cereal crops.

All experimenters will be supplied with full and detailed instruction for carrying out the experiments selected, and with blank forms on which to report the results of the same. All interested in clean farms are asked to cooperate in this work. Address J. E. Howitt, O.A.C., Guelph.

B. C. Stock Breeders' Convention

THE sixth annual convention of the B. C. Stock Breeders' Association, was held at Victoria on March 12th. Among those who addressed the convention were Dr. J. G. Rutheford, Dr. S. F. Tolmie, Live Stock Commissioner, Dean L. S. Kinloch of the College of Agriculture, P. H. Moore, of the Experimental Farms, Agassiz, and well known stock breeders.

President Patterson, in his address, quoted figures which definitely proved the growing interest being taken in the live stock industry in the province, particularly emphasizing the advantages of mixed farming, which permitted of both fruit and stock growing. Statistics were given showing the number of pure bred and grade stock that were being brought into the new districts, notably the Bulkley Valley and the Nechaco Valley. It was also shown that many fruit farmers of the Kelowna district had taken up stock growing. Regarding the future of the sheep raising industry, Mr. Patterson was particularly optimistic, predicting that the coming season would see a higher price for wool than at any previous time in the history of the province.

The following officers were elected for the ensuing year: President, A. D. Patterson, Ladner; Vice-President, Samuel Smith, Duxon; Directors: Geo. Sangster, F. B. Ward, J. Griffith, R. Hughes, Alex. Davies, H. Webb, Cent. Jas. Brinkley, F. B. Ward, J. B. Tiffin and J. R. Jackson. Secretary-Treasurer, W. P. McDonald; Ass't. Sec.-Treas., S. H. Hopkins.



Trade issues

VOL. XX

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IT is a well-known difference in regard to the heifers. We find points. Some have a very early age of the milking opposite view matured, and at the milk production developed. Some calves only built. Others thin as rapid as a heifer of a day is allowed to give young she do tendency to use for body fat rather than to milk. Others the dairy quality cow are not in any way by the feeding when y that no harm co a heifer being de desire to dev largest animals for the breed, prefer cows med or small for the

A few years ago Dairy attend gather together of Canadian dair breeders of note two points—the which a heifer s bred, and her from birth to lactation period, breeders consult names for three lists in their lack of unanimity believed that heifer and other fanciers have their cows even older. Some could not be fed feeding would in, breeders in later years like the breeders to offer on the sub Prof. Echlin, of Mi very definite suggestions, and his info ducted with the stu

A WORD TO THE WISE

APRIL 6th

IS THE DATE OF OUR

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VOL. XXXV.

PETERBORO, ONT., MARCH 30, 1916

No. 12

Two Factors That Influence Dairy Development

Feeding of Heifers and Age of Breeding in Their Relationship to Growth and Dairy Quality

IT is a well-known fact that there is considerable difference in practice among cattlemen in regard to the feeding and handling of dairy heifers. We find radically different views on some points. Some hold that a cow should be fresh at a very early age to insure the best development of the milking functions. Others take a directly opposite view and prefer a cow to be quite well matured, and state that only in such animals are the milk producing functions the most highly developed. Some who raise dairy cattle feed their calves only bulky feed and in rather scanty quantities. Others feed largely with grain and grow them as rapidly as possible. Some hold that if a heifer of a dairy breed is allowed to get fat when young she develops a tendency to use her food for body fat all her life rather than to produce milk. Others hold that the dairy qualities of a cow are not influenced in any way by the method of feeding when young and that no harm comes from a heifer being fat. Some desire to develop the largest animals possible for the breed. Others prefer cows medium sized or small for the breed.

A few years ago Farm and Dairy attempted to gather together the views of Canadian dairy cattle breeders of note on these two points—the age at which a heifer should be bred, and her feeding from birth to her first lactation period. The breeders consulted were all men who have made names for themselves in the dairy world, specialists in three different breeds. There was a notable lack of unanimity in the opinions collected. Some believed that heifers should freshen at two years, and other fanciers of the same breed preferred to have theirs come in at thirty-three months, or even older. Some claimed that dairy bred heifers could not be fed too well; others that too liberal feeding would injure their value as milk producers in later years. The experimental stations, like the breeders themselves, had little more to offer on the subject than guesses and opinions. Prof. Echles, of Missouri, has now, however, some very definite suggestions to offer on those questions, and his information is based on work conducted with the station herd since 1906, and some

As Investigated by PROF. C. H. ECHLES, of Missouri of his results are fortified by herd data extending back to 1899.

An Outline of the Experiment.

The experiment proper was carried on with 40 heifers of three breeds—Jersey, Holstein and Ayrshire—divided into two groups. Group 1 were heavily fed from birth to their first lactation period, much more heavily than would be advisable in a commercial stable. Group 2 were lightly fed. These two groups were subdivided into two divisions of 10 heifers each, one division

between a scanty and an excessively heavy one.

It was planned to give the animals in the Heavy Fed Group practically all they would consume from birth to first calving, and to use a ration of such character that the maximum growth and development of fat would be secured. The heifers in this group remained with their mothers for two or three days after birth. From this time on to weaning, at the age of six months, they received whole milk, fed from a bucket. The amount fed varied with the size and age of the animal, but averaged about 16 pounds daily. Grain feeding was begun as soon as the calves

would eat it freely. The grain given was a mixture of corn, two parts; oats, one part, by weight. Alfalfa hay was also given as soon as it would be consumed. The same grain mixture and alfalfa hay was fed up to the time of first calving. A part of this group was on pasture during the summer season, and received a heavy ration of grain in addition. The others were not allowed to go on pasture, but received the grain and hay ration continuously. After calving, both groups received the same ration, which was alfalfa hay and silage, and a grain mixture of corn, four parts, bran two parts, oilmeal one part, fed in proportion to the milk production of the animal.

The Light Fed Group received the mothers' milk for the first two weeks, and was then gradually changed to skim milk, fed warm and sweet immediately after separation. Alfalfa hay was given as soon as the animals would consume it, but no grain was fed until after the heifers came into milk. The feeding of skim milk was discontinued at the age of six months. A part of the group was on pasture during the summer, while the remainder received only hay and some green soiling crops up to the time of first coming in milk. After calving both groups received the same ration.

Animals Used.

The animals used were all pure bred and were calves from cows in the University of Missouri herd. The complete information at hand with reference to the breeding of the animals and the



The Homestead of a Prosperous Quebec Dairyman. There are many dairy farms in Quebec that are models of comfort and neatness. This is one of them. The view shows the home, barns and dairy herd of Mr. S. Armitage, Assot, Que.

breed early, to freshen around two years, and the other to freshen one year later. It was planned to arrange the experiment to give data especially on two points.

1. The influence of liberal as compared with light rations during the growing period.
2. The influence of the age at first calving.

The ration given the light fed group was really not an inferior one as compared to that used by some dairymen, although not equal to that used by most of the owners of well developed herds. As a matter of fact, after the experiment was well under way, it was decided that the ration fed the Light Fed Group was really a fairly good one, and the comparison is therefore between a medium and a very liberal ration, rather than

milk production of their ancestors made it possible to arrange the groups to the best possible advantage. It would have been a decided advantage had all the heifers of one breed been the daughters of the same sire. This would have been of special value as a means of eliminating the very strong factor of variation in inheritance from the sire. Such an arrangement was impractical, however, on account of not having a sufficient number of daughters of one sire in the herd, and the long interval necessary before all the animals could be placed in the experiment.

In assigning the animals to the groups care was

taken to arrange them so as to have the groups as comparable as possible. When a daughter of one sire was assigned to the light fed group, for example, another daughter of the same sire was placed in the heavy fed group. Two pairs of full sisters were available during the course of the experiment. One of each pair was placed in the light fed group and the other in the heavy fed.

Effect on Growth.

The growth of the animal frame was noted each month. No difference was noted between the two groups up to one month. Then the heavy fed

groups started to gain. The difference was greatest at 12 to 18 months, and from then on the difference decreased, but when growth ceased, in all cases the heifers heavily fed were the largest animals, the heavily fed Jerseys, for instance, averaging 15 inches higher at the withers than the corresponding short fed group. The latter group continued growth longer. The difference in weight, however, was more pronounced than difference in bone development. Heavy fed Holsteins weighed 1,381 lbs. and light fed 849 lbs. at 30 mos. old. The Jerseys did not show

(Continued on page 6.)

Our Experience Meeting: Preparing for the Spring Rush

Our Folks Offer Many Practical and Seasonable Suggestions

A Well Known Ayrshire Breeder's Methods

H. C. Hamill, York Co., Ont.

THE first preparation for the spring rush on Craigelea Farm was made last December when we started a team to haul manure and spread it direct from the wagon. "Since then we have manured 20 acres, and expect to finish a few more acres yet." During the recent stormy weather we have whitewashed the inside of the dairy stable, and some necessary repairs to the stable, and as soon as the weather is suitable we have shingles and nails on hand to patch a few leaks in the roof of the buildings. We have looked over the implements and vehicles, made what repairs were necessary, and replaced with others where needed.

One necessary seed grain will all be ready for the drill, including a liberal supply of the various clover seeds needed. We have our saws ready to prune the orchard as soon as the fields are too soft to haul manure. The harness has been looked over, and what repairs are needed will be made in a few days. We are giving our work horses a little extra attention that they may be in good working condition, not forgetting the proper amount of exercise for that purpose. The various records of our work and business on the farm has been brought up to date, receipts for money paid out last year properly arranged; application forms for pedigrees of our young stock filled up and R.O.P. records completed.

Plans for next summer's work are being made, with a view to lessening the work on the farm where advisable to do so. We have also visited some of the leading farmers in the locality that we may profit by their experience, which very often is of no small consideration. This, I think, completes our preparations for what promises to be a very strenuous season indeed.

Benefiting by Past Experience

By Hugh McCutcheon.

WHEN the spring rush starts we often see things that should have been done earlier in the season. To prevent a repetition of this another spring we make out a list to refer to next winter. A few of the items are as follows:

1. Oil and repair farm harness.
2. Break out's when sleighing is good. Halt or break young colts.
3. Clean seed grain. Buy formalin and test seeds for germination.
4. Examine the mouth of each tile drain and let off standing water.
5. Draw tile and stake out proposed tile drains for the coming season.
6. Get wire and posts ready for fencing.
7. Mix clover and grass seed. Buy nitro-culture for alfalfa seed.
8. Prune and graft fruit trees.
9. Run out machinery, tighten nuts, oil and repair it where necessary.

We accomplish more work during the busy season if we plan and prepare for it during the winter instead of waiting to see if we have time for it in the summer. What manure is drawn out in the winter is taken to the farthest fields, leaving the shorter hauls for the busy season.

Some of Their Suggestions

HAVE all implements in good repair. Clean, oil and repair all harness. Clean and bag seed grain ready for use.

Buy a supply of formalin. Test for germination.

Mix grass and clover seeds. Buy nitro-culture for alfalfa.

Have manure drawn, especially that for the back fields.

Exercise horses and have them in good condition.

Have young horses broken and colts halter broken.

Get summer's wood drawn, split and piled.

Repair the fences and the roofs of buildings.

Do pruning and grafting needed in the orchard.

Bring all business records up to date. Examine mouths of tile drains. Let off standing water.

Draw tile and stake out proposed drains.

Secure wire and posts for fencing. See that the tool box is well supplied.

Select the seed potatoes and set them apart.

Clip the horses before spring work begins.

Plan the garden so as to save hand labor.

Watch for suggestions from progressive neighbors.

Keep cool.

During the winter, sleighing affords the farmer a good opportunity to haul up the summer's wood, also logs and gravel. This keeps the man and horses in good condition for the spring work if oats are increased to the horses a couple of weeks before the spring rush.

Suggestions by A Farmer's Daughter

By "Betsey," Leeds Co., Ont.

TO economize our time and strength next spring, when help will be so scarce and our tasks so numerous, I would offer a few suggestions. I have been an observer all my life,

and have even done my little bit towards helping with farm work.

Now is the time to clean and bag the seed grain. If any of the farm implements need repairing attend to them; also see to it that the working harnesses are in good shape. I would not think it out of the way to even put the potatoes in bags, separating the seed from those used for consumption (i.e. if they are in cullar), and thus have them ready to carry out when the warm weather comes.

Yes, and it is a fine time those winter evenings to make plans for our garden, arranging it so that the bulk of the weeding can be done with the horse. We can now select our seed; but under no consideration whatever should we dispense with a good vegetable garden, sufficient, at least, for our needs.

It would be a wise idea, too, to have the summer supply of wood in the shed; and if you have colts needing a few more lessons before they can work on the land, now, when the snow is deep, is a good time to train them. In many other ways too numerous to mention can we prepare for spring. Let us aim to begin as much of our work as possible.

A Matter of General Farm Practice

By Ralph G. Smith.

WELL underdrained land, by being ready for work early, is of greatest importance in getting off to a good start with the spring work.

All land to be cropped the coming spring is fall plowed and every stone big enough to strike a machine is in its place, which is in the fences or reserved for building purposes. Some thinking is now done and calculation made for each field, what it shall bring forth.

Horses must have clean, warm, light, well ventilated stables, with plenty of straw for bedding to prevent foot disease, and must have enough exercise daily to harden muscles. In short, must be in pink of condition, and for a good spring day's work should not be less than six years of age or under thirteen hundred lbs. on the scales. Whoever is to drive the horses should be a man who loves them. If he has some judgment and snap the work will go and horses stay, that is, there will be no valuable time lost treating an overworked animal.

