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VOL. XXXII.

NUMBER 13

FARM AND DAIRY

RURAL HOME

PETERBORO, ONT.

MARCH 27

1913



BALMY DAYS OF SUNSHINE PROMISE THE NEAR APPROACH OF ANOTHER SEED TIME

Happy is the man who facilitates spring operations by a little forethought now. Take small grains, for instance. Every day that seeding is delayed means that much of a decrease in the yield. At the same time the soil must be thoroughly well prepared, as the state of the seed bed is just as important a factor in securing large yields as is early seeding. Both of these requirements to large production may be secured by getting ready for the spring rush now—seed on hand, implements in repair and, of more importance yet, new wide working implements to take the place of the old ones. Mr. Geo. Birsett, Huron Co., Ont., who may be seen in the illustration, is "getting there" twice as fast as would a man with a single furrow plow

DEVOTED TO
**BETTER FARMING AND
CANADIAN COUNTRY LIFE**



Why You Will Prefer THE "SIMPLEX"

In preference to all other Cream Separators is because the "Simplex" is:

- So Simple
- So Easy to Turn
- So Easy to Clean
- So Perfect in Skimming
- So Quick in Separating
- So Pleasing in Appearance
- Self Balancing
- Seldom out of Repair
- Soon Pays for Itself

LASTS A LIFE TIME

Showing Simplicity and Accessibility of gearing. Removing the body—Housing exposes the gearing and lower bearings of the Simplex.

There are other advantages in favor of the "Simplex." These are explained in our literature, which will be mailed to you free on request.

The ease of running, ease of cleaning, simplicity, self-balancing bowl, interchangeable spindle point, low-down supply can, the general pleasing appearance, and the perfect skimming of the "Simplex" make it the favorite everywhere it goes.

Then, too, our large capacity machines, so constructed that they turn more easily than most other separators, regardless of capacity, will enable you to separate your milk in half the time. This is a great advantage it will pay you to enjoy.

Bear in mind we allow you to prove all these claims—since "Proof of the Pudding is in the Eating."

Write to us for full particulars about the "Simplex" and our special terms to you to use the "Simplex" and represent us locally in your district.

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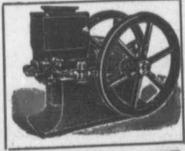
Do you want a strong, durable fence one that holds back the strongest animal, and lasts for years? Dyer has it, guaranteed, and you get it right quick. Lawn fence 17¢ per ft. Cut this ad. out and mail to me. Dyer, the Fence Man, Dix, L. Toronto. Please send me your April, Special Fence and Gate Offer. I want to save dollars and I want the best, but this does not obligate me to buy.

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Dyer says: "A one cent postal to me NOW may mean many a \$1 saving to you!"

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Our special factory for building farm engines has expertise to work on each part of the "Monarch." It is built differently from ordinary engines, with very big bearings (adjustable), over-size carbon-steel shaft, etc. Besides it has equipment not found ordinarily—protected fuel tank and slight change in base, governor, timer, primer, etc. It is the best engine made—size, 1 1/2 to 3 1/2 h.p. for farms.

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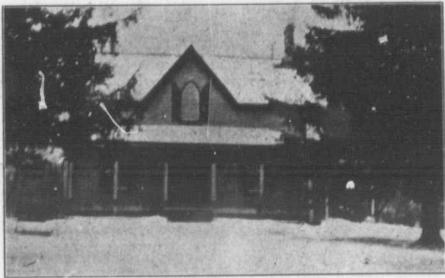
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THE FROST & WOOD CO., Limited, SMITH'S FALLS, ONT.

A Hydro-Electric Farm

Farmers who light their buildings, thresh their grain and fill their silos by Hydro-Electric power are still comparatively rare. When driving in the neighborhood of Ingersoll recently, an editor of Farm and Dairy gave Mr. John Prouse a call. Mr. Prouse was the first farmer in Canada to seriously take up the use of

five horse-power motors, but such a power does not furnish enough power to run a cutting box. They tested the horse-power required to run our cutting box last fall, and it was just 16 1/2 horse-power."

Mr. Prouse then took us to see his silo, the first silo in Canada to be filled by Hydro-Electric power. It was an immense concrete affair 18 feet wide, 29 feet long, and 39 feet



The First Farm Home in Ontario Lighted by Hydro-Electric

F. W. Prouse, Oxford Co., Ont., whose farm home may be here seen, was the first farmer in Ontario to use Hydro-Electric power for the lighting of his home and for operating part of his farm machinery. Mrs. Prouse now considers that one of the greatest hardships that could be imposed on her would be the necessity of going back to oil lamps.

—Photo by an editor of Farm and Dairy.

Hydro-Electric energy for farm work. He has now used electric energy for two years, and according to his own testimony likes it better than ever.

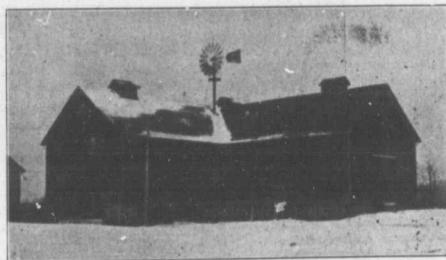
"There is no such power for farm use," quoth Mr. Prouse.

"And do you find it expensive?" we asked.

"Well," was the reply, "six of us here have Hydro-Electric power connected with our farms and we guarantee to pay the commission \$300 a year, or \$50 each. This payment we must keep up for 12 years. I have lighting all through the house, in

high. Mr. Prouse informed us that last fall this immense silo had been filled right to the rafters, but at the time of our visit there was only a small quantity left at the bottom. Mr. Prouse has fed 63 head of cattle all winter from the silo. Mr. Prouse's testimony as to the value of ensilage will be of interest to many readers of Farm and Dairy who are thinking of erecting silos of their own this coming season.

"I have fed no hay to my cattle this winter," said Mr. Prouse. "I have ensilage and hay. Of course, I have



Where Hydro-Electric Energy was First Applied to Farm Operations in Ontario

The silo in the barn here illustrated, that of F. W. Prouse, Oxford Co., Ont., was the first silo in Ontario to be filled through the power supplied by Hydro-Electric power. Mr. Prouse considers that electric power isn't an equal for farm work.

—Photo by an editor of Farm and Dairy.

the drive barn, in the milk house, and in the horse and cow stables. Even my granary is lit by electric light. In all, I have about 32 lights.

"We used our Hydro-Electric energy for threshing this year, also for silo filling. It runs a threshing machine the nicest of any power I ever saw. It is so absolutely even!"

"The motor will be your chief item of expense," we remarked.

"I have not yet a motor of my own," answered Mr. Prouse. "For the last two years a the Hon. Adam Beck has given me the use of a government motor when I needed it, but this year I intend purchasing a 20 horse-power motor. Some of my neighbors are thinking of buying

fed grain to the milk cows, as well as a few roots."

A HOLSTEIN FANCIER
Mr. Prouse favors Holsteins, and he showed us some very nice pure bred females purchased in the Belleville district. He still has a few of his old Red Durhams. He took us to see these, as he said they illustrated how well animals could be kept on ensilage and hay, with a few turnips. They were in splendid condition. In far better condition than they possibly could have been had they been fed fodder instead of ensilage.

On our way out, we called in at the house and found that the women folk were quite as enthusiastically in

(Continued on page 7.)

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Only \$1.00
a Year

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FOR WEEK ENDING MARCH 27, 1913.

No. 13

THE TRICKS OF HORSE TRADERS EXPOSED,—No. 3*

Dr. J. H. Reed, O.A.C., Guelph, Ont.

Did You Ever Buy an Apparently Sound Horse that Went Lame Soon After? A description of two Systems of Disguising Lameness. How the Purchaser may Detect the Fraud.

THE ability to temporarily check or disguise a case of lameness is another act in which the unscrupulous trader has attained considerably proficiency. Of course the practice of this art is seldom possible in cases of acute lameness, but when the lameness is not acute or well marked, it may be, and often is, successfully accomplished. In some cases the methods employed would render the operation liable to prosecution for cruelty, while in others probably an act of cruelty could not be established.

When a horse that is to be disposed of is lame in one foreleg below the knee, the trader knows that if the nerve supply to the foot can be temporarily rendered inactive, the lameness will disappear; hence when he is about to show the horse to a prospective victim, he will, with a hypodermic syringe, inject a little cocaine or other drug that acts directly upon the nerves underneath the skin on each side of the leg just below the knee. In the course of about 20 to 30 minutes the nerve supply to the parts below the knee has become paralyzed, and the horse not experiencing any pain during progression will go sound. This practice, when skilfully carried out, is liable to deceive even an experienced horseman, and unless there be something about the horse, as a small or ill-shaped foot, enlargement of joint or tendon, or some other abnormality to indicate probable lameness, or the victim has some reason to suspect trickery and dishonesty, he is very liable to become the owner of the horse, only to discover in a few hours that he owns a cripple.

THE WILY WAYS OF THE TRADER

Horse dealers know that apparent anxiety to dispose of a horse tends to make the "other fellow" suspicious, hence they avoid exhibiting this anxiety. They always have some excuse for their willingness to dispose of the animal. In fact, they have studied the art of horse trading until they have practically made it a science. They, of course, are regardless of the truth, will misrepresent matters to any extent, and thereby render themselves liable to actions for damages. But they have little fear of such actions, one reason being that in most cases they are financially weak. Another is the fact that the man who has been bitten by such gentry will generally "take his medicine" rather than enter suit and advertise his lapse from sound judgment evidenced by his dealing with a professional horse trader.

Fortunately the practice of using drugs hypodermically to stop lameness is not general. It

is the third of a series of articles that Dr. Reed is writing for Farm and Dairy. All of the contents in the series. Watch these articles. Call the attention of your friends to the value of these and other articles that run in Farm and Dairy. We will Farm and Dairy known among your friends and so will they.

requires special instruments and special skill, and if repeated frequently on the same animal is very liable to result in serious local disturbance. A more common, more cruel, and less effective plan of attempting to disguise slight chronic lameness in one foot is to set up slight irritation in the other foot. This may be done by paring down the sole or quarter and having the shoe clinched very tightly so as to cause pressure upon the thin parts or upon the parts so closely related to them that the effects of the inordinate pressure will extend to them. The same result



An Attractive Farm Entrance

First impressions are apt to be lasting. What then can we better afford to improve than the farm entrance? Notice the entrance to "The Highlands," the home of Mr. Geo. Elce, Oxford Co., Ont.

is accomplished by introducing irritating substances into the cleft or the frog or driving a tack or nail nearly through the unsensitive sole so that while not quite penetrating to the sensitive sole it presses upon it and causes slight pain during progression. If operations of this nature are practised, but not overdone, simply to such an extent as to make the tenderness of the foot operated upon equal to that of the diseased foot, the horse will progress with a short, groggy action, but cannot be said to go lame. If the operation be overdone, the tenderness of that foot will exceed that of the other, hence he will go lame.