Machinery must be examined to learn that nuts are tight, teeth of harrows sharp, etc. Tool boxes must be supplied with hammer, a good sharp cold-chisel, a couple of up-to-date wrenches, and bolts suitable for the machine.

Harness must be overhauled to know that each part has full strength, and that there is no unnecessary appendages, in which case I would advise an operation, for harness should be light, strong and convenient, preferably with chain at end of trace, which is of advantage in adjusting.

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seed mixed and all bagged and placed within easy reach, so that not one moment of a bright spring morning will be lost while running around corners for seed. As the time of seeding approaches, machinery may be oiled and the horses clipped. The man who keeps his head cool will make the most progress.

The Case in a Nutshell

H. A. Baker, Missisquoi Co., Que.

IN order to facilitate spring work, my opinion is that the following work should be done: All manure, as far as possible, drawn and spread where wanted; the farm implements thoroughly overhauled; the harness cleaned, repaired and greased; the horses clipped and in good order. The wood should be cut, split and piled; the potatoes sorted and ready; the grain cleaned and bagged; timothy and clover seed bought brought home; the corn tested and ready; commercial fertilizers purchased and housed. All grain required for feeding purposes should be bought or ground, and all odd carpentry jobs done up.

Started Preparations Last Fall

Jas. Stringer, Halton Co., Ont.

THE preparations I am making and have been making are these: I get all the implements in working order before spring seeding commences. Harnesses are sharpened and everything ready. I am fighting hard against noxious weeds and select the best clean seed I can procure; also have it cleaned up ready for sowing. I might also state that I have my plowing done in the fall, nicely ridged up and drained, so as to get on the land as soon as the weather is suitable. Other suggestions are these: Have all the manure hauled out and spread on the land, as I think that spreading it on is the most economical and also profitable method in these times when labor is so scarce. Have the horses in good shape for the spring work, and the harness all repaired, so there will be no unnecessary delay when spring seeding commences. I also find that to have the crops in early on clay, especially oats, gives best results, and that means early preparation of the land.

Put Fences in Good Repair

Geo. A. Gillard, Dundas Co., Ont.

ONE of the greatest helps to the spring work is the removal of manure to field ditches during the winter months. It is much easier to spread the manure from a pile in the field than to have to go to the barn for it, and

(Concluded on page 9.)

The Story of A Pure Bred Herd

How an Old Time Breeder, Now Deceased, Achieved Success

A GOOD man's work lives after him. Recently, in going through some of our old letter-files, an editor of Farm and Dairy came across a letter written to us a few years ago by the late J. H. Caldwell, of Carleton Co., Ont., telling of the establishment of his pure bred herd. The story is so interesting, as told by this one-time leader in progressive dairy farming, that we reproduce his letter in full, as follows:

"I commenced operations on my own account in the year 1878 in Gloucester, Carleton Co., Ont. on a farm containing 160 acres. I carried on

sell and buy in a better locality, where there was a stone road if possible.

On a New Farm.

"The farm I now occupy in Nepean Township came into the market. I purchased it for \$7,000, which was about the limit of land values. Shortly after I was offered 50 acres lying across a 40-foot force road, which I also purchased. On this land was a flowing fountain of water, which was obtained by boring through 130 feet of clay and several feet of gravel. As the water was raised several feet above the ground when piped, we turned the water into a trough about 40 feet long and capable of watering about 30 head of cattle at one time. The overflow I conveyed under the roadway, raising it again on this side about one foot lower than the first trough. This arrangement works quite satisfactorily, and has been giving an unfailing supply of the best water for nearly 40 years.

"As this farm was particularly adapted for pasturing, I decided to make a specialty of dairying. I increased our herd, and as cheese factories were increasing we started to send our milk to a factory. The average of the herd was from 3,000 to 4,000 lbs. for the season, from early in May to the end of October.

"After a short time I became dissatisfied with the returns we were getting, and began to look around for something better. As I had read much of the Holsteins as producers I decided to try them. At the time the herd of the E. D. Tilson Estate was advertised. I attended the sale and purchased several head. This herd was a revelation to me, showing me what a dairy herd could be brought to. This herd, comprising about 185 head, was the finest herd of milkers I had ever seen. We still have a few of the best that we purchased in our herd, and they are doing good service.

The Pure Bred Herd Extended.

"I was so well pleased with these cows that I decided to add to their numbers, and visited some of the best Holstein breeders of Eastern Ontario and selected from their herds. We soon had only black and whites, changing the herd over as quickly as possible.

"This was the best investment I had ever made. The production of our herd was about double. We procured scales and weighed and tested, and as the milk was not potted but paid for according to per cent, of butter fat, our herd soon silenced all objections on account of quality. My sons became deeply interested in the herd, feeling justly proud of the production of many of them.

"Farming now seems less difficult, as there are two sources of profit, young stock and milk; milk all the year round, as we have our cows coming in at all times.

"We sell our milk from September until May to a man running a large dairy near Ottawa, who is able to handle it with profit. This man drives eight miles through a well settled, good farming country, but is unable to get his surplus milk until he gets to our farm. We feed better on this account, for we remember that, out of nothing, nothing comes. Had I known the value of Holsteins when I commenced farming, I could now have been wealthy. There is an ever increasing demand for them, and prices are going up and ever up.

"Let me say, success has not come without effort. Eternal vigilance is the price of success. Don't trust to luck but make it. Aim high. Strive for the best in everything. If you know a good thing, communicate that knowledge to those wishing to learn."



It Pays to Let the Boy Have Something of His Very Own.

mixed farming for some time, keeping only a small herd of milk cows, which were of non-descript breeding. There were no cheese factories within reach, nor were there any good herds of dairy cattle in our vicinity. The making of butter from the milk, with its side lines of veal and pork, was our only resource.

"I tried raising our heifer calves for some time, but as we had no dairy sire the result was only disappointment, getting about 20 per cent. of fairly good milkers. I decided to veal all the calves and depend on buying. I did so for some time and was always on the lookout for good milkers. I was thus able to keep a fairly good herd as herds were estimated at that time. The most of the farming was conducted on similar lines. The selling of grain and hay in Ottawa was a leading asset. As the country roads were bad, and I had to drive over several miles of clay roads getting to and from market, I decided to



Helping to Solve the Labor Problem by Gathering Their Own Feed.

Where land is reasonable in price and farm labor scarce and deer it pays to let the cows gather most of their summer food. A field sown to annual pasture mixture helps the cows through the dry summer months. A scene on the farm of C. V. Robbins, Welland Co., Ont.

Two Factors That Influence Dairy Production

(Continued from Page 4.)

such a striking difference. At maturity the difference was not so great, but it was still very much in favor of the heavy early feeding. Prof. Eckles says:

"At the same time the animals raised on the light ration did not show any lack of vigor or any effect whatever of insufficient food. The results given show clearly that the size of the animal when mature can be influenced to some extent by the ration received during the growing period. The effect is not so pronounced, however, at maturity as during the period of most rapid growth. The most pronounced results of a very liberal ration when young is earlier maturity. If the time of coming into milk is postponed the growth on a light ration continues until there is little effect on size to be seen when maturity is reached. It should be kept in mind that after calving hatters raise on the light ration received what we consider to be a normal ration for a cow in milk. This ration which was ample in amount, but not excessive, made it possible for the animals to grow better than would have been the case had the ration been scanty during this period of milk production."

Influence of Age at First Calving.

Age of calving the first time had an even more pronounced effect on size than easy feeding once the animals reached maturity. It was easy by their appearance to classify the cows into their respective groups, as marked was the set back due to early breeding. Again we quote Prof. Eckles:

"It may be said, however, that our records show clearly that gestation does not check the growth of a dairy heifer to any appreciable extent, but the production of milk exerts a very pronounced effect. Lactation is evidently a much greater tax upon the animal than gestation. It is quite certain that under conditions as found in some herds kept for practical purposes the check in the growth due to lactation would be much more severe than was the case with these animals since in all cases the ration given the experimental animals was abundant after lactation began. The only limitation was the capacity of the animal to digest food. The feeding practice was to give the animals as much roughage as they would consume and grain in proportion to the milk produced."

Are Large Cows Desirable.

These investigations bring up the question, is a large cow desirable? The combination necessary for extremely large milk production is a strong stimulation to produce milk combined with large size and capacity to handle food. On the other hand a large cow with weak stimulation to produce milk is a worse failure than she would be if small, since the cost of maintaining her is greater. If a 1,600 pound cow is large enough to produce 8,000 pounds of milk in a year she will do it with less feed than a 1,500 pound cow of the same breed producing the same amount, but if the larger cow produces 12,000 pounds of milk there will be little difference in the economy of production by the two animals so far as the feed is concerned. If the larger cow produces 15,000 pounds she will be the cheaper producer of the two. It has been shown by the author that after maintenance is taken out the use of food is in direct proportion to the milk produced.

In other words from the standpoint of economy in production, what is wanted is sufficient size to support and supply nutrients for the milk producing system which the cow has inherited. Large size is only of ad-

vantage when combined with a strong stimulation to produce milk.

Sexual Maturity.

The Heavy Fed Group matured more quickly sexually. The heavy fed Holsteins reached this stage of development at an average age of 261 days, while the light fed group averaged 275 days, a difference of 112 days. The heavy fed Jerseys were sexually mature on an average of 76 days earlier than the light fed animals of the same breed.

Effect on Dairy Production.

As to the effect of heavy early feeding on production, Prof. Eckles summarizes his conclusions as follows:

"After considering all the data fully and analyzing the results as fully as possible we come to the conclusion that some detrimental effects followed the excessively heavy ration upon Jerseys, and possibly to a slight degree with the Holsteins and Ayrshires as well. The effect, however, was not very pronounced as is shown by the fact that some of our best cows as for example, 41 54 and 233, were in the heavy fed group. At any rate heavy feeding does not necessarily injure a cow even if excessive and prolonged to the age of three years before first calving. It should be kept in mind that the conditions under which these animals were kept were much more extreme especially as regards the heavy fed group than would ordinarily be found anywhere under practical conditions. It would seem safe to say that within the limits of ordinary feeding practice this factor is not one of great importance. At any rate our data would justify the conclusion that the great variations in milking quality of dairy cows as found in ordinary herds is not to be attributed to any extent to the possibility that they were overfed when young. The supposition by breeders that heavy feeding when young is detrimental to the milking functions of the mature cow is based upon observations which may be erroneous. When a cow of a dairy breed lacks in dairy qualities, and shows a beef tendency in conformation, it is easy to attribute it to over feeding when young. In most cases the same animal showed a beef conformation when young, not from over-feeding, but as an inherited characteristic. The data which has been given adds strength to the general conclusion that heredity is the chief factor in determining the extent of the development of the milk producing function of cows."

Production and Date of Calving.

Prof. Eckles' work seems to offer some safe conclusions as to the effect of date of calving on dairy production. With both the light-fed and heavy-fed Jerseys the late calving group gave more milk and fat in both of the first two lactation periods. With the Holsteins the results are not so consistent, as other factors entered in to disturb the results, but all things considered, the late calving group made the best showing at the past. To further substantiate this data, Prof. Eckles drew up a summary of all animals in the College herd since 1893. He found that with both the Jersey and the Holsteins the best producers were from those well matured at first calving. The Jerseys calving under 20 months averaged 307 pounds of fat for the first three lactation periods, those calving at the age of 24-30 months averaged 260 pounds, and those between 31 and 32 months averaged 232 pounds. The Holsteins calving under 24 months old averaged 232 pounds of fat for the first three lactation periods, which is decidedly the lowest of any group.

A study of the figures given leads (Concluded on page 5.)

Fencing? Yes, but what kind?

The farmer who thoroughly examines the relative merits of the various brands of wire fences offered to him will not have any difficulty about deciding upon the one he ought to have. Let him decide by that most unerring of all tests—weight. Why judge by weight? Because weight means strength, and strength means durability and long life. Of the different makes of wire fences, there must naturally be one that will weigh heavier than the rest.

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The Canadian Ford Company has Spent Over a Million Dollars on New Equipment Since the Beginning of War

To increase the efficiency and the capacity of the Ford Canadian plant and its service stations—to produce even a better car at a lower cost of manufacture, thus to sell at a lower price, the Ford Canadian executives have put over a million dollars into new equipment since August, 1914.

That this expenditure has been made since war began indicates most emphatically the unquestionable belief of the Canadian Ford Company in the present and future prosperity of Canada and the triumph of the Empire. In fact the Ford Canadian executives are so firmly convinced of this that they are governing the entire policy of a great ten million dollar Canadian Company in accordance with this belief.

Since the beginning of war they have spent approximately a million and three-quarters in new buildings, twice reduced the price of the car by \$60 (\$120 in all) and reduced the price of spare parts \$147 per car—all in addition to this million dollars worth of new equipment.

But, in turn, it has been this new equipment that has been responsible in great part for these reductions in prices. Marvelous new labor saving machinery installed in the recently enlarged two-acre machine shop has effected big savings in cost of manufacture.

For instance three drill presses that formerly were used to turn out 600 parts a day, now have been supplanted by three punch presses that turn out 3000 parts a day, and there is absolutely no sacrifice in quality of work.

At a cost of \$40,000 three truly wonderful milling machines were installed that mill 48 Ford engine cylinders at once with perfect accuracy.

Perhaps the most wonderful of all are the new gear cutting machines that are a source of amazement to those acquainted with gear cutting methods in vogue several years ago. Then there were only two or three shops on the continent where gear cutting could be done at all and it was a slow and most exacting process. But in the Ford Canadian plant there are no less than 46 wonderful automatic gear cutting machines that turn out gears cut absolutely perfect in one-twentieth the time without the touch of human hands except for putting in the blank and taking out the finished gear. When the machine has finished the

work it notifies the operator by ringing a bell. One man can operate two or three of these machines, a fact which gives some indication of the great saving in labor that this new equipment has made possible and which also plays a very important part in reducing the manufacturing cost and the selling price of Ford cars.

Again, think of the great saving in labor, as well as time, effected by the remarkable Ford drilling machine that bores 45 holes in a cylinder casting in four directions at a single turn.

Do not assume from this, however, that the number of employees has been decreased. On the contrary, the Ford staff has been increased by 900 men since war began. Furthermore when the present Ford schedule of wages went into effect in April 1915, the wages of these employees were increased \$50,000 a month.

If it were not for the exceedingly substantial economies made possible by this new equipment, it can be readily understood that the price of the Ford car, built as it is today of the finest materials procurable, would be very much higher.

No firm that did not have the immense quantity production of the Canadian Ford plant could possibly afford to install such equipment as this and consequently could not sell a car as good as the Ford at anywhere near the Ford prices.

In addition to the equipment told of above new engines were installed in the power plant at Ford, Ontario—650 horse power gas engines specially designed by Ford Engineers.

Also the four new Ford Branch buildings at Montreal, Toronto, London and Winnipeg, each of them as large as many automobile factories, had to be furnished with machinery and appliances. Each one of these branches is so thoroughly equipped as to be able to build a Ford car complete. Each one forms a still further perfection in the already unrivalled Ford Service to Ford owners.

And the fact cannot be overlooked that a policy that dictated the expenditure of such a great sum of cold cash as this during the progress of the war must have been prompted by a very practical and sincere belief in Canada's prosperity—in her future and in her people.

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The Guinea Fowl

By Michael K. Boyer

The Guinea hen is a good layer, but on account of the wild, gamey flavor, the sex have never an extensive sale for table use. However, by turning them into broilers or roasters, a considerable profit will be derived. The flesh is the nearest substitute we have for the wild game. The Guinea is of a roving disposition, and one is of the best known destroyers of insects.

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It requires four weeks to hatch out Guinea. The hen always hides her nest, and that, too, in some very ob-



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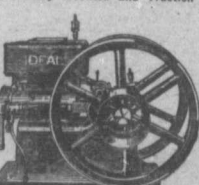
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Put Fences in

(Continued)

and also saves cost this method the shape, as a little in fine condition heavy burden of. The next thing good method is ready to sow and run it through it always plan to have and barged, ready without delay. T important. We th and see that it so that it will tak as oil is cheaper horse flesh.

We have our fence as there is always before the rush wo done when the yo get out. Here is a ing of lime will keep everything fring the winter and

Two Factors Th

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The Economi

Viewing the economic angle, it leaves "an egg of early enough for eay to come into ration received b liberal one. If the growing period at admitt of a go will be better to

Just Guineas.

secure place. As it comes off the nest it gives a shrill cry, and in that way the hiding place can be detected. All the hens of a flock are apt to lay in the same nest, and in taking away the eggs they should not be touched with the hands, for if the hen discovers that the nest has been touched she will desert it and hunt another place. But if the eggs are removed with a stick she will not leave the nest, even though the eggs are taken out nearly every day.

It is claimed that a cross of the Pearl and White Guineas will produce a cross closely resembling that of the English Grouse. If richly cooked, the meat of even an old bird will be tender and delicious, while that of the young bird is unsurpassed as a broiler or fryer. The dressed Guinea has a round, plump body, good-sized breast, and small bones.

Guineas will pair if the sexes are equal. They generally lay between the hours of 10 o'clock in the morning and 2 o'clock in the afternoon. Until well feathered, young Guineas are delicate and tender. It is not advisable to hatch before June. The Guinea cock bird cares as much for the young as does the hen, guarding them during the day and hovering them at night.

The male bird is larger than the female, is more aggressive, and has a different call. The hen makes a noise something like "Come back, Come back!" while the male gives "Tik, tick!" The cry of the Guinea is one of warning to the rest of the poultry, and they at once hide until the alarm ceases.

Guineas do not scratch like other fowls, and therefore are safe to have in the garden. They should be given their freedom, as they do not thrive in confinement.

PREPARING FOR THE SPRING RUSH.

The many contributions we have received on this topic have such been full of practical suggestions. First place in the contest was won by Mr. H. C. Hill, York Co., Ont., whose subscription has been extended for one year. Others whose contributions appear here have each been credited with six months renewal. Mr. E. McCutcheon and Mr. Ralph Smith failed to enclose their addresses. Upon the receipt of these they will be marked up on our subscription list.

PLANNING IMPROVEMENTS FOR 1916.

The next subject for discussion at our Experience Meeting will be "Improvements I Have Planned for 1916." The contributions on this subject will be published in our Special Farm Improvement Number of May 4. Contributors are requested to outline the plans which they have made for improving their farm and home surroundings during the season. Contestants will be rewarded by having their subscriptions renewed, the winners descriptions renewed for one year, and all others, whose articles are published, for six months. Articles should be received by March 15.

Put Fences in Good Repair

(Continued on page 6.)

and also saves considerable time. By this method the horses are kept in shape, as a little exercise keeps them in the condition of their part of the heavy burden of spring work.

The next thing is the seed grain. A good method is to get the seed all ready to sow and not have to stop to run it through the fanning mill. We always plan to have our grain cleaned and bagged, ready to take to the field without delay. The machinery is also important. We thoroughly examine it and see that it is in perfect repair so that it will take oil where needed, as oil is cheaper than machinery or horse flesh.

We have our fences in good repair, as there is always a time to do it before the rush work starts. If this is done when the young cattle and colts get out, there is no running or wasting of time with them. We try to keep everything in proper shape during the winter and spring months.

Two Factors That Influence Dairy Production

(Continued on page 5.)

to the conclusion that from the standpoint of securing the greatest development as a dairy animal it is a decided disadvantage to a Jersey cow to calve under 24 months old, while nothing seems to be gained by allowing her to reach an age more than 80 months. The smaller number of Holsteins give less years for such a statement, but it also indicates that the best milk producers are, on the average, found among those which are well matured before coming into milk for the first time.

The Economic Viewpoint.

Viewing the question from an economic angle, the investigator becomes an age of 25 to 28 months is fairly enough for a Jersey or Guernsey to come into milk, even when the ration received has been a fairly liberal one. If the ration during the growing period has not been such as to admit of a good development it will be better to delay the time of

breeding two months. For a Holstein or Ayrshire 28 to 30 months is early enough for first calving under ordinary conditions. Where the ration has not been such as to allow of good development when young the time should be further extended.

Other comments on this experiment are made by Prof. Edgus as follows: "The popular belief that a heifer fed largely on coarse feeds when young will have a better capacity for handling such feed when mature is probably based upon observations made during the period immediately following a change in ration. As already stated, where an animal has been raised largely upon grain it will show a decided lack of capacity to handle coarse feeds at first, but this condition gradually changes, and within two or three months, or even sooner, such an animal will consume a ration composed largely of roughage as readily as one which received such a ration during its entire life."

Difference in Temperament.

"A decided difference in temperament was observed with animals in the two groups. The animals receiving the light ration seemed to have less intelligence as well as less energy. They were always handled with more difficulty, not on account of more life or energy, but on account of the stubborn, inert disposition which they showed. Those receiving the liberal ration would lead readily and stand alert and move quickly at any sound. Animals of the light-fed group would not lead promptly, but had to be almost dragged, even after being handled for months."

Influence of Ration Upon Breeding.

"The question is often raised as to the relation between the manner of feeding and the breeding of heifers. It is thought by some that when animals are fed liberally or when excessively fat that difficulty in breeding will follow. A comparison of the records of breeding of the experimental heifers show that the 20 light-fed heifers were bred a total of 32 times before becoming pregnant and the 19 heavy-fed animals 27 times. This does not include one light-fed Jersey heifer that failed to breed entirely. Twelve out of 30 light animals, and 14 out of 19 heavy-fed animals, received but one service. This result seems to indicate that even where the conditions were extreme there was little effect upon the reproductive function. The same might not hold good in the case of older cows that had been allowed to become over fat."

Further Comment on Borrowing

Editor Farm and Dairy:—

I saw in a recent issue an article entitled "Borrowing a Sin," and I should say that I am one of those "Young Farmers" that if things are as he states it is an imposition. We all like good neighbors, and any reasonable amount of borrowing would be neighborly, but if he has to buy his neighbors' friendship I would advise him to discontinue it. I know that is what I would do if it was my case. I have lived in this neighborhood for 50 years. I have a good equipment of machinery, but have to borrow occasionally. So do my neighbors. I think borrowing in reason creates a friendly, social feeling, and "Young Farmers" neighbors must be a queer bunch. I would deal with them in a business way and make a charge for each machine per day. That would bring them into Johnny on the spot.—D. F. Armstrong, Lewis Co.

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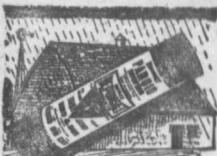
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After 2 years of Service

Mr. H. TUPPON, of Brandon, Ont., writes:
"Continues—As my 4 h.p. Engine has been back in the shop for the past 2 years I have been told I should get a new one. I have no more time to lose, and as my engine is in good shape, I have decided to get a new one. I have been satisfied with the quality of your work, and I am sure you will give me the same satisfaction with your new engine. Write for Price catalogue and prices."
Colson Mfg. Co. Ltd. 50 York St. Toronto, Canada

THE of the successful dairy farms on the Pacific Coast is managed by a woman, Mrs. Margaret A. Burbank, widow of the late Geo. W. Burbank, who was a brother of Luther Burbank, the wizard of the horticultural world. George W. Burbank was almost as prominent a figure in the dairy world as is his famous brother in the annals of plant improvement.

Mrs. Burbank helped her husband to establish the herd of pure-bred Jerseys on the dairy ranch which she now manages. The beginning was made several years ago when not many pure bred herds of this kind were to be found in California. She believed it would pay to keep pure-bred stock, however, and so encouraged her husband in working along this line in building up the business.

As the years went by tests of milk and cream have been made both before and since by husband's death, and the records concerning every milk cow in the herd have been carefully kept. As a result, many of the poorer cows have been sold to the butcher from time to time, and other pure breeds have taken their place, to be subjected to the same tests. In this way the herd has been developed to a very high standard of efficiency, the result is that the Burbank Dairy Ranch has a good reputation now, and it brings to its owner big profits.

Rotation of field crops was studied by Mrs. Burbank in order that she might arrange a system of planting and sowing that would furnish feed for the herd without robbing the 2,000

acre ranch of its fertility. There is a great deal of pasture land on the ranch, and it was found that this, together with other crop feeds, made far more than the herd of 100 cows would consume. Occasionally, therefore, large herds of Durham cattle have been raised and sold at big profits for beef. This not only turns the surplus feed into high-priced meat but it also returns to the land the greater part of the fertility that would otherwise be taken from it.

Many improvements have been made on the ranch during the last few years. Labor saving devices, such as churn, milking machines, cream separators, feed cutters, and other machinery, all of which is operated by power furnished by a good gasoline engine, which Mrs. Burbank installed. She understands the business from "A to Z," she being able whenever necessary to milk by hand or to handle the milking machine, which milks cows at one time. She can do the testing, separating, selling or any other item of the work that comes in connection with the business, and besides this she keeps an accurate record of every cow on the place, and can tell in a moment just how well any one of them is doing the work that an efficient dairy cow should do.

Mrs. Burbank says she finds the work very pleasant, as it gives her an opportunity of being out of doors and furnishes her with a business which is worthy of constant attention. She believes in pure bred stock as one of the first requirements of success.—Hoard's Dairyman.

Menie District Ayrshire Breeders Meet

THE annual meeting of the Menie District Ayrshire Breeders' Club was held in Stirling, on Saturday, March 11th. Considering the heavy state of the roads, a good representation of the breeders was present. The Menie Club was the first Ayrshire Breeders' Club organized in Canada, and the first Breeders' Club of any class organized under the Dominion Department of Agriculture. The territory covered by this Club consists of the counties of Hastings, Prince Edward, Durham, Northumberland and Peterboro, and in these counties there are about 200 farmers who are breeding pure bred Ayrshire cattle.

Mr. Alex. Hume, of Campbellford, in opening the meeting, touched upon many points of interest to Ayrshire breeders, while Mr. William Stewart, one of the pioneer Ayrshire breeders of Canada, gave a report of the meeting of the Dominion Association, which was held recently in Toronto. The meeting was also addressed by Mr. McIntosh on the subject, "Suggestions that will help our Club."

The report of the Secretary Treasurer, Mr. W. E. Tunison, Crookston, was adopted.

A committee that was appointed a year ago to wait on one of the Local Fair Boards, which barred prize winning animals at Toronto from competing in the show, had decided to drop the clause. It was felt by the members of the club that any clause in a prize list that barred the best and most typical animals of any breed from competing at the local fairs was an injury to the breed.

The question of cheese companies paying by test for milk preferences to the pooling system, now generally practised, was strongly endorsed by the club, and the opinion expressed that the dairy industry would be encouraged and larger production adopted making all companies adopt

the "pay by test" system. Mr. McIntosh, in his address, pointed out several companies of which personally knew, that had tried both systems and under no conditions would go back to the pooling system.