TO DETECT THE FRAUD

The fact that a horse steps short and quick and when standing rests one foot and then the other should be sufficient to dispel a person's anxiety to become his owner. In cases such as described, a careful examination will reveal the fact that one foot has been tampered with.

Horse traders or dealers who have some means but little horse often spend considerable time and some money in patching up a crippled horse for sale or exchange. Horses that have become sore in one or both fore feet, and hence of little value, but being generally good individuals and probably high-class and valuable fellows, if going sound, will often, after a few months' rest

and attention to the feet, probably having the coronets blistered frequently, make a temporary recovery and go apparently sound. They are then sold or exchanged, and the new owner finds out after having used them for a short time on the roads that they commence to go tender or groggy. Some cases of this kind will deceive the most expert horseman and pass a critical examination by a veterinarian. The vendor of such horses is often anxious for the purchaser to have the animal examined by a veterinarian before purchase, as that relieves him (the vendor) from liability of an action for damages when the animal shows unsoundness. Anxiety of this nature by the vendor of a horse, unless he be known to be honest, should be sufficient to arouse suspicion in the prospective purchaser, as in a case such as cited even the veterinarian is not liable, because, as stated, there are cases in which there are no symptoms to arouse suspicion and the veterinarian is expected to exercise only reasonable care. He is not supposed to be able to detect obscure diseases, the symptoms of which have been temporarily checked.

On the other hand, if the purchaser buys the horse on account of representations made by the seller, who sells him as sound, and later on the new owner can prove that the horse had previously gone lame from some chronic disease, but as the result of rest and treatment he became temporarily sound, he should be able to collect damages. Hence we repeat the anxiety on the part of the vendor to have a veterinarian examine the horse, or his refusal to sell under warranty, should always cause suspicion. A horse that is affected with a chronic disease, although not at the time showing symptoms of it, is not sound.

We are changed through out activities, and when you give a man a pleasurable job, put upon him responsibility, set him to work, he then, for the first time, gives bonds for his good behavior, and evolves the virtues that make for length of days.—Elbert Hubbard.

It is the farmer's own fault if he does not benefit and make progress along dairy lines, as the Dominion Department of Agriculture and our Provincial Department of Agriculture, are doing fine work for the farmers along those lines, such as cow testing, association lectures on dairying, etc.—D. N. McKay, Queen's Co., P. E. I.

I believe a man can put a cow out of business by heavy feeding and shorten its life and usefulness. It will not help the progeny either. Take yourself. If you overdo your stomach you will not be feeling as good as you otherwise would; it is the same with the animal. If a man has good ensilage and good clean hay, he can get along without very heavy grain feeding. For myself, with cows milking moderately well, I believe that a couple of pounds of cotton seed, a couple of pounds of pounds of cotton seed, a little oat chop, is about heavy enough.—D. A. MacFarlane, Huntingdon Co., Que.

Distribution of Farm Labor

Prof. Geo. E. Day, O. A. C., Guelph

I have been asked to discuss the farm labor problem or more properly the distribution of labor on the farm. My effort to deal with this knotty problem may remind you of an old cow with very poor teeth trying to eat a particularly hard turnip. This labor problem like that turnip is a large, hard, slippery question and all that I may be able to do is polish off some of the just covering that turnip (labor problem).

I am not sure that the same business methods that make for success in other industries can be applied exactly to farming. The business man who goes on a farm will discover that he must modify and rearrange many of his preconceived notions of just how a farm should be run. We farmers, however, are not applying business principles as far as we should. I will consider two of the weak points in our management. We are not here trying to induce others to enter farming but to induce those who are in it to do better, so we may talk freely of some of the knotty problems that farming presents.

It appears to me that many of us have too much capital tied up in unproductive material. When the manufacturer buys expensive machinery he expects it to work for him every day of the year. The farmers' machinery investment is productive for only a few days of the year, and stands under a shed the rest of the time. It seems that the kind of implements that we apparently must have are yearly becoming more multiplied. As the farmer puts more and more into machines the demand increases, rather than diminishes. We must leave it to every man to determine what machines he will leave and what he absolutely must have. Let him be sure that he needs a machine before he locks up his money in it.

Another weakness in management is uneven distribution of labor. In summer

there is a great rush of work at certain seasons, such as seed time and harvest. There is a tremendous demand for labor to get the crops in at the proper time, especially for horse labor. At harvesting the great demand is for manual labor. In the winter there is little demand for labor of any kind. If the farmer could pick up men when he wants them this would be no disadvantage, but when it is difficult to get even moderately skilled workmen, it is well to hold on to a good man when we get him. Hence is the question of labor distribution so important. In talking with progressive farmers the following suggestions have been advanced that throw some light on the solution of this problem.

No. 1. Have all manure taken to the fields in the winter time. This is a practice we have been compelled to follow ourselves at the Ontario Agricultural College. We spread the manure on the surface of the snow or frozen ground as the case may be, and hence do away with the necessity of a manure spreader.

*Summary of an address before the Ontario Agricultural and Experimental Union.

No. 2. It is most important that we look ahead. The most successful farmers are those who see things coming. The late Wm. Rennie had the greatest facility of any man I ever knew in the matter of foresight. For instance, we might plan to have all the machinery in "thorough repair." Too many of us forget all about the repairs the binder needs until a week or a day before harvest. This binder omission is simply an example of the hundred and one things that we might do in winter that will save time in summer.

No. 3. We might prepare seed grain for our own use and for market. A seed grain trade that involves winter labor would be a profitable side line on our cleaner farms at least.

No. 4. Developing the live stock end. Here we may mention the dairy cow. As ordinarily used she does not help much in distributing labor, but she can be made very useful along this line through winter dairying. Then we

Formalin for Smut

E. F. Eaton, Colchester Co., N. S.

A black smut head here and there in the grain field, does not look serious—that is to those who do not realize how rapidly the disease will spread if we use our own seed from year to year, as most of us do. If we had some method of determining the dollars and cents lost to Canadian farmers each year through smut we would no longer cease to regard the disease as of little importance. In the United States they have made estimates on the expense that it has accreted to smut has been, and it has run over a million dollars in a single state. We do not think that farmers deserve much sympathy in this immense loss, as the treatment of the disease, particularly on oats, is so exceedingly simple.

We, and many of our neighbors, have practiced treating our seed grain with formalin until now there is no smut on our farms. The method

is simple. We sweep the barn floor off good and clean and scatter the seed grain two to four inches thick on the floor. We then sprinkle with a solution of one pint formalin to 40 gallons of water, using an ordinary watering can. The grain is then mixed up with a shovel and sprinkled again. With the second application of the spray every grain will be moist, but not wet. We then shovel the whole mixture into the corner, and cover well with blankets or old sacks to retain the gases. This we have found to be a most effectual method of killing smut on oats.

Many who believe in the efficiency of formalin on oats are not so sure that it is equally effectual in treating the smut on wheat, that is the ordinary loose smut. We, however, have found it efficient even on wheat, although we do not grow much of this crop. At a short course in the N. S. A. C., when I attended some few years ago, I remember Professor C. A. Zavitz, who was then visiting us, asking for experiences of the members with formalin treatment on wheat, and everyone who had used it testified to its efficiency.

I do not believe any of us can afford to put in a single seed of grain without treating for smut, if there is any in the neighborhood. Even if our own crops may have been clean, the traveling threshing engine may have carried infection to our seed.

I am sorry to say that the average production per cow on Prince Edward Island is lower than in some of the other provinces. I believe the time is coming when this will not be so, for we have dairymen on Prince Edward Island who can compare with any part of the Dominion, in production per cow. What one man can do, another can do, and with the best milking strain of cows, intelligent feeding and care, I hope to see the average production per cow doubled inside of five years.—D. N. McKay, Queen's Co., P. E. I.



Young Men Who Have Had the College Taken to Them

G. B. Curran, B. S. A., conducted this year at Napanee, Ont., the largest agricultural class of a similar nature in Ontario. To these young men, who are far removed from the Agricultural College at Guelph, Mr. Curran has brought educational facilities that are easily available to all. "It is expected," writes Mr. Curran to Farm and Dairy, "that these young men will introduce new and better methods of farming into their respective districts."

have beef cattle. They mainly demand attention in the winter. Hogs, too, can be so managed as to take a minimum amount of attention in summer and a maximum amount of attention in winter.

Horses can be made productive in winter by breeding one or two of the mares in the fall. This is somewhat risky, as mares do not take easily in the fall; but there are no returns whatever without it.

Another department of live stock work that can be profitably followed in winter is the training of colts. We need not sell the unfinished product and pay the dealer to do the training. Trimming the sheep and keeping the cattle clean and presentable is not often unproductive work. These are small things, but farming is made up of small things.

No. 5. The crops that are now ordinarily grown on the farm necessitate a great rush at certain seasons. I believe it would be advisable to plan some system of cropping, perhaps with crops not now commonly grown, that would tend to distribute labor.

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Make Quality Sugar and Syrup

Andrew Reichardt, Dundas Co., Ont.

An industry that is fast growing into prominence in Canada is the production of maple syrup and sugar. This is as it should be. Sugar-making comes in a time of year when other farm work is not pressing and the trees require practically no care. But to make sugarcaking profitable a man must make an article such as the market demands, and for which it will pay a good price if he would reap a profit.

Pure maple syrup should be of a delicate, clean, maple flavor, and be of a transparent amber color, free from the least trace of sediment; then it will command the highest price. The market is never overstocked with such goods. There is now so use talking about the old-time method of boiling sap in pots and pans. Fuel and labor are both too expensive. Besides, we cannot make gilt-edged goods in this way.

The first operation in the sugar bush is tapping. As soon as the weather begins to warm about the middle of March or a little later, I start to tap. I use a 7-16 inch bit and bore a hole about one inch deep. I find that a bore of that size will run as much sap as a larger bore. At the same time it does not injure the tree as much, and the smaller the bore the more quickly the tree will heal. I have used a great many different kinds of spouts, but I prefer the No. 2 Grimm spout to others. They are made so as to seal the bore from the air, and the exposed wood will not dry after the first few runs are over. Then there are no flanges or projections to close the sap cells and injure the tree. The most important part is that they are made of steel and coated with a white metal that will not rust and spoil the sap right on the start as a great many spouts do that are on the market.