The members discussed the advisability of holding an auction sale this spring, but so many of the members, owing to the brisk demand, had disposed of all their surplus stock, decided to postpone same until probably about next December or January. It was decided to meet in Stirling next year.

The officers of the Club are—Hon. Pres., Wm. Stewart; pres., Alex. Hume, Campbellford; secretary—W. E. Tunison, Crookston; vice-pres., E. A. McKeay, Ameliasburg; Directors, Dr. A. J. Pyke, Ameliasburg; W. T. H. Madoc; Jno. McCubin, Warkworth; Chas. McCoun, John Locke, J. O'Connor, W. S. Grills and W. Bland, Campbellford; Geo. Stokes, Twerd, and W. J. Haggart, Stirling.—W.E.T.

Pruning Suggestions

If your trees require a twenty-foot ladder to gather the fruit, it is time to head back the center of the tree. Head to a fairly large limb that grows to the outside. This facilitates harvesting and spraying.

Where the ends of the lower branches touch the ground, do not cut the entire branch off at the body of the tree unless absolutely necessary. Head the branch back to a smaller branch or twig that is growing upward.

Suckers should be removed, except where they will fill out an open side. These they should be clipped back severely and be made to bear fruit.

Remove dead and injured branches, and branches that are crossing. This gives the fruiting wood that remains a better chance, and results in better and larger fruit. Never leave a stub in pruning.

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Activities of District Representatives

"ON Monday, March 6th, I attended the annual meeting of the Markers Green Mountain Potato Seed Centre at Postypool. Reports were received and they have, all told, in the neighborhood of 200 bushels for sale. They set the price at \$2.00 per bag, which will be raised or lowered according to the market fluctuations. In spite of the bad weather all the members, with the exception of one were present."—S. Duncan, Durham Co.

Hastings Holstein Breeders Active.

"The Holstein Breeders of this district have again scored in the sale of the aged cow "Victoria Burke" by J. A. Caskey, of Madoc, to the well-known Holstein breeder, Mr. Holby, at a very long figure."—A. D. McIntosh.

The Labor Problem in Peel Co.

"About 75 retired farmers have a club in town here and on Tuesday I visited them and explained what the labor situation was in Peel County. Many of these men, while not at every day employment, are still strong and able bodied, and will be able to do a great deal of light farm work. My plan was to get the names of the men who would care to do a little farm work by the day or month, when they would be available, and the kind of work they felt able to do. Of course I didn't tell them it was their duty to help produce more, but simply mentioned that their past interest in farm life would make them anxious to see that their farmer friends were not hampered this year for lack of help. However, many of the men came to town when their sons were married and took over the farm, and of course will help their sons, so that I will not get so many names, but one retired farmer who I had never met before, came in a couple of days after and assured me that he thought it was a good scheme, said the men had taken very kindly to the proposition, and that it was the chief subject of discussion ever since. In fact, he said that several men who had no intention of going out, have already decided to do so. I also phoned Mr. Fenton, principal of the local High School, asking him to announce to the boys that we had plenty of work for them in their own county, and that they would have no difficulty in getting satisfactory employment if they are released for farm work early in the term as was announced in the Toronto newspapers the beginning of the week."—J. W. Stark.

Hydro Current for Grey Co. Farms.

"We were delighted to learn from the Hydro Commission that farmers wishing Hydro power will now have the privilege of taking it by paying for the usual service charge, and by paying for the current on the meter basis, instead of contracting for one or two h.p. The Derby farmers, as a result of the trip that we took with four of their most interested Hydro men to Waterloo County, have been fighting for this change in rates ever since the Waterloo visit. We fully expect that they will now take the necessary steps to extend the Hydro lines throughout at least a portion of the township. This promises to be made in easy meter in the village of Tara has contracted for 50 h.p., and this power will be taken from the Eugenic, Owen Sound main line, which will mean that the Tara branch will run through the centre of Derby. Engineer Parcell attended a meeting here on Friday for the purpose of presenting the new conditions to the Markdale farmers. He hinted that a change is to be made in the form of wire to be used for rural lines, and

that fewer posts could now be used, owing to the new method that the Commission has found for straining the wire. This will mean a considerable lowering of the cost of construction. It is only a short time since we first became interested in Hydro power for the farmers, but since then so many developments in electrical knowledge have occurred that we fully expect to see Hydro poles as common in this district inside of five years as rural telephone poles are now."—H. C. Duff.

Lambton Breeders Get Together.

"On Wednesday evening of this week there was held in Petrolia a "Get-together Banquet" of the breeders of pure bred live stock in Lambton County. The invitations for this banquet were sent out from this office, having the approval of a Convening Committee of leading breeders in this district. I am pleased to state that the banquet far exceeded our expectations. There were 70 farmers assembled around the table, and a "Get-together" spirit prevailed the whole gathering. The speakers of the evening were: J. H. Grisdale, Director Dominion Experimental Farms, and Wade Toole, Editor of the *Farmer's Advocate*. At the close of the meeting a resolution was drawn up that an association be formed in Lambton County to be known as the Lambton County Live Stock Breeders' Association, and the Convening Committee was appointed to perfect the organization. The objects of this Association will be to further the interests of the pure bred breeders, and to elevate the whole status of the live stock industry of the County. It is also proposed to have an annual dispersion sale, and when finances warrant it a Winter Fair will be held."—G. G. Brandtill.

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PUBLISHED EVERY THURSDAY

47

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Two detailed statements of circulation of the paper, showing its distribution by counties and provinces, will be mailed free on request.

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We guarantee that every advertiser in this issue is reliable. We are able to do this because the advertising columns of Farm and Dairy are as carefully edited as the reading columns, and because to protect our readers, we turn away all unscrupulous advertisers. Should any advertiser herein deal dishonestly with you as one of our paid-in-advance subscribers, we will make good the amount of your loss, provided such transaction occurs within one month from date of this issue, that it is reported to us within a week of its occurrence, and that we find the facts to be as stated. It is a condition of this contract that in writing to advertisers you shall "I saw your advertisement in Farm and Dairy."

Requests shall not pay their trade at the expense of our subscribers. We are our friends, and through the medium of these columns; but we advise not attempt to sell anything through these columns. Advertisers and honorable business men who advertise, nor pay the debts of honest bankrupts.

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PETERSBORO, ONT.

"Read not to contradict and to confute, nor to believe and take for granted, but to weigh and consider."—Bacon.

Progressive Farming Penalized

THE question was recently raised in the Ontario Legislature, of whether or not a farmer should be penalized for putting a system of tile drainage on his farm. If, instead of placing his money in a bank, which immediately transports it to the city to build up city industries, he invests it in drains on his farm, thereby adding wealth to his community and increasing the production of food stuffs for the Empire, should he be punished under the tax collector and fined for so doing. That is exactly what is being done today. If a farmer installs a tile drainage system, his assessment is increased and his taxes raised.

This is but an instance of the way in which our present system of taxation militates against industry. So long as a man shifts against putting any improvements on his farm his assessment is left practically untouched. But once let him begin to improve his property, to build a home or drain a field and down comes the assessor and up go his taxes. Our legislators seem to think that the best way to encourage the development of a country is to penalize industry and to put a premium on indolence.

Gasoline From Kerosene

IT is reported, how authoritatively we do not know, that W. F. Rittman, of the Bureau of Mines at Washington, has perfected a simple and cheap system whereby kerosene may be changed into gasoline. Under the present process of refining crude oil, one gallon of kerosene is produced for each gallon of gasoline. The great increase in the demand for gasoline in the last few years has brought about a demand which calls for more gasoline than can be produced, while at the same time, there is a great surplus of kerosene. This disparity of demand accounts in large measure for the difference in price of the two fuels. As both are hydro carbons, it would seem that conversion from one to the

other is within the realm of possibility, and the perfecting of a system of interchange would be a decided benefit to gasoline users.

If the report be true that Mr. Rittman has perfected such a system, it will be a cause of relief to thousands of Canadian farmers who have installed gasoline engines to help do the hired man's work, and to other thousands who have been investing in "road hogs," otherwise known as automobiles. One of the best features of the reported new invention is that a patent has been taken out on the process under the name of the United States Government, and it will therefore be safe from monopoly control.

Light in a Dark Place

PROBABLY there have been no two problems on which breeders of dairy cattle have been so prone to disagree as the feeding of heifers previous to their first lactative period and the proper age at which to breed them. Our experimental farms and agricultural colleges have disagreed almost as much as practical farmers, and have had little more to offer us than their guesses and opinions. Of late years the fear of liberal feeding for the heifer calf has been disappearing, and still more recently our college live stock experts have been sounding a note of warning against the prevalent practice of early breeding. Prof. Barton, of Macdonald College, in particular, has conducted some valuable work to demonstrate the error of early breeding. Prof. C. S. Eckles, of Missouri, has now come out with the results of investigations that he has been conducting for several years past. So valuable are his results that Farm and Dairy has reviewed his work fully on page three of this issue, and we recommend a careful perusal of this article to all dairy cattle breeders, be their herds pure bred or grade.

Prof. Eckles seems to have proved conclusively that good feeding is necessary to the best dairy development, but that excessively heavy feeding may injure the milking qualities later in life. On the question of early or late breeding, Prof. Eckles' work seems to leave no grounds for the claim that early breeding, if combined with good feeding, does not stunt the animal's growth. Almost without exception the twenty late bred heifers made the largest animals and the heaviest milkers. From an economic standpoint, the conclusion reached by this investigator calls for good feeding of heifers and freshening of heifers around thirty months, the age varying with different breeds. But read the article and get the whole story.

Bacterial Distribution Through Peat

THE interest that was first aroused in scientific circles a few months ago by Prof. Bottemley's experiments with bacterized peat is now finding its way into practical circles as well. Briefly, Prof. Bottemley's discovery is this—that peat in which bacteria do not ordinarily grow, under his treatment is reduced to a soluble humus, an ideal home for nitrifying bacteria. This peat may be used as a fertilizer, or to inoculate the soil with bacterial nitrogen gatherers.

Bacterized peat may be used for soil improvement in three ways. First, directly as a nitrogen fertilizer; second, to inoculate the soil with nitrogen fixing bacteria, which reduces the nitrogen of the air to plant food; and thirdly, to inoculate the soil with those bacteria which, working in conjunction with legumes, increase the nitrogenous content of soils indirectly through plant growth. If the new process fulfills its early promise, it will afford an easy and convenient way of inoculating soils for legumes, replacing the pure culture and dirt treatment now in use, and the peat bogs of Canada, now worthless, may be a source of untold wealth and do away with

the use of the more expensive nitrate of soda, dried tankage and other commercial nitrogenous fertilizers. Practical experiments with Prof. Bottemley's bacterized peat have not so far been universally successful, but further experimental work will be watched with keen interest.

A New Start in Horse Breeding

CANADA is to have the opportunity for a new start in horse breeding. The Dominion Live Stock Commissioner, Mr. John Bright, in a recent address predicted that many more horses would be required for military purposes before the war is over. This demand for army remounts gives us a chance to clear out horses of a type that we do not want. The demand for the military type of horse, however, will be followed later by a demand for horses in an entirely different class. Europe is now calling for war horses. With the return of peace the European demand will be for breeding stock, and here the European is a discriminating buyer, and for him we must produce the best.

This probable future demand should influence horse breeding operations this spring. It may not be wise to breed extensively. Only the best mates should be chosen and great care exercised in the selection of stallions. If ever the scrub stallion should get the go-by it is now, when the best market of the future will be a discriminating one, and without a place for the inferior animal.

A Crime Against Childhood

THE economic problems of agriculture properly receive first consideration on this page. Occasionally, however, the black injustices of society drive us to protest, even when the subject is in no sense agricultural. And if there is one case of injustice on the statute books of the land that should evoke protest more than another it is that setting the age of consent for women at fourteen years. "Women," so the law calls them. Really the statute is one of the blackest crimes against childhood that could disgrace the annals of any land. To-day there is scarcely any protection in law for a girl from a somewhat careless home after she is fourteen years of age. In theory there is, but in practice the effort is made to break down her reputation, to prove her impure, and thus the culprit, usually a man (?) of mature years, goes free and the child is disgraced.

This is a crying shame and a fastidious disgrace to the people who allow such legislation to disgrace their statute books and be enforced in their courts. Does it show the relative values that we place on human purity and material wealth? A child cannot sign away his or her title to property till the age of twenty-one is reached. The Juvenile Delinquent Act and the Children's Protective Act both make a person under sixteen irresponsible and call them children. But the Criminal Code is little short of senseless in its cruelty when it assumes that a girl can, unaided, the day after she is fourteen, decide the most momentous question of this life—her virtue and her life-long honor. Examples of the terrible results of this barbarous code can be found in every county of every province of our land. Ordinary humanitarianism would dictate that the age of consent should be raised to the age of eighteen, and the agitation for such a change should receive the support of every one who pretends to be a follower of the Man of Nazareth.

"Why are farm products so high in price?" asks a city friend. We would suggest a comparison of costs of production now and a decade ago. But then, it is always easier to complain than honestly investigate.

As an instance of a day in the case of a herd of 230 cows, one of the Holstein bulls was as this calf began grading. When this bull's daughters another bull was \$40.

About ten years ago the grade cows and the last year averaged 8,000 lbs. On four-year and a week was \$15.