NOTES ON EQUIPMENT

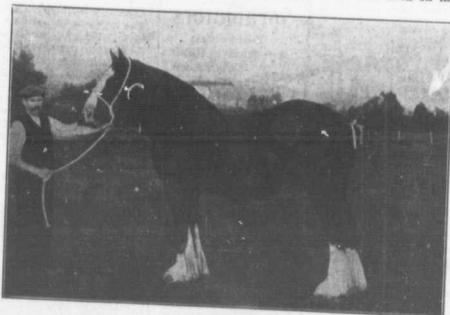
I use a 10-gallon pail made almost straight. It will then stay on the hooks much better. I am convinced that it pays to use covers for the pails, as it keeps out all water and dirt. I use a Champion evaporator, 5 by 16 feet. I prefer it to any I have ever used or seen. In the Champion the cold sap is directly over the hottest part of the fire, it is a shallow boiler, easy to operate, and the syphons and interchangeable pans do away to a great extent with the lime or silica, and it is thus easier to keep clean. For gathering I use a galvanized iron gathering tank, which strains the sap through a double sieve just as it is gathered. I often put on this a cotton strainer in addition. This straining is one of the secrets in making first-class goods. One must keep every particle of dirt out of the sap, and everything with which the sap comes in contact should be made of tin.

I boil the sap as fast as it leaves the tree and draw off the syrup from the evaporator every five minutes. An evaporator that you cannot draw the syrup out every five minutes is not what it should be, as long continued boiling injures the quality of the goods. I also prefer to have the raw sap over the hottest part of the fire, as the nearer done syrup gets the more liable it is to burn.

MY NAME ON THE GOODS

In marketing my syrup, I put it up in cans to suit purchasers and put on each can a neat label containing my name and guarantee of purity. This gives the purchaser confidence in my goods. The maple syrup maker, to hold the best custom, must equip his sugar camp with the most modern outfit and keep everything scrupulously clean and do his best to make a better article each year. I hold a gold medal diploma from the Louisiana Purchase Exposition, St. Louis, 1904, and yet I try to make bet-

ter goods each year. I would urge every sugarmaker to join the Sugarmakers' Association, not only to protect ourselves, but the public also, who now use an adulterated article all too commonly. We know that a great many of the so-called maple flavored syrups have not a particle of maple about them, and it is time that maple sugarmakers awakened to protect their own interests and not allow a can of syrup to have the word "maple" on it that is not pure maple syrup.



A Splendid Study in Draft Horse Conformation

The conformation of this Clydesdale mare, Baron's Brilliant, is well worthy of study by those who would know the class of mare that will produce market toppers. Notice the substance, the depth of body, the erect carriage. Notice also the splendid quality as indicated in the feet and legs. Breeding stock such as this costs a lot, but it pays, and pays well.

If we all would equip our sugar orchards with modern machinery the same as we do the rest of our farm, keep everything clean, and do our best to make first-class goods, we would find in the maple the best paying investment on the farm. The maple takes care of itself the year round, and there is no preparing ground nor sowing. We simply step in and take the sweets. As soon as we banish all adulterated stuff and make gilt-edged goods there will be an excellent market for every gallon of syrup that can be produced. But a man must abandon all old methods of pots and pans, old troughs, and such like to make gilt-edged goods.

Effects of Crop Rotation

The results of twenty years of crop rotation experiments are given in Bulletin No. 100, North Dakota Experiment Station. The plot that has been in continuous wheat for the 20 years averaged a little over 13 bushels for the entire period, while the average yield of wheat on all the plots in the rotation experiments was 19 bushels. Wheat after corn yielded 7½ bushels more the first year, than wheat after wheat, the second year 7½ bushels more and the third year 2½ bushels more. These results were for corn in hills. Wheat following drilled corn (six inches) gave a less yield than wheat after wheat the first year. The second and third years the increase was about the same as after corn in hills.

Manure applied to corn in a four year rotation with wheat gave an increase in yield. The value of this increase amounted to \$1.40 a load of manure. When applied to millet in a similar rotation the increased value of crops amounted to \$1.05 a load.

The rotation of crops proved disastrous to weeds. Wild oats, for instance, in continuous wheat growing, made up one-half of the crop. When a crop of millet, timothy or fallow was introduced every fourth year the wild oats were a negligible quantity.

Most Profit from Farm Manure

It is safe to say that on the dairy farms of Canada there is an annual loss of \$20,000,000 due to the indifferent and careless manner in which we handle the manure produced from the dairy cattle alone. This is taking no account of the manure from the horse stable, pig stys and hen house. Every bit of the fertility in this wasted manure was taken originally from the soil of our farms in the form of crops. We must put that fertilizer back on the soil or decreased crops are bound to result, and this will be followed by decreased stock and decreased incomes.

A knowledge of the composition of the manure is necessary to its intelligent conservation. The three essential fertilizing ingredients are nitrogen, phosphoric acid and potash. Basing our estimates on the value of these ingredients in commercial fertilizers, nitrogen is worth 18c to 20c a pound, phosphoric acid five to seven cents, and potash five cents. In examining manure we find that two-thirds of the nitrogen and four-fifths of the potash are found in the liquid portion of the manure. The solid portion is rich in phosphoric

acid only. Hence it is the liquid manure that we must conserve and this is the part that is most difficult to conserve. It is in the loss of the liquid that the most of the \$20,000,000 loss is accounted for. The principal causes of loss are two, by leaching and by fermentation.

EMULSION LOSS FROM LEACHING

Prof. Hart of the University of Wisconsin, has recently conducted some experimental work to determine just how serious are the losses in farm manure, due to these two sources. In one experiment one plot of ground was treated with fresh manure. Another plot was treated with leached manure, and a third plot was not treated. In the first year the plot treated with fresh manure had a crop greater than that of the untreated plot of 22.7 per cent, while the plot treated with leached manure showed an increase of only 41.5 per cent. The average of the crops for the first three years after application showed an increase on the first plot of 116.2 per cent., and on the second plot of 75.9 per cent., a difference of over 40 per cent. in favor of the manure that had lost none of its constituents from leaching.

Would the difference of 40 per cent. in the crops on the average farm make it worth the farmer's while to prevent leaching? And yet we venture to say that on more than half the farms in this country the manure is allowed to accumulate all winter in an open barnyard exposed to every rain, thus offering ideal conditions for loss through leaching. In many cases the manure is left right under the eaves of the barn where it gets the benefit not only of the rain that falls directly on it, but of all that falls on that side of the roof.

NITROGEN DISAPPEARS THROUGH FERMENTATION

Manure readily decomposes. The losses resulting from such decomposition fall entirely on its most valuable constituent, the nitrogen. No potash or phosphoric acid is lost through the process of fermentation; these manurial ingredients are only lost through leaching. The first evidence of fermentation is the odor of am-

(Continued on page 8.)

ALL THE DAIRY COW

The Essential Information regarding

Dairy Cattle and Milk Production by Prof. C. H. Eckles.

Over 340 pages presenting material in such a way that it will assist the practical farmer to care properly for his dairy cows and to produce milk economically.

Fifty-seven illustrations show types of dairy breeds, noted dairy animals, apparatus for treating milk fever, examination of good barns, stalls, King System of Ventilation, Tractor used for Blot.

A CHAPTER ON COMMON ILLMENTS OF CATTLE—UDDER TROUBLES, CONTAGIOUS ABORTION, ETC. Prof. Eckles, the author of this book, is a noted dairy authority. He has the practical experience, together with scientific training. For over 15 years he has had charge of a herd of from 30 to 50 cows, many of them being high producing animals. For some years he has been Professor of Dairy Husbandry at the University of Missouri.

Every man with dairy cows can profit from this book. It will be fine for your boys.

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FARM MANAGEMENT

Timothy Seed Per Acre

T. G. Raynor, Seed Division, Ottawa
Last year timothy seed was extremely high in price. No one ever dreamed they would have to pay over 20 cts. a pound for timothy seed; but they did, and many would they would

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your fruit trees,

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5-gallon can it is a most

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Write tonight for your copy of this valuable

handbook telling all about Spramotors, how

to paint with them and whitewash. Valuable

recipes given. Also tells all about insects

affecting your fruit and how to combat them

with sprays applied by Spramotors.

There is a Spramotor made specifically for

your needs; we will tell you about it when

you tell us what you grow.

Address me personally.

W. H. HEARD

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1712 KING STREET, London, Ont.

Largest Manufacturers of Sprays and Accessories in the world.

never do it again. How could you blame them! A great many farmers saved their own seed last year and something extra. Many lost their timothy go to seed purposely, thinking it might be a long price again this year. Very many had seed not of their own choice, owing to scarcity of labor to handle it at the right time. The prejudice that some farmers have against starting at their hay until after July 15th helped to increase the amount of timothy seed available this year. Prices consequently dropped to normal levels again, and so there is plenty of good seed now available, and at reasonable prices. This may be a most fortunate thing for many farmers, as just as farmers pretty close on many of the meadows this open winter, which may smother out a lot of the grass, as well as clover and alfalfa.

The amount of timothy seed to sow per acre has been variously estimated by many farmers. Some claim that five to six lbs. seed an acre is plenty, while others sow 12 lbs. and more an acre. Let us see how much this rate of seeding means a square inch. There are about 42,000 timothy seeds in one ounce, or 1,320,000 in a pound. Seeding six pounds an acre there would be 12 lbs. seeds per square foot, or 1.25 seeds a square inch. If 12 lbs. of seed were sown, it would be just twice that amount, or 2.5 seeds a square inch, which most people will allow is not too many plants to have per square inch if they were all evenly distributed.

12 LBS. NOT TOO MUCH
If the seeds were vital there should be as many plants. Everyone knows, however, that often they are not very evenly distributed, that the soil tilth may not be the best, and that the germination conditions are lacking. This all tends to prevent a good stand. If the plant stools out to thicken the stand it means coarser hay, and the quality and general feeding value is not nearly so good as when the plants are crowded more closely together.

As a rule timothy seed is the purest of its kind that we have to buy. It may, however, contain weed seeds in quantity, and some of them may be quite noxious. Often timothy seed, as a farmer grows it, may contain weed seeds in large quantity, which could be removed quite easily with the proper kind of sieves. For instance, cinquefoil, worm-seed mustard and sheep sorrel are often found. A sieve 23 x 28, i. e., 28 wires each way to the inch, would remove nearly all those weed seeds.