The main point in connection with was improved three good but of these had the time of this. These bulls were very common for any man taking the trouble by using the a

Thrift

THE Dominion starting ing occupy of thrift and p The principle of for the individual to be encouraged newspaper articles out Canada, the nation as a to urge them to furnish the cause of the a production of land is to be done the Dominion which, and which to do more than furnish food the benefit of the

A considerable been voted by the advertising to be conducted up of the Department of Finance. The placed with Canada starting King's Printer, each newspaper tial. The adopted as advertising the autumn, and ment in amount that there will politics made in either drew. rather than this agency.

Our Front

OUR front very close that has few years in the past. Indeed, every day that we are in bundles until began to fly, and barn and spruce layers against this. Thus keeping it, we developed it with a hand pointing the corn with and feeding it. It weren't favored

Grading Up the Dairy Head

J. H. Grisdale, Director Experimental Farm, Ottawa

AS an instance of how quickly it is possible to increase the value of a dairy herd, I have in mind the case of a man who began with a herd of common cows, valued at \$36 each, and giving about 2,500 pounds of milk each per year. He purchased from the O.A.C., a pure-bred Holstein bull calf for \$50, and as soon as this calf was ready for service began grading up his herd with him. When this bull became too old, and his daughters came of breeding age, another bull calf was purchased for \$40.

About ten years after the grading process began this man sold his herd. The grade cows brought \$80 a piece, and the last year he owned them they averaged 8,000 pounds of milk each. One four-year-old cow sold for \$100, and a week ago she was resold for \$115.

The main point to keep in mind in connection with this herd is that it was improved by simply purchasing three good bull calves, though the last of these had not been used at the time of the final dispersion sale. These bulls were bought as calves for very nominal figures. It is possible for any man to build up a high producing herd at very little extra cost by using the same method.

Thrift and Production

THE Dominion Government is starting an extensive advertising campaign for the promotion of thrift and production in Canada. The principle of saving and of thrift for the individual male and female, is to be inculcated through a series of newspaper articles published throughout Canada, with a view to putting the nation as a whole in a better position to bear the stress of war and to furnish the stores of war for the cause of the allies. The principle of production of new wealth from the land is to be similarly inculcated, along the lines adopted last year, which tended to produce the record crops and which has enabled Canada to do more than ever before towards furnishing food supplies for export for the benefit of the allies.

A considerable sum of money has been voted by the Cabinet Council for the advertising campaign, which is to be conducted under the joint auspices of the Departments of Agriculture and Finance. The advertisements will be placed with newspapers throughout Canada starting at once, through the King's Printer, who will furnish to each newspaper the necessary material. The same system will be adopted as was adopted in advertising the domestic loan of last autumn, and the Government's statement in announcing the campaign is that there will be no distinction of politics made in placing the advertisements along with the newspapers rather than through any advertising agency.

Our Front Cover

OUR front illustration illustrates very clearly the rapid progress that has been made in the past few years in the handling of our biggest fodder crop. It seems only yesterday that we used to stand our corn in bundles until just before the snow began to fly, and then haul it into the barn and spread it around in thin layers against the sides of the mow, thus keeping it from moulding. Later we developed good winter appetites with a hand power cutting box, mixing the corn with straw, hay or grain and feeding it in this way. Or if we weren't favored with a cutting box,

the corn was fed in the stalk, the coarser material going through to the manure piles, where it increased the labor and taught many of us to swear in teasing out the manure in the spring. Modern equipment, such as shown in the illustration eliminates to a great extent the labor problem, prevents waste of the coarser stalks and makes the handling of the corn more of a pleasure than a task.

The photo taken on the farm of Mr. Robt. McInery, of Erin, Wellington County, has been kindly supplied us by the R. A. Lister Company, of Toronto. In addition to filling his own silo Mr. McInery filled several others for his neighbors during the past year with his complete outfit.

Lending Farm Implements

A Scott Township Farmer, Ontario Co., Ont.

I PRETEND with interest in a recent issue of Farm and Dairy, the letter under the heading, "Is Borrowing a Sin." In reply let me state that I am in exactly the same position myself. I own a hundred-acre farm, have good buildings and a full equipment of the best labor saving implements that money can buy. One of my neighbors has for years used practically every implement I own to work his own farm, and for me to put my foot down and refuse to lend my implements would sever friendship of long years standing.

In my opinion a good solution to this vexed problem of borrowing would be to make a charge for each implement borrowed. By so doing the money received would not only help to pay for the wear and tear of implements, but if the borrower has a sense of feeling and independence, he would naturally take the hint and realize that you did not care to loan your implements. Purchasing the money he pays out for borrowed implements would soon buy him a supply of his own. In some way borrowing cannot be regarded as a sin. Take for instance in harvest time, I have a field of oats dead ripe, if my binder breaks down it is going to be a couple of days before I can get it repaired. Now if my neighbor has nothing ready to cut for a day or so doesn't you think it would be doing a good turn for him to lend me a binder under such conditions. But a neighbor who makes a systematic practice each year of borrowing every implement to work his farm is taking a great advantage, because he is working his farm on other men's capital, for the implements required represent so much capital invested.

Appreciates New Department

DEAR Sir, Farm and Dairy—I wish to tell you that I appreciate very much the weekly visits of Farm and Dairy, and the timely articles on the different phases of this business. Especially though, I am very glad of the new department "Light on Scripture Prophecy," and the adherence to the proper meaning by the writer. The reference to the true meaning of heaven is very timely when this particular portion is so misinterpreted and misused.

As an interested reader of Dr. Haldemann's books for some years past, I am especially thankful to have you recommend and circulate his book. He is one of the very few in the churches who stand for truth by the fall and redemption through the Blood, and I trust his book may have the wide circulation it deserves.—E. R. Diamond, Northumberland Co., Ont.

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It is not a low price that makes a silo worth buying. It is the quality of the silage you will get out of it and the number of years the silo will last.

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OUR FARM HOMES



It is not the events of life, nor its emotions, nor this, nor that experience, but life itself which is good.—Phillips Brooks

When the Sap Runs*

By ANNIE HAMILTON DONNELL

“Do you think it really will do to leave them alone overnight, Perry?”

“For the tenth and last time, yes!” laughed Perry Baxter. “That is, of course, if we do them up in plenty of antiseptic cotton bat—”

“Perry, stop! You’re laughing at your own old father and mother.”

“No such thing. I’m laughing at you, Honey! ‘Clare to gracious, you do baby those dear old souls within an inch of their lives!’”

Soft color crept into Geneva Baxter’s cheeks—crept up to her fair hair, “I baby!” she scorned. “What about you? Who is it won’t let father mail letters on the corner because he’d have to cross the street?”

“Oh, that!” dismissing the charge lightly. “The boulevard is so broad and, besides, Father needs as much exercise as round the block to the post box on Hanover.”

It was into the post box three streets back of Hanover that father usually dropped the letters. Once out of sight of the house of this careful son he pounded briskly away on his cane. Father usually took considerable “exercise.” He came home now from a mailing expedition and sought out Mother in their great sunny room.

“Well,” he demanded. “Well, mother?”

“They’ve about decided to go father!” she whispered excitedly. Mother’s face just now in its soft pink becomingness was lovely.

“We’ll just keep very patient and wait.”

“Very impatient,” he corrected, suddenly kissing her. For fifty years father had been suddenly kissing mother, and she still received the dear onslaught with the shyness of a girl. These two had come a long distance together, always in perfect step.

“I’ll be great, just us two alone!” whispered mother.

“Great! What do you suppose I’ve been hatching up, mother? Mischief! Came to me right in the middle of the night—” It was too late to save himself; he might as well have added the “t.”

“Nahum Nathaniel Baxter, you’ve been crossing streets again! What-ever’d your son Perry say?”

“Sh!” begged the old sinner. “Don’t speak so loud! You’ll get me into trouble. If you do, with sudden inspiration, I shan’t tell you my great idea—Mary Euphemis Baxter!”

In subdued chorus they giggled like children. Curiously a load seemed lifted from father and mother. It was a load of kindness and tender care for mother, you tell me quick that idea!”

“Well, see here—I’ll have to kiss you fair away from your car first, so you can hear—”

“Old lover! Old lover!”

“Old lover yourself! Sh, listen!”

*From Farm and Fireside.

He whispered something in the soft, crumpled shell of mother’s ear, and another uttered a little cry.

“Why! Why, how’d you come to think of such a beautiful thing’s that, Nahum Baxter?”

“Like it, don’t you, Mary Baxter? Well, it came to me right in the middle of Harrison Square, just before I mailed Genevie’s letters, an’ if I didn’t cast drop the whole caboodle!”

“Harrison Square—oh, Father! What would Perry say to you, crossing all of those streets? It pretty near scares me too.”

Father nodded. “That’s because of all the fuss the children’ve made. I guess my eyes are good enough still to see both ways, an’ my ears can hear both ways. While back I just

fully. Oh, the joy of spring in his blessed country when it could be so good here! If here he could pound along like a boy, what could he not do there! He visioned another father in blue overalls, starting out to inspect fences, to see if the sap was running—

Oh, the sap would be running today! That was the thought that came to father in the middle of Harrison Square just before the Big Idea. Then on his heels, the wind of it taking away his breath, came father’s Big Idea. It stopped him like a clutching grip; when he went on again it was hand in hand with it, jubilantly home to mother.

The marriage of Geneva Baxter’s old school friend in a distant city had been for some time a disturbing subject of discussion between Geneva and her husband. Should they go? Should they not go? Ought they to leave father and mother the better part of two days, and worse still, a night?

It was the night that really worried Geneva, although she could scarcely have defined her fears.

“They’re fleshier and bloodier to you than they are to me,” she sighed, finding relief in gentle humor. “I’m only flesh-in-law and blood-in-law. You ought to worry the most, Perry.”

“Oh, I’m doing my part, Honey,” he returned. “I guess when I tell you what I’ve done—Sh! Wait a minute. He rose and closed the door with careful silence. “I’ve hired a night watchman!”

“Perry Baxter!—a what?”

“Well, perhaps a really a night watchman, but someone to happen round three or four times Thursday night and see that everything’s all

right. I—er—thought you’d feel easier.”

“Thought I—” but she got no further for the need of other use of her lips. “You’re a nice boy!” she murmured with her kiss. “I like you if you are funny.”

But they came back at a bound to cheerfulness at the remembrance of the beautiful idea Father had had in the middle of Harrison Square. It grew momentarily more beautiful. They put their old heads together and added splendid details to it gleefully—made it into a thrilling little conspiracy.

“I know just the kettle ‘fl’ use!” conspired mother.

“Lord pull!’I do for me,” father said. “Genevie got any big lard palls, think?”

It was late March. Spring was already afoot and abroad through country lanes and in moist woody nooks. For a week the spring elixir had been in the air even in the city, and father in his walks had breathed it in wist-urest outdoors had surely leaked in.

Neither father nor mother could sit still in their chairs. Or was it something other than the stir of spring in their blood? Was it that other stir down stairs?

“They’re going to start at eight, father.”

“And get back about eight at night next day. I been looking their train up.”

This was a rather threadbare topic, but with repetition. To an old couple, stifled and swathed in mild suffocation in an atmosphere of tranquillity, the respite of two days and a night was an epoch. But there was something deeper than that.

“We’ll have such a beautiful time, father, doing up on any what!” suddenly cried mother.

“I know what!” father responded mysteriously. Here up-stairs, too, the doors had to be closed cautiously. A new station had crept into both faces.

“Father, you been feeling any—different, just lately?”

Oh, yes, he had been feeling—different. “Why, what you mean, mother?” but he knew what she meant.

“Kind—of—different. Something kind of the air, as if you’d got to get out-door and do things. Father, I want to put my old shawl over my head an’ go watch you apade up my panny belt on the sweat-pipe row! It’s spring, father. The time of year we always started in—”

Father was on his feet, pacing the floor. A kind of savageness seized him by the throat and throat and wrung out hot, long-drawn words:

“The city’s no place to have it spring in!” bared father. “It’s wicked to be cooped up when the sap’s running! Look out the window—where ing but houses in rows! Where there’d ought to be trees—sugar maples! What business have you and I got dressed up in Sunday clothes like this with the sap running!”

With soft roo cheeks mother headed him off, though mother felt just that way. Savage unreconciliation caught at mother’s throat too, beneath her Sunday laces.

“Wait—hush, father!” she pleaded.

“You’ve forgot the back yard! You come look out the back window—why, father, remember what we’re going to do to minute the children have gone! You haven’t come and forgot that?”

If he had, it came back to him now quizzingly. He dropped rather heavily into a chair.

And a visible jerk they got themselves together again and sat still, in their Sunday clothes. Mother had quietly drawn the filmy folds of Genevie’s lace draperies across the front windows. She took up her knitting and began to hum as the needles fell. Father stamped his customary whistling accompaniment; they were resolute in their determination to have a great old time when the children were out of the way. But still—there should be something still.

“He it ever so humb—” crooned mother, and stopped. That was the wrong tune.

“Ever so humble. There’s no place for—” Father stopped too. His little trailed out ludicrously. When their two glances met the old people laughed. Father and mother could laugh. But the pitiful hunger for Home, Sweet Home, still in the misty back of their eyes, it was always there.

“Start up something else, mother—American or Bellevue, is it all?” advised father gayly. But the humming and whistling tune was not continued that afternoon.

Early next day the children, with their last Enivias added to the old, tore themselves away. Genevie gave Enivias back from the corner to remind father not to stumble over the loose place in the carpet at the head of the stairs. They had just the time of it, there were only time for Perry to put in some more tacks!

(Continued next week.)