In No. 1 timothy there may be as many as five noxious weed seeds an ounce, and 100 weed seeds of all kinds. No. 2 seed allows of four times as many noxious ones, but only twice as many weed seeds all told an ounce; while No. 3 seed may contain 16 times as many noxious and four times as many all told as is allowed for a No. 1 grade. No. 1 seed will not be badly hulled. Hulled seed, if fresh, may grow as well as the unhulled.

AS TO PRICE

There is quite a spread in price between grades No. 1 and No. 3; as much as \$1.50 a bushel or more. Often such a spread in prices does not seem to be justified by the appearance of the seed. No. 1 may have a nice silky looking hull on, but it may be no purer than No. 3, so far as weed seeds are concerned; in such a case a man is paying only for appearance. Usually, however, there is a much larger percentage of smaller seeds in No. 3 than No. 1; and that would justify the difference in price. When there isn't too much spread in price, and weed seeds are not bad, No. 1 seed is by far the cheaper buying.

The most money is usually made on the cheaper grades.

There is less danger in contaminating the land with timothy than with the other small seeds, even with the lower grades. It isn't safe, however, to bank on the purity of timothy, for it may carry ox-eye daisy seed, false flax, small clover seed and others. It is better to be sure what one is sowing by getting the seed tested free of charge at the Seed Branch, Department of Agriculture, Ottawa.

Experiments in Weed Eradication, 1913

During the season of 1912, the Ontario Agricultural Experimental Union carried on cooperative experiments in the eradication of perennial sow thistle, twitch grass, bladder campion and wild mustard. A number of the practical men took part in these experiments, and some very interesting and valuable results were obtained. A properly cultivated crop of rape was found to be an excellent means of destroying perennial sow thistle and twitch grass. Rape proved more effective in destroying twitch grass than did buckwheat. Thorough and deep cultivation, followed by potatoes or corn, gave good results in the control of bladder campion. Spraying with iron or copper sulphate proved to be a cheap and effective means of destroying mustard in growing grain without injury to the crop. These cooperative experiments in weed eradication will be continued this year (1913), and it is hoped that a large number of men will take part in them in order that sufficient data may be gathered to warrant definite statements being made regarding the best methods of controlling these pernicious weeds. The experiments are as follows: (1) The use of rape in the destruction 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 destruction of twitch grass. (4) A method of cultivation and cropping for the destruction of twitch grass. (5) A method for the eradication of bladder campion. (6) Use of well. (7) Spraying with iron sulphate to destroy mustard in cereal crops.

Those who are troubled with any of these bad weeds are invited to write to the Director of Cooperative Experiments, Cape Town, Ontario Agricultural College, Guelph, Ontario, who will be glad to furnish full information concerning these experiments and to supply application blanks. The material for the experiments will be supplied with full and detailed instructions for carrying on the experiment selected and with blank forms on which to report the results of the same. All interested clean farmers are asked to cooperate in this work. Address all communications to J. A. Hewitt, Botanical Department, Ontario Agricultural College, Guelph, Ontario.

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Around the World via "Empress of Asia"

The "Empress of Asia" will leave Liverpool June 14, calling at Madeira, Cape Town, Durban, Colombo, Singapore and Hong Kong, arriving Vancouver August 30th. Vessel remains 14 days at Hong Kong. "Rate for entire cruise, \$639.10." Exclusive of maintenance—return air ticket, England and departure of "Empress of Asia," and stop over at Hong Kong. Particulars from Canadian Pacific Agents or write M. G. Murphy, District Passenger Agent, Toronto.

2 Pure Bred Pigs

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\$6.00 Cash

Earned in Two Weeks

By a Boy of 12

These pigs are worth many dollars to him now,—the experience has taught him valuable salesmanship,—the interest of owning pure bred stock will influence his whole life.

Your Boy can do the same

He can have Tamworth, Yorkshire or Berkshire, of either sex. Over 200 men, boys and girls have secured pigs since we made this offer of

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Write for details and supplies

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Peterboro, Ont.

I will try to secure 9 new subscriptions to earn a pure-bred pig. Please send me sample copies, receipts and order blanks.

Signed,

P. O. _____ Prof. _____

The Feeders' Corner

The Feeders' Corner is for the use of our subscribers. Any interested are invited to ask questions, or send items of interest. All questions will receive prompt attention.

Alfalfa for Sheep and Swine

J. H. Griadelle, Director, Experimental Farms, Ottawa

I recommend alfalfa for sheep feeding. I find that its sheep growing districts of other countries that alfalfa is looked on with favor. A batch of lambs fed on alfalfa hay will require no meal feed, and may be placed on the best markets. Lambs can be fed for the best shows on alfalfa.

Where one is producing pork, alfalfa will again find a place as swine do well on this feed. At the Experi-

pounds bran; four pounds out chop; three pounds cotton seed and one very well blended ration. For cows a giving over 25 pounds of milk the grain ration would need to be increased. If corn can be purchased reasonably a small quantity of it might be fed to the milk cows as well.

A Hydro-Electric Farm

(Concluded from page 2)

favor of electric energy as Mr. Prouse.

"We have discarded our oil lamps without a single regret," remarked Miss Prouse. "Turning a room is so much easier than looking up matches, cleaning lamps, and so forth. And then, of course, there is no comparison in the lighting."

If all users of Hydro-Electric energy are as enthusiastically in its



Which One is the Most Interested?

No one can get enthusiastic over poor stock, much less a boy. But just get some good stock around and see the boys open their eyes. This piglet for the first time. The pictured Holstein cow, seen in the illustration, is one of the combination favor of the Belleville Breeders' Association.

mental Farm we have given alfalfa to breeding stock outside. On it we have wintered brood sows at the exceedingly low cost of \$4 each. It gives little pigs also just the right feed to keep them growing.

We have fed alfalfa to other stock also—poultry, geese, turkeys and hens. In fact, one might go over the whole list of live stock, and in no case would it be easy to overestimate the returns from going into this crop, alfalfa, on a large scale.

Grain with Timothy

We have no roots or silage, only timothy hay for roughage. In addition we feed our milk cows about 10 of a mixture of bran, middlings and oat chop. Would it be advisable to purchase some cotton seed meal and linseed meal? Either will cost us \$40 a ton here. Bran costs \$21, middlings \$22 and oats \$18 to \$20 a bushel. We have some home-grown oats, some Dist. Ont.

We doubt if milk can be produced as a profit when the only roughage available is timothy hay unless the cows are extra good producers. As with G. E. has a quantity of home-grown oats we presume that he will also have a quantity of oat straw. The roughage ration for cows producing 20 to 25 lbs. a day might consist of 10 lbs. of timothy hay and 10 pounds of oat straw. If both the hay and straw could be cut in short lengths, moistened and mixed with a portion of the salt, a ration before feeding, it would be much more palatable than when fed as is.

As the roughage part of this ration is very abundant in protein, the grain ration should be rich in protein. Some heavily concentrated protein food such as cotton seed or oil cake would be almost necessary. Cotton seed should cost about \$35 a ton laid down at the nearest station. Forty dollars is excessive. We would suggest a ration as follows: Three

Our Veterinary Adviser

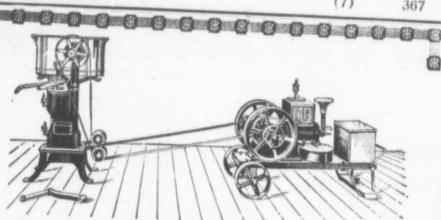
OCCULT SPAVIN—I have a horse 11 years old that has been lame in his hind foot for about a year and is getting worse. There is no swelling. He bled it once with red iodide of mercury. Kindly advise me in this matter.—E. J. R.

The symptoms indicate what is known as an occult spavin. Successful treatment is doubtful. All that you can do is to get your veterinarian to fire and blister the hock.

HORSE WITH COUGH—A young horse has coughed back for three weeks.—Subscriber.

The trouble is probably in the throat. Get a liniment made of equal parts liquor ammonia, oil of turpentine and raw linseed oil. Bathe his throat with this and then wrap well with flannel bandages. Remove bandage in about 12 hours and repeat the rubbing. After this keep the throat well bandaged. Give him two drams chlorate of potassium and 30 grains quinine three times daily and keep excluded from cold and wet. If contraindicated send for your veterinarian.

The pictures in Farm and Dairy add greatly to its interest. I notice that if Farm and Dairy fails to reach asked over and over, "the question is Farm and Dairy?" or "Did the Farm children are fond of Farm and Dairy and Dairy not come?" and so on. The and I wish the men had more time to read every word of it. As it is, they always take time to study the pictures.—Mrs. E. R. Hamblin, Peterboro Co., Ont.



Cream Separator Savings

AN IHC cream separator saves money for you in more ways than most people know. It saves cream because it skims practically all the butter fat out of the milk. It saves on the feed bills. Calves and pigs thrive on the sweet, warm skim milk that comes fresh from the separator. It saves fertility. The dairyman who feeds the skim milk to animals parts with a very small amount of fertility. The man who sells whole milk loses close to \$4.80 per cow per year in fertilizing matter. These three savings, while not all that a cream separator makes, are important enough to warrant the most thoughtful consideration.

IHC Cream Separators

Dairymaid and Bluebell

are also furnished as complete power outfits, as illustrated above. The engine which can be detached and used to run any small machine. The heavy phosphor bronze bushings for bearings; a never-failing splash oiling system; trouble proof bowl spindle bearings; dirt and milk proof spiral gears which are easily accessible for cleaning. There are four convenient sizes of each style. Ask the IHC local agents who handle these machines for demonstration. Get a catalogue and full information from them, or, write the nearest branch house.

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TO EVERY MAN WHO IS GOING TO BUILD OR REMODEL HIS BARN

How to Build a Dairy Barn

Learn how to make your barn more modern and sanitary. Read about the Lighting, Drainage, Ventilation. Learn how to arrange your barn so that it will be handy and economical. Investigate the Steel Stall Equipment. Our Book tells it all. The Head of one of our Agricultural Colleges writes, "Your Book is of inestimable value save you Hundreds of Dollars in building and equipping your stable. Yet it is free. Mail us the

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KEITH'S FARM SEEDS

WE ARE EXCEEDINGLY BUSY NOW. DO NOT DELAY IN ORDERING.

Prices quoted below good for one week from date of issue of this paper. Allow 2% for each cotten bag required for Clover and Timothy. Prices quoted on Grain and Potatoes include bags.

KEITH'S SEED OATS—Pure.	per bus.
Regenerated Banner	75c
Abundance	70c
Daubeney, No. 1	\$1.25
Daubeney, No. 2	85c
Daubeney, No. 3	85c

These Daubeney Oats are all free from noxious weed seeds. They are graded on the percentage of Barley they contain.