Evergreens Do Much to Add to Winter Attractiveness. Some farm homes have a tendency in winter to look rather bleak and deserted. Not so in this case, however, as the evergreen trees do much to add to the cozy, homelike appearance. The home here illustrated is that of Mr. B. G. Jamby, Ingersoll, Ont.

Photo by an editor of Farm and Dairy.

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THIS WASHER MUST PAY FOR ITSELF

A MAN tried to sell us a horse once. He said it was a fine horse and had nothing the matter with it. I would a lot have, but I didn't know anything about horses and I didn't know the man very well either. So I told him I would like to try the horse for a month. He said 'All right, but on one condition, and that is I'll give you back your money if the horse isn't 'satisfying'.



And I said to myself, how many people will think about this? I'll give you back your money if the horse isn't 'satisfying'... I'll never know, because they wouldn't write and tell me. You see, I will my Washing Machine by wash. I have sold over half a million that way. So, thought I, it is only fair enough to give you my Washing Machine for a month, before they pay for their horse, just as I only pay for my horse.

The Upward Look

Travel Thoughts—No. 25

Our Sabbath.

"We shall keep the Sabbath therefore; for it is holy unto you. Six days may work be done; but in the seventh, is the Sabbath of rest, holy to the Lord."—Ex. 31: 14-15.

Yosemite Valley was almost as grandly beautiful in the depths, as the heights. On all sides the cliffs towered above majestically, always changing in coloring; at times the rocks were just plain grey; in the sunshine, they were gleaming snow; in the moonlight, shining silver; at sunrise, burnished gold; in the shadow, deep-est blue.

This was our church for one Sunday evening service. The minister was that grand old man from New Zealand. The congregation was gathered around a great camp fire. Familiar hymns were chanted most heartily were they sung by that great congregation. Simple, but very helpful was the whole service.

Throughout my long trip I was much impressed with how Sunday was observed on land, on the coast, on the train. Bishop Stringer conducted a ship service, as the boat wound its way between awful forest fires, raging on island mountains. On the train, at anchor time, soldiers gave a sacred concert.

But at this time particularly, a warning note must be sounded, as under the name of recruiting meetings, Red Cross work, Patriotic Funds and so forth, much is allowed that would never have been tolerated before the war.

In deciding the question viewed from so many different standpoints, as to how our Sunday should be spent, it seems to me that the best way to sum up the whole. All that we can conscientiously consider as "Holy unto God, and holy unto ourselves" must be right. That would form a standard to judge by when we decided.

To keep Sunday straight, one should really begin Monday morning, so as to plan work and save strength, that one will not be so exhausted Saturday evening, that Sunday is simply a day of recuperation.

One friend, who had asked another what she thought of writing letters on that day, received the answer: "It is too much like saving week-time." One may even break the Sabbath with too much of God's work, as we can't serve Him best, with worn-out nerves.

Put as much as possible, the weekday out of thoughts and actions. Put into the day that which will increase our knowledge of God, bring us in closer touch with Him, help us in our human life, strengthen us and enable us to begin the new week with fresh courage and strength. It should be a day, happy and joyous, yet sacred and holy.—J.H.N.

Canning

LITTLE Dorothy, whose father owned a canning factory, went to Sunday school for the first time, but soon came to the conclusion that at the top of her voice. "O, daddy, she cried. 'Don't let them do it, will you?' 'Do what, my child?' 'Don't let them can me!' she sobbed. 'Can't you? What do you mean?' 'Why, the teacher said for everybody to sing, 'Can a little child like me, and I ran away 'fore they did it.

PEERLESS ORNAMENTAL FENCING Always Looks Good

Almost any ornamental fence will look good when first put up. It's the years of service that count. These years of service—the future satisfaction rendered by our fencing—has ever formed the goal toward which we are striving. You know that an ornamental fence will beautify your property. You know it will protect it. Peerless Fence is

Made of Good Materials

It is made of open hearth steel wire. This wire has all the impurities burned out and all the toughness left in. It is strong, stiff, well galvanized and given a coating of zinc enamel paint, thus forming the best possible insurance against rust. Peerless Ornamental Fence is made in several styles. All are fully shown in our free catalogue. Agents nearly everywhere. Agents wanted in open territory. The Banwell-Hoxie Wire Fence Co., Ltd., Winnipeg, Man., Hamilton, Ont.



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TARVIA is always cheaper in the long run to bond a macadam road with than water.

Macadam surface, merely roll down a tarvinted macadam and make it smoother. The tarvinted surface is waterproof and frost-proof, and will not ravel when rain torrents sweep down steep hills.

The York County Highway Board, York County, Ontario, built about five miles of Tarvia macadam in 1915 and found it two cents a square yard cheaper than waterbound macadam cost them in 1914.

There are three kinds of Tarvia. "Tarvia-A" is very heavy and dense, used as a binder in road building as in this instance, and the most thorough and permanent of the Tarvia treatments.

Tarvia Preserves Roads Prevents Dust

Such figures are not unfamiliar. The Tarvia displaces a certain amount of stone and reduces the amount of rolling required. The excessive use of water, often difficult to provide, is done away with. The Tarvia often makes possible the use of cheaper stone which may not make a good road by itself but will give excellent results when there is a Tarvia matrix to prevent internal attrition.

"Tarvia-B," which is lighter grade, is used for dust surfacing applications. "Tarvia-C," which is built enough to be applied cold with modern spraying apparatus, is for dust prevention and road preservation.

In addition to the five miles of "Tarvia-A" mentioned above, the York County Highway Board in 1914 coated six and one-half miles of the Kingston Road with "Tarvis-ir." This is one of the best roads leading out of the city.

Booklet on request. Address our nearest office.

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Kennedy Road, Scarborough Township, York County, Ontario. Tarvia filled Macadam

Some Predictions on Spring Styles

Farm and Dairy patterns shown in these columns are especially prepared for Farm and Dairy's Women Folk. They can be reproduced as the latest models and include the most modern features of the paper pattern. When sending Farm and Dairy your order please be careful to state belt or waist measure for adults, age for children and the number of pattern desired. Price of all patterns to Our Folks, 10c each. Address all orders to Pattern Dept., Farm and Dairy, Peterboro, Ont.



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Send for our Free 1918 Book of "QUALITY LINE" Vehicles and Harness. This pair of Selling DIRECT to the USER. Our Catalogue will help you to choose just the vehicle and harness you require and save you money. It describes and pictures many styles, gives prices, freight prepaid, and fully explains our method of Selling Direct and saving you the Middleman's profit. Remember, we pay the freight to Ontario and Eastern Canada. The Catalogue is Free for the asking. Send for it to-day.

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Here is a partial list of our Easter Bargains. Write today and secure the one you want or fill in coupon and mail it to us for complete list of bargains in the kind of instrument you want. Every instrument is guaranteed—you take no chances. Write to-day or it will be too late.

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3 SAMPLE BARGAINS IN ORGANS.

- KARN five-octave organ, in oil finished walnut case, high top with music pocket, cylinder fallboard, lamp stands; has 7 stops, including Vox Humana, Forte, Diapason, etc. Grand organ and knee swell. In perfect condition and a snap at \$35
- DOMINION six-octave organ, walnut case with imitation pine top; has sliding fallboard, 11 stops, including Vox Humana, Couplers, Diapason, Maledia, etc. Grand organ and knee swell. A sweet toned instrument, very suitable for a small church. Special at \$49
- BELL seven-octave organ, plain case model, rose and finish; has 11 top with mirror, sliding fallboard, three pedals in top door, lamp stands; has 11 stops, including Klara and Treble Couplers, Vox Humana, Forte, Diapason, etc. Grand organ and knee swell. A seven-octave organ is out of the ordinary, and any kind of music can be played on an instrument of this description. The tone is very rich, and the organ is in perfect condition. Is a genuine snap at \$82

SQUARE PIANO BARGAINS.

JENNY & SON, New York, square piano, rosewood case, octagon legs, harp scale, six-octave keyboard. This instrument is in perfect order and has a very sweet tone, and would make a fine little practice piano. A special bargain at \$52

MILLER BROS., New York, square piano, dark rosewood case, hand-some carved legs, full metal frame with long over-string scale, seven-octave keyboard, two pedals; has been carefully overhauled and renewed in every part, both inside and out, in our own factory. The tone is very rich, and this instrument is a snap at \$89

ONE SPECIAL PLAYER-PIANO BARGAIN.

AUTO-PIANO, New York, player-piano, in handsome dark mahogany case, over-string scale, plays 48-note music and has up-to-date player-piano equipment. The case design is plain but artistic, and this piano has an elegant tone. Regular price, \$150. Special bargain at \$450

We include \$10 worth of player music and bench free of charge.

PAY A LITTLE AT A TIME.

Pay a few dollars now, then just a few dollars a month.

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NEW SHOMER, Boston, cabinet grand upright piano, in polished mahogany case, colonial design, Boston fallboard, automatic full length music desk; has full metal frame with bushed tuning pins, over-string scale, board 3 pedals. This is a simple instrument, and has been carefully tested in our carpets. The tone is rich and sonorous, and this piano will give splendid satisfaction. Regular \$125. Special at \$125

HEINTZMAN & CO. cabinet grand upright piano, in handsome polished rosewood case, folding fallboard, 3 pedals in top door with centre swing music desk, long over-string, tri-chord scale, 7 1/2 octave keyboard. Has been carefully renewed in every part in our own factory, and is practically as good as new. Has genuine Heintzman tone and touch and is offered special at \$285

MAIL THIS COUPON

Heintzman & Co., Ltd. Please mail me complete list of bargains in I saw your ad. in Farm and Dairy, March 23.

Name Address

ALREADY spring fashions are taking a very prominent place in our store windows, and when hats, suits and dress goods commencing to be featured exclusively, it certainly gives us the impression that spring is coming. Because of the scarcity of fashions, it is predicted that light colors will be predominant during the coming season, white of course being the leader. Deep tones will also be popular. The suggestion has come to us that a pretty combination may be achieved in blending blue with cream, white or pale grey, the color next becoming to be placed next the face. A charming frock could be made up from such a blending of colors.

Short sleeves are coming into their own again and we should welcome this fact with delight, as nothing is quite so comfortable on a hot summer's day as short sleeves and low neck. The waist with the convertible collar still remains quite popular. The great width spreading the bottom of the skirt seems to be creeping up around the hips this spring. Hip drapes are quite becoming to slim figures.

198—Girls' Dress. This charming little frock has an air of shabby about it, and yet is stylish in effect. The plaid material is used for the belt, cuffs, and may be used on collar, making the revers at the shoulder. The pockets are military in effect. The belt is finished with a little buckle and buckles are very fashionable this season. Four sizes: 8, 10, 12 and 14 years.

1979—Costume for Misses and Small Women. For the dainty dress, to be worn only on special occasions, some of Our Women Folk should catch a suggestion in the frock here illustrated. It may be made person with quite low neck, or if for an older person, the high neck, as seen in the small design, may be used. Three sizes: 16, 18 and 20 years.

1971—Ladies' Apron. Now is the time, before the rush of sewing sets in, to get all the spring sewing done. If you are looking for an apron pattern, why not

try the one here shown? It is almost a complete cover-all design, having wide sleeves, which ensure comfort, and pockets which are very convenient.

Three sizes: 16, 18 and 20 years.

1871—Girls' Dress. This would make a nice little spring dress for any young girl. The skirt is laid in box pleats and the waist has the over-shoulder effect. If desired, a variety of tissues might be worn with this dress, which is quite a commendable feature. The trimming also shows up nicely on this model. Five sizes: 4, 6, 8, 10 and 12 years.

188—Ladies' House Dress. A dress that can be slipped on and off in a hurry, is the kind most popular with all housewives. This model should therefore appeal to many. It is very simply made, and yet is attractive in appearance. As will be noted by the small view, the right front fastens over the left quite deeply. Six sizes: 34 to 44 inches bust measure.

188—Ladies' Dressing or House Sack. A neat sack, such as is here illustrated, is quite an acceptable addition to any wardrobe, if coming in useful on many occasions. It may be trimmed in either of two ways, as suggested by the large and small models. Cut in six sizes: 32 to 42 inches bust measure.

1420-1421—Ladies' Costumes. The model shown here will appeal to the fleshy person, as it comes in sizes up to 48 bust measure. It is very plain in design and should thus have a tendency to reduce a stout appearance. This model calls for two patterns, one for each. The waist is cut in sizes from 36 to 48 inches bust measure, and the skirt in sizes 44 to 54 inches waist measure.

Our new Spring and Summer Catalogue is now ready for distribution. This catalogue contains over 400 designs of Ladies', Misses' and Children's patterns, as well as embroidery designs. An extra 10 cents enclosed with your pattern order will take the catalogue to your home.

Light

Daniel is "Darius" which is...

It is the elder of Daniel, been written verse it carries here, the same change of vision of 70 weeks, at the of Jerusalem, ed, would be Sixty-two weeks (Christ's) would 69 of the 70 does not meet week, and it h the missing w Interpretation tion "70 we translation in evens might weeks of year the "Quintan tem of interpre exactly seven years) after t rebuilt Jerusa second change was rebuilt in dicted. Sixty years) Christ Jews as their as predicted, days later wa dicta another This was fulf der Titus in A Daniel was Jews. It clearly that Christ there during which an opportunity Luke 21:24. A Romans 11:25) the Gentiles" that the Jews to Jerusalem a state of unbeginning of the vision, Daniel) here, will be ble, (Jer. 30:4) arise. There w events foret of Me many stroi These events t

The Ru What is the n 6:27

It is believ the age God t for His name, who accept Ch Him over the 5:6-10. W

Making P Mrs. S. Nell

THE seedm coming a they mak will be her future, even the conditions appy. Now is study these ca election in's t needs will people who son three weeks ag for seed firm attend to these

Light on Scriptural Prophecy

Daniel's Missing Week.