Black Victor
 \$1.00 |

Black Tartarian
 75c |

Swedish Victory
 1.75 |

Banner (from registered seeds)
 90c |

Lincoln
 70c |

BARLEY.

O. A. C. No. 21 Registered
 \$1.50 |

O. A. C. No. 21, our best
 1.10 |

O. A. C. No. 21, our near best
 1.00 |

Black (Inches (tush. of 60 lbs.)
 1.60 |

PEAS.

Golden Vine, No. 1
 \$2.25 |

Golden Vine, No. 2
 1.75 |

Early English
 2.25 |

Early Britain
 2.00 |

Prussian Blue
 2.50 |

Canadian Beauty, No. 1
 1.50 |

Canadian Beauty, No. 2
 1.75 |

BUCKWHEAT.

Eye Buckwheat
 1.75 |

Silverhill
 80c |

WHEAT.

Marquis
 2.15 |

Goose, No. 1
 1.40 |

Goose, No. 2
 1.45 |

Red Eye, No. 1
 1.75 |

Red Eye, No. 2
 1.50 |

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Seed Merchants since 1866

PURE BRED POULTRY WANT A FAIR FEE?

A pair of any well-known breed given for 1 new subscriptions to Farm and Dairy. Many of our readers have won a pair of these fowls, and are working for more. Start right now and win a pair.

FARM AND DAIRY

1913 SPECIALS

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Dairy Magazine April 16
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Better Service for You Than Ever.
Get your instructions to cover these
Great Specials. Fix them now for
Daily Number, April 16th.

The Elastic Cultivator

On any cultivator when the front and rear teeth are fastened to the same section or tooth frame the back teeth are bound to cultivate deeper than the front ones, or perhaps the front row of teeth do not enter the ground at all. On the PETER HAMILTON the sections or tooth frame are divided into rows, and each row of teeth swing or move independent of the others. What is the result? Even cultivation on every square inch of field and better crops. This is only one of our exclusive good points. Ask our agents about others.

The Peter Hamilton Co., Limited

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Sold by The John Deere Plow Co., 77 Jarvis St., Toronto, Ont.

Most Profit from Farm Manure

(Concluded from page 5.)

monia, which has been noticed by every farmer, especially in his horse stable. Ammonia contains a large percentage of nitrogen, and as soon as we detect the odor of ammonia in the stable we know that it represents a loss of fertilizing value. This loss may be greatly reduced by providing plenty of absorbent material, and by keeping the manure moist. Directly, from the stable to two kinds of bacteria, the aerobic, which can only exist in the presence of air and anaerobic, which do not require the presence of oxygen. The aerobic organisms are responsible for the best fermentation which causes the greatest loss in manure value. This loss, of course, can be prevented by keeping the manure in contact with soil, thus excluding the air, and also by keeping it moist.

HOW TO PRESERVE MANURE

Hart, of Wisconsin, after his extensive investigations, sums up the methods that may be adopted for the preservation of manure, as follows: Provide water tight floors or gutters back of the animals.

Use bedding enough to absorb all the liquid excrement.

Where the fields are fairly level apply the manure as fast as it is made.

Where it is impossible to haul the manure directly as it is made, pile it in large compact piles, round or rectangular but with perpendicular sides, and at least six feet high.

Keep the manure heap compact and moist.

When stored under a shed it is also necessary to keep the mass compact and moist.

When the manure must be stored, mixing the excrement of the different classes of farm animals will help insure a moist mass.

Reinforcing the manure with rock phosphate (40 lbs. a ton) and with gypsum (20-40 lbs. a ton) is sound practice.

These materials can be mixed with the manure at the time of applying it to the land, or in the barn as the manure is produced. Sprinkling them in the gutter or on the manure at the rate of one to one and one-half pounds a 1,000 pounds of animal weight, is also good practice.

The Seed Law and its Objects

T. G. Raynor, Seed Division, Ottawa.

The Seed Control Act, with some changes from time to time, has now been in force since Sept. 1st, 1905. The chief object of this law was to enable those farmers who wished to keep their farms comparatively free of noxious weeds to secure good produce when they had to buy.

The seed merchants as a body seriously objected to the law at first, in that they claimed it was one-sided and while restricting them and making them now more closely to the line let the farmer do as he wished. They have since been convinced that the law did apply to the farmers and they have withdrawn their opposition and now cooperate to furnish seed up to the standards outlined by the law, except perhaps the highest grade, extra No. 1, of which there is little or none in the market yet, and isn't likely to figure there very much, until the farmers produce it. They can do it if only they will take the proper precaution to sow clean seed and afterwards do a little cleaning in the fields.

MAKING SAFE PURCHASING EASY

Last year it will be remembered that what couldn't be obtained at the beginning was put in operation in the spring of 1912, whereby the seed market all be graded now, and labelled with

the proper grades in letters not less than half an inch in length. Where this is done and done properly it is easy for purchaser and inspector to also up the situation in the retail trade. The purchaser with little trouble can determine the quality when he knows that if he could get extra No. 1 grades of timothy, red clover, alfalfa or alfalfa, he would get just any noxious weed seeds whatever, and only 30 an ounce or 450 a pound of such seeds as foxtail and trefoil. If he wants No. 1 it must not have more than five noxious seeds an ounce or 50 a pound in red clover, timothy, and alfalfa, and only twice that amount in a pound of alfalfa.

Then 100 seeds all told, including noxious, is the amount of an ounce for all four kinds of seed. Such seed, which must be plump, of good color, evenly graded, and of the kind mentioned the purchaser must expect to pay a better price than for grade No. 2, which contains as many as many noxious an ounce as is allowed in No. 1, and twice as many weed seeds all told, viz., 20 and 200 respectively, and 40 and 200 for alfalfa. No. 3 allows for five times as many as No. 2, and 16 times as many as in No. 1, or 80 an ounce, and 400 weed seeds, including noxious, an ounce. This is quite a difference. A sufficient number of inspectors will be on the trail to see that such is the case. Where men become careless in neglecting to properly grade their seed as well as label it, they must expect to take the consequences of such a violation of the law. It is the intention of the Department of Agriculture at Ottawa to strictly enforce the law.

Tests With Potatoes

Prof. C. A. Zavitz, O. A. C., Guelph.

In 1912 the Experimental Union tested two varieties of late potatoes, two varieties of medium and late varieties of early. These tests varied in number from 72 to 263 and hence the results may be taken as fairly reliable in indicating where are the most productive sorts.

In late varieties we tested the Davies Warrior and the Empire State. For several years the second named variety has given excellent results, but last year it fell far behind.

The Davies proved to be much more hardy and as has been the case for eight or nine years, was the heaviest yielder. The Davies Warrior is the freest from rot of any of the potatoes we have tested, and last season was certainly a good one in testing the resistance of a variety to disease. It is a white potato of good shape and quality and decidedly the best of the lot we have tested at the Ontario Agricultural College.

Of the five early varieties tested, the Early Andes, Early Ohio and Early Fortune did not make a good showing. Between the two varieties, Irish Cobbler and Extra Early Eureka, there is very little to choose and if a man had one there is nothing to induce him to change to the other. I almost believe they are the same variety. They have proven themselves the freest from rot of all early varieties tested at the college.

I requested our experimenters to advise us of the varieties most extensively grown in their localities. Forty-eight varieties were mentioned in the different reports. Herein is one of the greatest weaknesses of the potato industry in Ontario—lack of uniformity.

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POULTRY YARD

Why Do Hens Eat Their Eggs?

Chas. Geo. Goding, Churchbridge, Sask.

How often this question is asked, some answers. Let us reason it out. The eating of their own product is an annoying and unnatural habit on the part of any animal or bird. Sows will occasionally destroy their young and the remedy is, supply the food ingredient or exercise, or both, the lack of which causes this unnatural condition, and in the case of the cannibalistic sow, in the case of the egg-eating hen, generally replies are given in the direction of punishing the offender. Use chin neck eggs, fill an egg with cayenne or mustard, etc. Why not, as in the case of the

granted that all that is necessary to correct this habit is to provide shell. This is the one step, and other things must also be taken into consideration. Provide exercise by having all dry hens deep in litter. Keep mangos, turnips or other green food where the hens can help themselves; they may be hung up by a string, or a few four-inch nails driven into the walls 18 inches or so from the ground and the roots stuck on them is a convenient way. Give green cut bone, once a week. Other requisites are rolled, not ground oats, in a hopper or box all the time; a grit box with compartments for grit, shell and charcoal, (the grit can take the form of sharp sand scattered over the floor, draw up a supply in the fall, and wood ashes may take the place of commercial charcoal, and is often better.) A plentiful supply of good clean water, and a box of snow in cold weather are necessary. Remember, an egg contains 65 per cent. water.



A Corner of the Poultry Yard on a Quebec Farm

sow, find the cause and apply the proper remedy.

Analysis shows that an egg is composed of lime, 11.0 per cent.; protein, 11.9 per cent.; ash, 9 per cent.; fat, 9.3 per cent.; and water, 65.5 per cent. We therefore know that to produce a perfect egg, the hen must consume these proportions of each ingredient, in excess of the amount required for body maintenance. Ask the average poultry keeper farmer, what he is feeding and he will generally say: "Oh! they get all the oats, barley, or wheat, (as the case may be), that they can eat, and they look good and fat." They generally get the potato peelings, (if they are not needed for the barnyard in fine weather. Seldom is any mention made of a supply of nitrogenous material, such as beef scraps or green cut bone, and more seldom still is oyster shell mentioned. We wish to call special attention to the place of oyster shell in connection with the remedying of or rather prevention of the fault of egg-eating.

WHY HENS START

We find that the habit of egg-eating often, in fact generally, begins with the breaking of a thin-shelled egg in the nest, and the fact that the thin-shelled egg exists, denotes that the hens probably have a more or less sufficient supply of the material to produce the interior of the egg, lacking merely the mineral matter to form the shell. The normal shell of an egg contains 97 per cent. carbonate of lime. Note the lime content. Lime is the material which gives the power to resist pressure, in the case of the thin-shelled egg. We therefore find that the shell contains 98 per cent of carbonate of lime, and is the nearest approach to egg shell that exists, in this particular. The remedy is apparent.

It must not, however, be taken for

These things, with interest, cleanliness and common sense, are the principal requisites and applied with diligence will soon correct the evil habit of the egg-eating hen.

Ideas on Chicken Feeding

By N. E. Chapman.

Little chicks, as soon as hatched and dry, should have litter in which to scratch, so that their toes may be straightened and strengthened. Fine, sharp sand or grit should be scattered in the litter for them to pick up. After 48 hours, they should be supplied, being, consisting of a cup of stale egg mashed up with a piece of stale bread, moistened in sweet milk, but fed five times daily. This should be of two hours. Mixed grains of finicky-cracked corn, wheat and pinhead oats may be scattered in the litter after the fourth day. This grain may also be fed in little hoppers, but scratching seems fed by scattering.

Johnny-cake, made of two parts corn meal and one part of bran, should be baked and fed frequently after the fourth day. "Dutch" or cottage cheese is fine to produce growth in chickens, and may be fed hard, however, but the pan of clabbered milk should be heated just enough to separate the whey, and then the soft cheese should be squeezed milk or sour may be given; but fresh, pure water should be supplied at all times. When tallow-scrapes are fed, they may be mixed with bran or dry mashies will be more satisfactory.

A garden has been defined as a "bit of ground in which plants and people grow and love each other."



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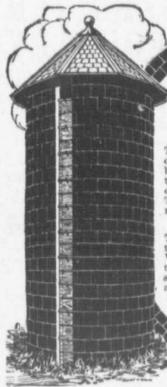
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HORTICULTURE

Canadian Apples at Manchester

Canadian apples show a decrease in 1912 of 9,268 barrels to the port of Manchester. However, to Lancashire in general there is an immense increase, and from Montreal to Liverpool alone there was an increase of 17,000 barrels, and as Liverpool handles apples in a much larger way than Manchester, the increase in Nova Scotia apples may be figured when the importations into Manchester alone increased by 22,354 barrels. The decrease here is due to the fact that the brokers in Manchester cut down their direct purchases in Ontario by about 75 per cent; they depended on consignments.

It is pleasant to note that the efforts of this office to increase the box trade to Manchester, has met with good results. In 1911 the total shipments of box apples to this port amounted to 1,319 boxes, and in 1912 the total was 4,200 boxes, showing an increase during the past year of 2,881 boxes. Box trade in choice Canadian fruit should be encouraged as much better money will be made for same than in barrels. Another reason is that the choice California and Washington fruit finds a large sale here in boxes, and our fruit packed in this way under proper conditions will surely replace the American.

Canadian canned apples have again found a market in Manchester. There had not been any direct shipments to this port during the years 1910-11, but in 1912 shipments of this commodity amounted to 543 cases.

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Orchard and Garden Notes

Apple trees may be top-worked on warm days late in March.

Order two or three hundred strawberry plants. The Senator Dunlap is a good variety.

Purchase a few lilac, mock orange, high-bush cranberry, Black Hills spruce and red cedar to set out this spring.

Hot-beds may be started this month. Radishes, lettuce, onions, beets, and squash are some of the crops that may be planted.

The currant is a good home fruit and needs but little care for good results. Perfection and Red Cross are good varieties.

Orchard trees may be pruned on warm days this month. Do not work when there is frost in the branches as the tools are apt to be broken.

Do not cover such fine seeds as those of celery or petunias deeply. Often a damp cloth laid over the seed on the soil will be enough.

For early onions sow seeded now in flats in the house, in hot-bed and transplant to the open field when the ground is in good condition the latter part of April.

Old berry boxes, tin cans, and paper pots are excellent for transplanting cabbage, tomato, and other early vegetables into until they can be set in the field.

Several weeks' time may be saved in growing muskmelons by planting them in berry boxes in the house or hot-bed early in April and transplanting to the field when danger of frost is past.

Early cabbage seed may be planted the middle of the month. Early Jersey Wakefield is a good variety. Sow in a box of finely prepared soil, placed in the window or in a hot-bed.

When plowing the land for parsnips and other deep-growing root plants, plow deep and keep the manure down deep; otherwise you will have a lot

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are all steel except the Pole. They are braced and stayed to stand all kinds of hard work and wear well. The entire frame, bottom and all, is built of steel.

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The Cages holding the anti-friction rollers are the best yet; they're MADE OF MALLEABLE ALL IN ONE PIECE—no twisting or binding of the bearings on the axle of the "Bissell" Roller. The Seat Spring is reinforced and is DOUBLED AT THE HEEL.

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of surface roots instead of the long, straight roots desired.

The Comet and Victoria strains of alfalfa may be sown this month in boxes in the house and transplanted as soon as large enough. Better results are obtained by using color than by buying the mixed seed, although the mixed seed will do.

Have you planned to let the small boy of the family have at least one acre of land to plant and care for, with the privilege of using the money he may make from the products as he may wish? Try it. The plan has paid with others and it ought to do well on your farm.

Pruning at Planting Time

J. H. Hare, B.S.A. Ontario Co., Ont.
In this district many of our best growers have an erroneous idea of letting the young trees grow a couple of years without pruning. In order to prove the benefit of pruning the trees at the time of planting, an experiment was conducted in our county, in which part of the trees were

Dormant Spraying for Fruit Trees

Now is the time for all fruit growers to begin thinking about applying a dormant wash to their plum and apple trees. This spray should be applied while the tree is still dormant open considerable injury may result, since the materials used are a great deal stronger than those used later in the season. A thorough spraying with a good dormant wash at this time is especially effective, and almost indispensable, against such diseases as apple scab, brown rot of apples and plums, plum pocket and scale insects.

It is a well known fact that the spores of the various diseases may live over the winter on fallen leaves and fruits, and on the branches, in cracks and wounds. Not only the spores have to be taken into consideration, but also the fungous threads, which, after once having gained entrance into the small twigs and



"Small Fruit" Garden, Such as is Possible on Every Farm in Canada.

Small fruits—currants, gooseberries, raspberries—etc., may be grown in every farm-land section of Canada if hardy varieties are selected. This makes the bush fruits of particular value in those sections where the tree fruits have not yet been successfully grown. The garden here illustrated is on the farm of Mr. A. Younis, Chateaugay Dist., Que.

Mr. Younis's son, who makes the garden his special charge, may be seen in the illustration.

—Photo by an editor of Farm and Dairy.

planted just as they came from the nursery while the limbs of the others were cut back to six or eight inches from the trunk.

On the unpruned trees there was almost no growth of wood, the leaves were small and had a dried up appearance and were only about one-half the usual size. The trees appeared to suffer greatly from drought, and did not look healthy. In fact, the owner feared that he would lose them entirely, and the greater number of them were pruned about the middle of August. This seemed to revive the trees to a considerable extent as they put forth new growth. This growth, however, was very soft, not ripening up well and it is doubtful if it will stand the winter.

The trees which were cut back made a vigorous growth of 15 to 16 inches, did not appear to suffer from drought and went into winter quarters with the wood well ripened up. From one-half to one-third the growth should be taken off each year in order to make a good stout vigorous foundation for the trees.

The past has shown the apple buyer that he cannot sell the poor grades of apples.—P. J. Carey, Dominion Fruit Inspector.

It is best to stand foliage plants out of doors during the hot summer months in partial shade. Under the shade of trees, if not too dense, or on the north side of a fence or building is the best place for them in summer time. A layer of coal ashes or a sprinkle of air-slaked lime should be placed for the pots to stand on to keep earth worms out of the pots.

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"This is so, if you use my big galvanized 'George' Shingle and my Galvanized Corrugated Iron in big sheets. They save so much in labor that they pay to use in barns. At one stroke they save erecting cost and they make a barn lightning-proof, fire-proof, strong, warm and independent of repairs or painting. Fire insurance costs less. Upkeep cost is nothing. Use my 'George' metal Shingle and Pedlar Corrugated Iron, and you build economically and wisely."

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APICULTURE

The Profitableness of Bees

Bees are somewhat like hens. They are so small individually that most farmers come easily to the conclusion that profits consequently small and entirely neglect them. Mr. Morley Pettit, Provincial Apiarist of Ontario, is probably in a better position to talk of the profits of bee-keeping than any other man in Canada. He can cite dozens of instances where men are making a profitable living from bees alone. During the past three years he has been conducting cooperative experiments with numerous bee keepers all over Ontario, and has endeavored to say to the profits of the industry and the income possible:

Now to sum up, we have 49 experimenters scattered all over Ontario, with 1,506 colonies, spring count, and 2,080 colonies, fall count. This represents an investment of say \$20,000. Their income for 1912 is first, an increase of 25 colonies, which, without hives, would be worth in the fall at least \$3 each, totaling \$1,722, also 97,042 lbs. of honey, worth at least \$10,000. This gives each of our 49 experimenters the net dividend of 88 per cent. on his capital invested. These figures represent bee-keeping on the farm and do not take into account rent for location, teaming of honey and supplies, labor and other costs for which the farmer-keeper usually does not pay cash. The specialist has all these expenses to face and still makes a good living.

These reports come from experimenters and show that they are getting much better returns from their bees than the average Ontario beekeeper. Even the latter do not do so well as those from whose reports the following summaries are taken. The indifferent beekeeper is holding down the production of honey all over Ontario, until tons of it have to be imported from the United States, in spite of the tariff, to supply the demand. It may surprise many of our beekeepers to know that United States extracted honey, which costs the Canadian dealers 12 cents and more per pound, is being sold in Canadian cities this winter. The average returns from honey sales by cooperative experimenters were given above.

- "The following reports come to this office from various sources:
- "In 1910-1911-1912, 633 beekeepers, from 131,145 colonies, produced 1,643,900 lbs. of honey—an average of 62 lbs. a colony.
- "In 1911-1912, 749 beekeepers, from 32,009 hives, produced 1,489,000 lbs. of honey—an average of 46 lbs. a colony.
- "In 1912-1913, 569 beekeepers, from 29,554 hives, produced 1,011,900 lbs. of honey—an average of 34 lbs. a colony."

Since coming west it is disgusting to see Ontario tomatoes offered at 50 cents for eleven quart baskets, and going begging for more. The United States and British Columbia tomatoes being sold at 20 cents a pound at the same counter, the reason being that the Ontario tomatoes were shipped in eleven quart baskets, the fruit became soft, the baskets gave away, the tomatoes cracked open and the juice ran all over the car and over the floor of the store in which they were being sold, and when they came at any place or price. Be alive to your own interest, gentlemen who are producers, and get the trade which is yours by adopting correct methods.