WHAT is meant by the expression "Daniel's Missing Week," and where is the passage found?

It is the 23rd verse of the 9th chapter of Daniel. As many volumes have been written on the meaning of this verse it cannot be dealt with adequately here. In verses 20 to 27 in the same chapter Daniel describes a vision of 70 weeks he had received. This vision is divided into three periods. The first is a period of seven weeks, at the close of which the city of Jerusalem, which was then destroyed, would be rebuilt in troublous times. Sixty-two weeks later the Messiah (Christ) would be cut off. This makes 69 of the 70 weeks. The prophecy does not mention definitely the 70th week, and it has been called, therefore, the missing week.

Interpreters are agreed that the translation "70 weeks" is faulty, the correct translation is "70 sevens". These sevens might be weeks of days or weeks of years. According to both the "Futurist" and "Historical" systems of interpretation it is shown that exactly seven sevens of years (49 years) after the decree was issued to rebuild Jerusalem, as described in the second chapter of Nehemiah, the city was rebuilt in troublous times as predicted. Sixty-two sevens later (434 years) Christ offered himself to the Jews as their Messiah in Jerusalem, as predicted, was rejected and a few days later was crucified. Verse 26 predicts another destruction of Jerusalem. This was fulfilled by the Romans under Titus in A.D. 70.

Daniel was consumed only with what should happen to his own people the Jews. Therefore, he did not see clearly that after the Jews rejected Christ there would be a long period during which the Gentiles would have an opportunity to accept Christ. (Eve Luke 21:24, Acts 13:44-45, Acts 18:5-6, Romans 11:35). When the "Times of the Gentiles" are fulfilled it is held that the Jews will once more return to Jerusalem (Note Acts 16:13-17) in a state of unbelief. This will mark the beginning of the 70th week of Daniel's vision, (Daniel 9:37). This, it is believed, will be the time of Jacob's trouble, (Jer. 30:4-7). The Antichrist will arise, there will be a fearful persecution of the Jews and many of the events foretold by Christ in the 34th chapter of Matthew will take place. Many Bible students are expecting these events to take place soon.

The Rule of the Saints.

What is the meaning of 1 Corinthians 6:2?

It is believed by many that during this age God is calling out a people for His name, (Acts 15:14). Those who accept Christ now will rule with Him over the millennial earth during the millennium. (Note Daniel 7:9-10. Rev. 5:6-10. Rev. 20:4.)

Making Preparations Early

Mrs. S. Neill, Renfrew Co., Ont.

THese seedmen's catalogues are now coming along thick and fast, and they make us feel that spring will be here in the not very distant future, even though present weather conditions appear rather contradictory. Now is the time, however, to study these catalogues, and make a selection of the garden and flower seeds we will need. I know of some people who sent their orders at least three weeks ago. They are wise, too, for seed firms will be in a position to attend to these early orders to much

better advantage than later on when they are rushed.

I am a firm believer in a good vegetable garden on the farm. It enables us to prepare meals of an appealing character, and lends variety to the ordinary routine meals of meat and potatoes. It is a well known fact also that lots of vegetables are much more healthy food in hot weather than meat.

Where to have the garden site is an important point. If the men-folk are in a position to look after the garden, I consider the root field a good place for it, as good ground receives a lot of cultivation, and it is little trouble to cultivate the garden along with the roots. Of course a difficulty arises here of getting the vegetables from the garden at dinner time. If I think that I will not have time to go to the garden myself, however, one of the children makes the trip for me before going to school. I am quite in favor of having the garden plot near the house, if possible, providing the land is suitable, and it receives the attention it should.

Everyone likes to have vegetables as early as possible, and I am thinking of trying out some hotbeds this spring for growing lettuce, radishes, parsley, etc. I recently read of a method for making hotbeds without glass, and probably there are others like myself who would like to try it out. This is the way they are made:

Prepare the beds in the usual way. If you have not old sash of the proper size, make light wooden frames, and nail projecting strips upon all four sides to be fitted over hotbed frame in the order of a box lid. Then nail a few narrow slats across for support. Over this tack new, unbleached muslin. Use plenty of tacks and stretch the muslin as tightly as possible. Then apply a coat of melted paraffine to the entire surface. The brush used for the purpose must be dipped in boiling water before the work begins. When there is a prospect of a heavy snowfall, an armful of fodder thrown over the sash will prevent any danger of sagging of the muslin. These frames are cheaper and much lighter than glass ones, and can be stored in summer without danger of breakage.

I am a lover of a good flower garden also, and had intended saying something along this line, but my letter is already lengthy, so will save it for another time.

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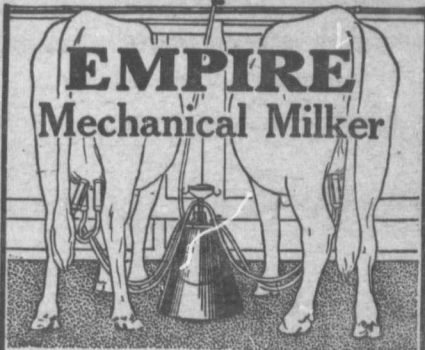
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The Makers' Corner

Butter and Cheese Makers are invited to send contributions to this department, to ask questions on matters relating to cheese making, and to suggest subjects for discussion.

The Small Sized Cheese

Wilfred Sadler, B.S.A., Macdonald College, Que.

ONE reason why the householder and the hotel keeper is not a more enthusiastic buyer of cheese is because of the impracticability of dealing with a large quantity at a time. On the other hand if a small portion be purchased the extent of cheese surface exposed to the air tends towards drying, and deterioration of flavor and general quality. This can be overcome by the adaptation of modern methods in the direction of the manufacture of small cheeses. The chief difficulty hitherto experienced has been that practically all attempts to reproduce in miniature such cheeses as Cheddar, Goshire or Leicester have resulted in a cheese having a thick rind, this causing much waste at cutting up, and further, one which fails to ripen properly, due to the fact that it dried up and became hard and chalky in texture with little or no flavor.

That there is not only an opening, but a demand for a cheese of small size in Canada is acknowledged; for in the December issue of the Agricultural Gazette, Mr. Barr, of the Dairy Division, describes experiments conducted at the Vineland Station in Ontario. These experiments have been successful and the cheese produced, one pound in weight, is being retailed at 35 cents each.

The attention required for small cheese making are in general those common in a cheese-making dairy or factory; but if such used to be purchased it may be taken as a fair average that the initial outlay is about \$10 per cow. When small quantities of the cheese are to be made, the whole outfit can be purchased for \$50; and if large quantities are to be manufactured the only additional expense entailed is that of a larger sized vat.

Making the Cheese.

In the making of this, as in all varieties of cheese a fundamental essential is clean, wholesome milk, free from taint. Starter is added at the rate of one per cent. The cheese may be made either white or coloured, and if the latter, one dram of annatto to four or five gallons of milk gives a suitable color. The temperature of the milk is now raised to 84° F. and the amount of acidity determined by means of the rennet test, a test which for milk at rennetting is much more satisfactory, and one which gives much more uniform results than the sediment test. When the temperature and the proportion of acidity are satisfactory, the rennet is added at the rate of one dram to 2 1/2 gallons of milk, 2 1/2 oss. to 1,000 lbs. milk, or such amount that coagulation is completed in 40 to 46 minutes. For the cutting of the coagulum ordinary curd knives are used, vertical and horizontal, the blades of the former being 3-8 inch apart, and those of the latter 1-2 inch apart. The coagulum is cut lengthwise and across in such a way that it will leave the sections of curd 1-2 inch by 1-4 inch. The particles of curd are gently loosened with the hand, and this is continued for 10 minutes or 60.

After having remained for a few minutes in the whey, the curd is subjected to the process of heating, cooking or scalding. This procedure should take some 30 minutes, the curd meanwhile being stirred until a final temperature of 90° F. is reached.



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Stirring is still continued until a suitable firmness of the curd is apparent and the particles are then allowed to remain lying in the whey for some 20 to 30 minutes. When the sediment test shows 15 to 18 per cent acidity, the whey is drawn off, the curd cut into 4 inch cubes, piled, covered up with cloths and left for 15 minutes. Again the curd is cut into similar cubes, piled in beds, and each cube broken into halves; this assists in the getting rid of the whey, and has considerable influence on the "clean" texture so much desired in the final product. The curd is again covered up and left for 15 to 20 minutes. Grinding is the next operation and is usually possible about one hour after the drawing of the whey. The acidimeter test should show about 5 per cent acidity.

The curd at this stage is soft and tender to the touch, and it should break "softly" rather than have any tendency to toughness. It is ground to a fine state, salt added at the rate of one ounce to three pounds curd, and put into the moulds at once. The moulds are made of well-laminated metal, four inches in height, diameter three and one-half inches; the bottom of the mould is closed except for a hole in the centre one and one-half inch diameter; a loose tin-follower is used in the bottom, and a wooden follower one inch thick is needed to cover the curd at the top. The weight of curd obtained varies with the season of the year, but averages 1.14 to 1.13 lbs. per gallon of milk.

Immediately the moulds are filled, they are put under the press and left for two hours with just the dead weight of the press applied.

From the time of adding the rennet to the grinding of the curd the whole process has occupied as a rule, not more than 3 1/2 hours. After being pressed as stated for two hours, the pressure is released, the cheeses are taken out and turned, and again pressed for a further two hours, this time a little additional weight being added. The pressure may now be finally released. The cheeses are allowed to remain in the moulds during the night and through the following day. They are then smoothed up with a palette knife and bandaged with calico and paste; if more convenient they may be smoothed up and paraffined. They are removed to the ripening room, and in this connection I may say that we have obtained good results when the cheeses are required to mature in say 10 days time by using a ripening room at a higher temperature than is commonly in vogue; as high a temperature as 60 to 66 degrees having given satisfaction. Of course, if the cheese need to be kept for a longer period they must be moved after the first few days to a cool or cold room. Usually slightly more than one pound ripen-able is obtained per gallon of milk, and for trade purposes it is recommended that these small cheeses be wrapped in tinfoil.

The cheese is complete; the method of manufacture is not widely at variance with the methods already adopted; the utensils required are such as are commonly in use in any up-to-date cheese factory; and the skill required is such that a trained cheese-maker can, with comparative ease, adapt himself.

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FEEDERS CORNER

Oil Cake Meal

Is oil cake meal made from flaxseed? (2) What is the difference between old and new process oil cake? (3) What is the difference between oil cake and linseed meal? (4) Do the terms flaxseed meal and oil cake meal mean the same as oil cake and linseed meal? (5) Which five grades of cattle, cottonseed or oil cake? (6) Would the cake, cottonseed meal and gluten meal in the right proportions form a balanced ration for Holstein cows? If so, what proportions? (7) What form of flaxseed is the best to feed to horses?—M. W., Hastings Co., Ont.

Yes, oil cake is made from flaxseed. It is flaxseed submitted to certain processes and the oil thereby extracted. Old process linseed meal or oil cake, whichever you desire to call it, results when the oil is extracted under immense pressure in hydraulic presses. The new process oil meal is crushed to 160 degrees F., as in the production of old process meal. The crushed mass while warm is placed in large vertical cylinders or percolators and the oil is removed by pouring naphtha over the mass and allowing it to drain out at the bottom of the cylinders. This naphtha dissolves the oil from the ground flaxseed, the process being repeated until nearly all the oil is extracted. After this has been accomplished steam is let into the percolator and the naphtha that did not drain off is gradually driven out of the mass as vapor. The old process oil meal is preferred by the feeder as it tests a little higher in protein, has almost three times as much fat, but is somewhat poorer in digestible carbohydrates.

Oil cake and linseed meal are different terms for the same product, the cake in the first case, properly speaking, being unground. Flaxseed meal, however, is simply the ground flaxseed with some of the oil extracted. It is not as rich in protein as the oil cake meal, but has 25 per cent. of digestible fat.

Oil cake meal is a splendid regulator, and very beneficial in its effect on the digestive system. Cottonseed, on the other hand, must be fed very carefully, cattle being started on it gradually and many feeders do not consider it advisable to ever feed more than three pounds of cottonseed to a milk cow of ordinary producing ability.

Oil cake, cottonseed and gluten meal are all very rich in protein, and for this reason they could not be compounded to form a balanced ration for milk cows. It would be necessary to combine them with grains that are lighter and also richer in carbohydrates and fats. For instance, bran would have a lightening effect on the ration, and corn meal would tend to balance the excess of protein. Most feeders do not care to make either oil meal or cottonseed meal more than one-third of the ration. Gluten meal can be fed in larger proportions. A ration that has given excellent success on many dairy farms is composed of one-third bran, one-third corn meal and one-third oil cake or cottonseed.

Flaxseed meal is frequently used by horsemen to feed horses for sale. Horses so fed look exceedingly sleek and plump, but they are very soft and can stand neither hard work nor hard driving. A little flaxseed in the ration occasionally has beneficial medicinal effects; a handful or two in a bran mash.



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Milton, March 29.—We have had splendid shipping all the month, which has resulted, however, in a lot of stock remaining here. Auction sales are very numerous, many farmers are selling out and entering T. F. Chisholm, who has recently taken out a license, has conducted several successful sales. Hogs and cattle both command a very high price, but wheat has dropped very rapidly. "Hudson Junior Farmers" held a very successful annual meeting in the Farmers' Club Room on March 18—A. Mason.