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Drivers' Rules

1. Start at a walk, and let your horse work very easily for the first half hour.
2. A heavy draft horse should never be driven faster than a walk, with or without a load.
3. Look to your harness. Avoid these faults especially: bris too long or too short; blinders pressing on the eye or flapping; throat-latch too tight; collar too tight or too loose; shaft-girth too loose; traces too long; breeching too low down or too loose; inside reins too long, in the case of pairs.
4. Drive your horse all the time. Feel his mouth gently. Never jerk the reins.
5. Take the horse out of the shafts as much as possible; and if you drive a pair or four, unfasten the outside traces while the horses are standing; they will rest better that way.
6. Teach your horses to go into the collar gradually. When a load is to be started, speak to the horses and

WE must treat the problem of rural life in each of its three aspects. First, agriculture must be regarded as an industry and therefore, like all other industries, must have applied to it the teachings of modern science. That everybody now admits, and most countries are much more liberal in giving that kind of education than they are in the matter of general education. Secondly, agriculture must be treated as a business and its methods must be modernized. The farmers who have only body of workers who have failed to realize that in these days everything must be done in a large way if it is to be done to pay, and that if men have small businesses they must combine together to get the advantages of large transactions. Furthermore - the form of combination suitable to farmers is the cooperative form, and unless this is employed the combinations do not succeed. Thirdly, agriculture must be treated as a life and the social conditions of rural communities must be radically improved so as to stop their eternal drain of all that is best and most enterprising in the population from the country to the town.-Sir Horace Plunkett before the southern Commercial Congress.

take a firm hold of the reins so that they will arch their necks, keep their legs under them, and step on their toes. A loose rein means sprawling and slipping, often with one horse ahead of the other.

7. Water your horse as often as possible. Water in moderate quantities will not hurt him, so long as he keeps taring.

8. Blanket your horse carefully when he stands, especially if he is at all hot. Repeated slight chills stiffen and age a horse before his time.

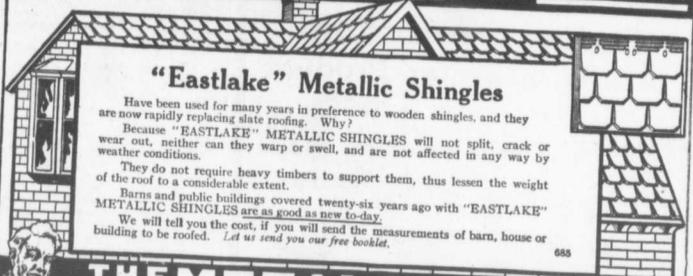
9. Bring your horse in cool and breathing easily. If he comes in hot, he will sweat in the stable, and the sudden stoppage of hard work is bad for his feet.

10. In hot weather or in drawing loads, watch your horse's breathing. If he breathes hard, or short and quick, it is time to stop.

11. Remember that the horse is the most nervous of all animals, and that little things annoy and irritate him. Remember that he will be contented or miserable accordingly as you treat him.

The skill and judgment of the horseman and the pride that he takes in his work are the important factors in determining his success in the breeding of live stock.

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SWINE DEPARTMENT

Our readers are invited to ask questions in regard to swine. Those will be answered in this department. You are also invited to offer helpful suggestions relative to swine raising through these columns.

The Best Crop for Alberta

August Wolf, Edmonton, Alta.

Hon. Archibald McLean, who was a bonanza cattle rancher on the prairies prior to accepting the portfolio as provincial secretary for Alberta in Premier Sifton's cabinet, has become a convert to the homely hog as the real money-maker on the farm.

"The hog is the stock for the farmer without much capital," said Mr. McLean, who is conceded to be the best informed stock-grower in the provincial government, in the course of an interview at the Parliament Building in Edmonton. "Considering the amount of money involved," he added, "I have made more out of pigs in the last few years than I ever earned with beef cattle."

The rancher-cabinet minister would only speculate in form of imagination upon how wealthy he might have become had his steers paid as large profits as the porkers. Continuing in his praise of the pig, he said among other things:

"A farmer can buy a sow for from \$10 to \$20. In six months or so, there is a litter, not less than six pigs. Then, in a short while, the farmer would be able to sell each of the six pigs in the litter for what he paid for the sow. For the little amount of money invested, there's nothing to beat pigs. The supply is coming up, monthly getting nearer the demand. In a country where I believe the farmers in Alberta will be supplying all the pork the province needs."

"Why do you recommend farmers increasing so rapidly?" the interviewer asked.

"Because," said the minister quickly, "there is no good reason why the farmers should not receive prices paid in Winnipeg for their pigs all the time. The mistake at present is that a farmer brings a wagon load of pigs to town without knowing whether there is a demand for pigs on that particular day. If the packing houses and butchers have all they require, only a price beneath that prevailing in the Winnipeg or Calgary markets can be procured, or else the farmer has to take his pigs home again. Since he does not want to do the latter, he usually has to accept the lower price."

"How can that be obviated?" was asked; "a farmer cannot know beforehand whether the town's butchers have killed all the pigs they require to supply the trade."

Mr. McLean answered the question by asking another: "Why should the farmer take his pigs to the town markets? The grower can do much better by selling his pigs on the farm. Let the buyer go to the pigs."

"The principal difficulty at present is that the average buyer will not go out to see pigs unless there is a car-load lot, about 100 animals. The farmers in a given locality could congregate their pigs. With enough to fill a car they could easily get into town with a buyer. It is worth a buyer's while to see these pigs. The farmers are benefited to the extent of being offered the highest prices. They are not, therefore, dependent upon whether the town butcher has or has not, the morning the farmer arrived in town, bought all the pigs he wants."

The cabinet minister, who is thoroughly acquainted with the various districts in Alberta, from the international boundary on the south to the Peace River country on the north, give it as his opinion that the thousands of homesteaders who have come into the province during the last few years will pay more attention to mixed farming, including hog raising, than those earlier settlers; "and," he added, "there is every reason to believe that Alberta will be an exporter of pork and hog products within a few years."

Experiments in Swine Feeding

R. W. Clarke, Animal Husbandman at the Montana Agricultural College, has recently conducted experiments to test cheaper pork producing and also to find what are the best combinations of feeds, the grain feeds for economical production. He summarizes his results as follows:

1. In feeding trials with shorts, barley, and frosted wheat, each with sugar beets, the shorts ration produced the most economical results.

2. Rations of frosted wheat and sugar beets, and frosted wheat, shorts and sugar beets, were not as efficient as shorts and sugar beets. The ration of frosted wheat and beets was made more efficient by the addition of shorts.

3. Shorts as a single food or shorts mixture, was more efficient than barley, frosted wheat or frosted barley, each fed alone or in combination.

4. Wheat frozen in the advanced dough stage had nearly the same feeding value as unfrozen wheat.

5. Adding alfalfa hay to rations of short frosted barley or a ration of equal parts of these two grains, did not change the relative value of the different rations.

6. In feeding shorts alone, wheat alone, and a mixture of equal parts of shorts and wheat, the best gains were secured with shorts and the smallest with wheat.

7. Shorts fed alone and a mixture of barley and good meal produced larger gains than wheat.

8. Alfalfa hay added to a ration of shorts and skim milk increased the gain and decreased the cost of production.

9. Of all the single grains fed, none on the average gave better results than shorts.

10. In feeding frosted grain and sugar beets the efficiency of the rations was increased when shorts were added. Clover or alfalfa hay increased the gain and decreased the cost of production. Contrary to common belief, the addition of such hay to rations of frosted grain and barley is beneficial. If wheat that has been frosted when far advanced in the dough stage can be purchased at a reduced price, it can be fed with as good results as unfrosted wheat and with greater profit. The ration of barley and blood meal fed to hogs did not give any better results than shorts alone.

11. Five sows farrowed 29 pigs, and in 12 months they and their pigs produced a total gain of 4,894 pounds and consumed 19,167 pounds of grain, 2,405 pounds of skim milk, 125.5 pounds of dried blood, and 4,598 pounds of clover and alfalfa hay. The total cost of feeding the sows and pigs at prices then prevailing was \$215.13 and the value of the gain \$318.11, showing a profit of \$102.98.

12. In summer on irrigated pasture, mature dry sows required 2.3 pounds of grain per hundred pounds live weight per day to maintain their weights, while in winter, with all the clover hay they would eat, one pound of grain per hundred pounds live weight per day was required.

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A concrete is being afforded apart. This is a six-foot the inside both ends, lumber. The end two panel form board opposed the forms the n into which For this w three by fo

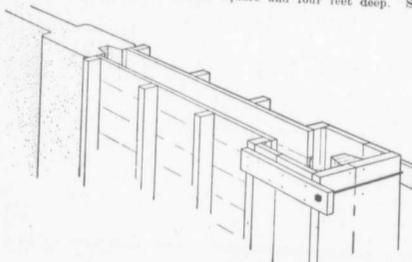
Concrete Wind-Break Fences

To be healthy and profitable, livestock need exercise—in winter as well as in summer. Formerly stockmen and dairymen used high stone fences and dense hedges to shield their exercise-lots from wintry blasts. Since such wind-walls have objectionable features, and are also now everywhere possible, many farmers are now building their wind-breaks of concrete.

Begin constructing the wind-break

with the four-inch dimension nailed to the form and the sides level to produce a three-inch face. Through this beveled piece, three inches from the top and bottom, bore two five-eighths of three-eighths rods are placed and allowed to project one foot into the next panel.

Using the post mold only, build the end or corner post of the wind-break and, if necessary, make an extra mortise in it. Dig the hole 12 inches square and four feet deep. Set up



Molds for the Construction of a Windbreak Fence

on that side of the exercise-lot from which the winter winds most often blow. A very convenient way to build the wall is in panel sections 12 feet long, six feet high and six inches thick, with a foundation one foot thick and extending three feet into the ground. Supporting one end of this panel, and built at the same time, is a large concrete post one foot square, six feet above ground and four feet below. The other end of the panel is keyed into the mortise in a similar large post molded at the previous operation, as shown in drawing below.

The forms for the panel are simply two independent walls of one-inch siding on two by four-inch uprights six feet in length and spaced two feet

the post form, plumb it carefully with a carpenter's level and fill with moist wet concrete. Proportion the concrete one bag of Portland cement to four cubic feet of pit gravel, or one bag of cement to two cubic feet of sand and four cubic feet of crushed rock. Reinforce the post, one and one-half inches from each corner, with a three-eighths-inch rod nine feet long. Wire these rods securely together, diagonally, near the top. Remember to insert the short lengths of rods which tie the post to the next panel.

ADDING ADDITIONAL PANELS

In warm weather the post form (as well as that for the panel) may be removed in three days. Then dig the next four-foot post hole and three-

Homeseekers', Settlers', and Colonist Excursion to the West

Those taking advantage of above Excursions should bear in mind the many exclusive features offered by the Canadian Pacific Railway in connection with a trip to the West. It is the only all-Canadian route. Only line operating through trains to Western Canada. No change of depots. Only line operating through standard and tourist sleepers to Winnipeg and Vancouver. All equipment is owned and operated by Canadian Pacific Railway, affording the highest form of efficiency.