WELLINGTON CO., ONT.
QUEBEC, March 29.—We are now troubled with snow drifts on the roads for the first time this winter. Our Farmers' Club has been a decided success this winter, from a social, literary and financial standpoint. At our last meeting we handed in orders for over \$500.00 worth of twine, cover and grass seeds, all orders which were very satisfactory to the members. We appreciate the interest Farm and Dairy is taking in Farmers' organization work.—C. S. N.

WATERLOO CO., ONT.
WATERLOO, March 29.—The weather is providing real winter weather for us. Shipping is good. Indications point to a late spring, so it up to us to take thorough preparation for the spring rush. Seed grain and stock are being treated for smut, if necessary. Hogs have reached a high-water mark, \$11.00 to \$12.00. Cattle are doing well and very few are being slaughtered at present. Poultry is plentiful in most cases, so it pays to feed a little longer. The hog raising districts are empty this year. Hens are 11c to 12 1/2 per egg, 25c to 32c per doz., and butter 13c per lb. Prices lower in some cases since the recoubling of eggs after the recent farm hands.—C. H. S.

GREY CO., ONT.
THORNHURST, Mar. 27.—We have had very stormy, cold weather since March 25th and to-day is the coldest we have had. Hoods have been blown in different places. Butter is 10c; eggs, 12c; corn, \$1.00 a cov. The winter carnival held in our rink recently was a great success. The annual meeting of the Citizens of Clarkson and Thornhurst in the interests of the Women's Institute took place. The sum of \$18.48 was cleared by your up. Up to the present, the women have knit 1,388 socks.—Mrs. C. P.

ALBERTA

CALGARY, March 23.—Spring operations on the land have commenced in certain sections of Southern Alberta. The heaviest coat of Lethbridge, on the Western Slope of the C. P. R., are also southeast of that city, farmers have been plowing and harrowing this week. That southeastern part of the Province, however, is the only district which can be said to have really commenced the preliminary work of the crop season. If the favorable weather of the past week continues to prevail in the south country, plowing and sowing should be general over all the area extending as far north as the main line of the C. P. R. by the beginning of next week. This does not apply to the more northerly parts of Alberta as to Saskatchewan or Manitoba, where the snow still covers the ground to a considerable depth.

THE SALE AT CHESTERTVILLE, APRIL 5.

In addition to backing of the best blood among Holsteins an outstanding feature of the Allison herd is the fact that every mature animal in the herd has been tuberculin tested and there has never been a re-actor. This point alone is well worth every breeder keeping in mind when he is about to buy females.
These few sale of the Allison Farm is not a dispersion sale by any means, and yet some of the best breeding stock in their herd of 180 head will go under the hammer. All the cows are working into a big herd of the daughters of Sir Lyon Segis. To do this, it has been found necessary to cull the less mature stock in the herd. These females are the dams of a great many young females that will be considered as the foundation of the big herd. Practically all the offspring will be secured on April 5 to Sir Lyon Segis, so that Holstein buyers have an opportunity in this way to secure sons and daughters from the daughters of this sire will be given every opportunity to see this worth of their breeding and will thus add to the value of those sons and daughters of the dams that may be secured on April 5. Of the 88 females offered, 23 of them will have R. O. M. backing ranging from 17 to 37 1/2 lbs. /butter in seven days. Thirteen of these go over the 20 lbs. A sire from any one of them by Sir Lyon

Segis would be worthy to head most herds.

These females include Brookside Segis Kennedy, 27.3 lbs. milk and 25.7 lbs. butter. Another attractive one is Jean P. De Kol, with 21.0 lbs. butter and a milk coat of 45 per cent. One of the strongest features of the entire Allison herd is the high head of the cows being offered, and also of the tested daughters offered in Nova Netherlands, 47.3 lbs. milk and 25.7 lbs. butter two months after having calved. Another good heifer, another good heifer, has given over 80 lbs. milk a day, with 24.5 lbs. butter in the week. Quara 4th has also gone over the week. Quara 4th has also gone over the week. In a day and made 21.3 lbs. butter six months after calving. Her milk reach the 20 lb. mark. In addition to the females, there will be about one dozen splendid young sires from one to seven months, all bred by Sir Lyon Segis. It is worth while to look up this fellow's pedigree. Ella Sam, Betty Lyon Segis, made a 22.8 lb. record as a senior two-year-old and testing 2.92 fat. On the sire's side he is a son of King Pieter, who has 17 tested daughters that average at 23 months 12.15 lbs. butter in seven days. The sire of King Pieter is the great King Segis, who has 45 of with records of daughters, eight of them tested. The sire of King Segis is the Allison Stock Farm for the past 8 years and has now about 40 daughters. Three of the first to freshen have already made an average of over 20 lbs. milk in seven days as two-year-olds. When such stock should not fall to be on hand. Send Segis a catalogue and look up the exact breeding of what is offered you.

A TWO-YEAR-OLD RECORD.
Eddie, Farm and Dairy—I am advised through preliminary report and by who that the Holstein-Primdon heifer, number Korvalds Pterje 592948 has broken the record for fat production in the Junior two-year class of the 7-day division by producing in seven consecutive days 423 lbs. milk containing slightly over 22 lbs. fat. She freshened at the age of 2 years, 23 days. Her sire is Hag Apple Kennedy 5th 75418; her dam is Calava Feterie 2185. She was bred by Mr. E. H. Dohr of Heuvelen, N. Y., and she is in the custody of Mr. Oliver Cabana, Jr., Illinois owned by Mr. J. H. and Mrs. J. H. Coester, N. Y. In the Junior two-year class of the 7-day division she doubles Jersey and Holstein Segis 229750, whose record for seven days is 400 lbs. milk containing 22.98 lbs. fat. If carried on the 88 per cent. basis the equivalent test would credit to Pterje 423 lbs. milk and 22.75 lbs. fat.
M. A. L. GARDNER,
Supt. A. E. DeKoven, Wis.



SALE OF HOLSTENS
at Winchester, Ont., April 12th

Having decided to go out of the dairy business, our entire herd of 80 head of Holsteins will be sold WITHOUT RESERVE. Remember that this herd is headed by Count Pontiac Clothilde, a son of King Pontiac Arts Canada, and a 23-lb. four-year-old. Head your herd with this blood and the breed, say they are second to none. Make a point of being there with for our illustrated catalogue and note our offerings.

EDW. BAKER & SONS WINCHESTER, ONT.
THOS. IRVING, Auctioneer.

AVONDALE HOLSTEIN BULLS

SIX BULLS 8 to 12 months from high record dams and sired by our KING PONTIAC and PIETJE (35.00 lb. dam) bulls. We are offering our calves to make room for our new arrivals, and are selling last. Several younger ones from dams with 27 to 37 lbs.—two sired by MAY ECHO RYLVIA'S GREAT SON. No females for sale until APRIL 5th. Address—

H. LYNN, Avondale Farm, R.R. No. 3, BROCKVILLE, Ont.

Elmest Holstein Friesians

Offers a young bull calf, born Feb. 8, 1916, dam Johanna Netherland Heas Bull, with 182.4 lbs. milk one day, 629.3 lbs. in 7 days, 23.2 lbs. butter. Also bull one daughter with 23.2 and one with 22.2, also some splendid females. Could also spare a few cows of good Lucerne. Phone or write

W. H. CHERRY BELL PHONE, HAVERSVILLE, ONT.

BRAESIDE STOCK FARM

Offers for immediate sale a number of Granddaughters of Pontiac Kennedy, bred to a Grandson of the great E. Segis. To freshen in two Canadian Champloux, Dam has 34.12 lbs. record. Price easy if sold at once.
M.C.R. Railroad, Waterford. T.H. & B. Railroad, Sostland.
CHAS. HAVILAND & SON, 411, Waterford, Wiltshire, Ont.

50 HEAD
HOLSTENS
33 FEMALES
Record Makers
AND
Record Breakers
The Allison Sale, Chesterville
Head Your Herd With the Blood of Kings

SIR LYONS SEGIS, A GD. son of KING SEGIS and SIR RIVERDALE ECHO LYONS, a son of the great MAY ECHO VERBELLE, head the herd at Allison Farm. She made a record of 104 lbs. milk 1 day, 762.00 lbs. daily, and yearly record of over 21,000 lbs. We are offering record females in full to these great sires.

15 Young Sires
The fifteen young bulls from one to fifteen months old are sons of SIR LYONS SEGIS. If it's quality and blood production you are looking for, select your next herd sire from these.

20 Females
Of the thirty-three females offered, 19 have official R. O. M. records ranging from 17 lbs. to 27.7 lbs. butter in seven days. All are bred or in calf to our two great sires. These are the best distance kind and are capable of rolling up the records in either the R. O. M. or R. O. P.

13 Females
Out of the thirty-three offered have R. O. M. records over 20 lbs., averaging 22.2 lbs. for seven days. A few thrown by one of these cows would be worthy to head any herd in the Dominion.

All the mature cattle have been tuberculin tested, insuring you of an offering absolutely healthy. The bio of KING SEGIS and MAY ECHO is behind the Allison herd, a combination that has seldom been equalled and never surpassed. Every animal offered will be entirely at your own price. There will be no reserve after an animal enters the ring. Visit the ALLISON STOCK FARM on April 5. Even though you do not buy, you will be none the less welcome and you are sure to be interested and informed by a visit to our big herd of 160 head.

ALLISON STOCK FARM, Chesterville, Ont.
THOS. IRVING, Auctioneer

The Farmer's Life Insurance



FARMERS are profound believers in fire insurance, and well they might be, removed, as most of them are, far from fire fighting facilities.

The farmer is careful to insure his barn, his house, his grain and his livestock. Yet the most valuable thing of all, his own life, he often leaves uninsured.

A farmer aged 40, in good health, and able to produce only \$1,000 annually from his farm is worth at least \$10,000 to his family if this sum earned 3½%.

In the event of the farmer's death his thought and labour must be replaced by hired help. This would require money. Insurance would provide the money.

Perhaps a mortgage burdens the mind of the farmer and his wife. If so, a policy should be taken for the amount of the debt. If the husband dies, the policy would prevent foreclosure.

Every farm in Canada should be mutualized.

— Every farm mutualized?

The Mutual Life
Assurance Company of Canada
Waterloo, Ontario

APRIL SPECIAL DAIRY ISSUE

6th

Make sure that your strongest copy goes through to our 22,000 readers in this big issue—the best we've yet produced. To insure being in it send your copy along now. Remember, our new printing arrangements make it necessary that all copy be in our hands no later than Friday previous to date of issue. Write

Advertising Dept., FARM & DAIRY, Peterboro, Ont.



Homeseekers Excursions

Every Tuesday, March to October
"All Rail"

Every Wednesday During Season Navigation
"Great Lakes Route"

Somewhere out on the prairies where last year Canada's Greatest Wheat Crop was produced there is a home waiting for you. The

CANADIAN PACIFIC

will take you there, give you all the information about the best places, and help you to success. " " " " " " " "



Particulars from any Canadian Pacific Ticket Agent, or write W. B. Howard, District Passenger Agent, Toronto.

OUR CELEBRATED Real Live Premiums

We have lately made arrangements with a progressive Holstein breeder by which he is to supply us with

Two Pure Bred Holstein Bull Calves

This breeder has, during the past few years, supplied us with most of the pure-bred calves which have been so popular with our subscribers to whom we gave them free for clubs of subscribers to Farm and Dairy. They are big, strong type fellows of good breeding, and are from high producing cows. Their breeding is guaranteed, and pedigreed papers will be furnished with each one.

Do
You
Want
One
Like
Him



He
Will
Grow
Into a
Money
Maker

This is an opportunity for you to get a start as a breeder of pure-bred live stock. To become a breeder will add zest to all your farming operations. The best farmers keep pure-bred live stock. If you want to become one of the leading farmers in your district you must get into pure live stock breeding. You will find it intensely interesting and profitable as well. Begin by winning one of these excellent calves. You can secure one by sending us a club of

TWENTY-FIVE NEW SUBSCRIBERS TO FARM & DAIRY

at \$1.00 each. Write to-day for full information, literature and supplies. You will be surprised to find how easy it is to win one of these calves.

We have also made arrangements with several well known breeders to supply us with



Pure Bred Pigs

We can supply you with a pure-bred pig of any breed for only a few hours' work. Do you want to secure one of these popular premiums? If so, just pick out the breed you want and write for full particulars. We shall be delighted to send you full information and supplies with which to secure the small club of subscribers necessary. As soon as you send the subscriptions to us we will order your pig from a reliable breeder, who will ship direct to you, sending the pedigree papers. Within a very few months you will have a full grown, pure-bred pig that will be the envy of all your neighbors. He will soon become A SOURCE OF CONSTANT REVENUE.

Scores of our boy readers have secured pigs from us, and the letters which they write indicate to us how popular these Premiums are. Here is what one of them says: "Just a line to let you know that I received my pure-bred Berkshire Sow, and that I am well pleased with her. She is indeed an excellent pig." Another writes: "I am well pleased with the pig, and am sure that he is getting along well. Those who have seen him say he is a dandy, and wish they had one like him." For only

NINE NEW SUBSCRIBERS TO FARM & DAIRY



we will send a pure-bred pig, either sex, and of any of the common breeds. Write to-day for full particulars.

CIRCULATION DEPARTMENT

Farm & Dairy

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