Homeseekers' rates will be in effect each Tuesday, March 3rd to October 28th inclusive, and round-trip second-class tickets will be issued via Canadian Pacific Railway from Ontario points at very low rates—for example, Winnipeg and return \$35, Edmonton and return \$43, and other points in proportion. Return limit, two months.

Each Tuesday during March and April, the Canadian Pacific will run Settlers' Excursion Train to Winnipeg and West, for the accommodation of Settlers travelling with live stock and effects, a colonist car will be attached to the settlers' effects train. This car will leave Toronto on regular train at 10.20 p.m., arriving at West Toronto it will be attached to settlers' effects train as mentioned above.

For those not travelling with stock and effects, special Colonist cars will be attached to regular train leaving Toronto at 10.20 p.m., and run through to Winnipeg without change. No charge is made for accommodation in Colonist cars.

Tourist sleeping cars are also operated on regular train leaving Toronto 10.20 p.m. One-way Colonist Rates to Vancouver, Victoria, Seattle, Wash., Spokane, Wash., Portland, Ore., Nelson, B. C., Los Angeles, Cal., San Diego, Cal., San Francisco, Cal., etc., will be in effect daily March 15th to April 15th inclusive.

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A Concrete Fence for a Windbreak

A concrete fence such as the one here illustrated, the construction of which is described in the adjoining article, is of decided advantage on the live stock farm, affording as it does a shelter from wintry winds during the exercising hour.

foot panel trench. Fill them with concrete and immediately set up the post and panel forms with the latter butting against the last-made concrete post. Reinforce the post as before from the top and the bottom and half-way up the wall, with two three-eighths-inch bars equally spaced from each other and the sides of the form. Labor of lifting the concrete can be lightened by slipping the boards in place on one side of the panel

is a six-foot box 12 inches square on the inside and open on one face and both ends. It is made of two-inch lumber. The open side butts against the end two by four uprights of the panel forms. To the inside of the board opposite this open face is nailed the wedge-shaped timber which forms the mortise lengthwise the post into which the next panel is keyed. For this wedge-shaped timber use a three by four (or a built-up piece)

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form as they are needed. Build section after section until the wind-break is completed. Keep animals away from the wind-break until it is two weeks old.

For one section of panel and post, 12 feet 9 inches over all, there will be required five barrels of Portland cement, one and one-half cubic yards of sand, three cubic yards of crushed rock and 10 pieces of three-eighths-inch by 12-foot steel reinforcement bars. The usual cost of these materials is \$12.

Dairymen find that an exercise-lot, enclosed by a concrete wind-break, largely increases the milk yield of their dairy cows. Such a paddock ensures a safe and secluded enclosure for bulls and stallions. Paved with concrete, it is an ideal feed lot where not a particle of grain or manure need be wasted. The same general plan is adaptable to building ornamental garden walls.

I am a reader of the Farm and Dairy, and enjoy the reading it contains. We have taken Farm and Dairy for two years, and think it is just fine, and could not do without it at all.—L. L. Scott, Wellington Co., Ont.

Humor of the Maple Bush
R. W. Whiteside, Victoria Co., Ont.

One of the tantalizing factors of spring and the maple bush is the uncertainty of the time to tap the trees. If tapped too early the trees dry up and the sap freezes and bulges the bottom of the sap knockers causing them to leak, and the snow, not having sunk much, and the hard crust on it, makes one regret tapping too early.

Another serious difficulty is the uncertainty of walking on a crust that bears you up for a few yards, then down you sink, and your two large pails of sap fall flat before your face, foolishly floundering forward, forbearing foul furies. Having a variety of spouts and loops on large 60 pound square cans and small 10 quart knockers, and having no adjustment tools at hand, one must let the sap fall on the ground. Precious sap! Only requiring from 30 to 40 gallons to make one gallon of syrup, according as the flow is rapid or slow.

One has his heart in his mouth the first warm afternoon as he goes around delivering five spiles and five buckets at each half of 10 or 20 rods. The crust is soft and the old mare

has scarcely encountered one deep snow drift than she sees a worse one just ahead. The next morning we go around to tap, either on the crust or to wallow through the deep snow, carrying two or three buckets in one hand and a small axe, brace and three-eighths bit, and five spiles in the other.

When the first run comes, the program is somewhat diversified as instead of a sleigh or jumper with a few light buckets, we have a three barrel tank to be drawn and ourselves to carry two heavy pails of sap instead of three or four light buckets. As the snow rapidly leaves the exposed parts of the wood, we have tough bare ground, and deep snow and deeper water holes in the shady parts. When no frost is on the ground, any old saphead knows what it is to secure syrup and sugar. To add to his uneasiness, when any delay occurs on a long round to the back of the woods he suddenly remembers that he left a veement fire on and not much sap in the pan, and the storage tank or the regulator may kick up just then.

When just about to finish you may find you have forgotten to have some water to quench the fire and the

pump is 30 rods away; or the finishing pan foams up and begins to boil over and you have forgotten to provide some grease or fat pork, cream, cold syrup, or sap, or even cold water, to throw in immediately. Then, when it comes to selling, everyone wants their supply specially from the first run of sap.

Items of Interest

The Ontario Agriculture and Experimental Union will in 1913 conduct further experiments in connection with the department of Apiculture. Ontario beekeepers who are interested in improved methods of handling their bees, would do well to write to Morley Pettit, Provincial Apiarist, Ontario Agricultural College, Guelph, for full information regarding these experiments.

The richness of the strippings is one reason why we should milk the cow dry. Another is that the cow will soon dry up altogether, if not milked out twice a day.

He who forgets the bad he knows about people and remembers only the good could not have a better memory.

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Words of Appreciation

I have been in the west for the past year or 15 months and occasionally a Farm and Dairy got this far. When I was farming in Prince Edward county I looked forward with great pleasure to receiving Farm and Dairy but since coming west I have engaged in other business which does not relate to, although it depends on the farmer, and his business.

Although your paper has not been of practical assistance to me in my present occupation, still it was read when it came with a great deal of pleasure. If I ever go into farming again the first thing I do will be to renew my subscription to your paper. On account of the Farm and Dairy I bought a Babcock Testing outfit and made our cows "toe the mark," as well as improving other branches of the farm. But that is all past now and I will not require the paper in a practical way again so far as I see now. Wishing you success with Farm and Dairy.—Geo. Milford, Lethbridge, Alta.

What a Run Out Farm Needs

J. A. Macdonald, Carleton Co., Ont.

I have found that the dairy farm, of all farms, never runs down if properly conducted. I know of no branch of farming that will bring up a run-down farm as quickly and as permanently as dairying with a herd of good cows, providing there are plenty of calves and pigs to use up the by-product. Dairying with a herd of indifferent cows and no calves or pigs will, however, fail to enrich a farm or its owner. In fact, a poor herd of cows, poorly fed, and with no animals to use up the by-product, it is my observation, will likely impoverish the farm and the farmer, and it is because so many try to run a dairy on the unsatisfactory and gives cause for the oft-repeated cry that "Dairying does not pay."

In my neighborhood a poor herd is usually poorly fed, the product fetches poor prices. The manure from poorly fed cows is of inferior value, the pastures are poor, the product infirm and the owner lacks that enthusiasm and confidence observable in a real dairyman.

The crops grown by the real dairyman are comparatively easy on the land. The following figures prove the truth of my statement. They show the amount of necessary fertilizing ingredients taken from the land by a given amount of corn and wheat. The crop of one acre of corn, 30,000 lbs., removes from the ground:

- 40.7 lbs. nitrogen
- 15.7 lbs. phosphoric acid.
- 9. lbs. of potash.

A 30-bushel crop of wheat removes from the soil:

- 45. lbs. nitrogen.
- 22.7 lbs. phosphoric acid.
- 45.28 lbs. potash.

This wheat, which is usually sold, removes from the farm that which should be retained to fertilize the soil. If the dairy farmer will grow a crop of oats, or some such feeding grain, instead of wheat, and feed this grain at a profit to his cows, he will not diminish, but actually improve, the productive power of the farm. An honest good plan would be to sell the wheat (if he must grow it as the rotation) and buy bran and other concentrated foods high in fertilizing value.

When the dairyman sells 1,000 lbs. of milk only the following manurial constituents are sold:

- 5.4 lbs. nitrogen.
- 2.5 lbs. phosphoric acid.
- 1.7 lbs. potash.

If butter is sold, the fertility sold is practically nil, and the better the

butter the less fertility is lost. When selling 1,000 lbs. of butter we sell only one lb. of nitrogen and two lbs. of phosphoric acid—about 25 cents' worth of fertility in \$300 worth of product. Then from the 1,000 pounds of butter sold there would be 20,000 lbs. of skim milk, worth, to feed calves and pigs, \$60, besides the accumulative profits of growing calves of improved dairy capacity.

How to Build a Dairy Herd

By S. E. Jones.

Get your idea well fixed in your mind, and have that idea left by you. Without a good model, the most skillful sculptor cannot produce a work of art; either can a painter bring forth a picture upon his canvas for people to admire. It becomes just as necessary for you to fix upon your own model in order that all your efforts may be directed toward reproducing this ideal in the living creatures of your herd.

Knowing that the characteristics of sire and dam are likely to be reproduced in their offspring, remember this law in making your first purchase.

Now secure one or two of the finest females of milk-producing strain you can afford. If you cannot afford a good cow, you are not ready to found a herd.

DUAL PURPOSE CATTLE A MISTAKE

In making this selection, be sure first of all that your dams come from a line of good milk producers. We hear a great deal about the dual-purpose cow. I believe this theory of the dual purpose of stock is a mistake. No such theory should hold with a true breeder of dairy cattle. To make a beef, one should breed a sire which is true of milk and good beef. The same your selection with this in mind. It is important also to select a breed that matures young. Other things being equal, there is no sense in waiting three years for a heifer to freshen, if you can secure a strain which will freshen in less time. This is so simple a business proposition that I need no further comment. Yet many inexperienced beginners overlook this important direction.

Much assistance may be gained from men who have made a success of dairy breeding. Visit with such men. Counsel with them. Study their herds. Quiz them. Get all the information from them you can, and I will say that I believe that, as a class, they are as willing, or more so, to give you the benefit of their experience as any set of men in any line of work.

TEMPERAMENT HEREDITARY

In addition to the above points, look well to the temperament of your dams. Even the temperament is likely to be transmitted to the offspring, consequently it is wise to select such as are quiet and docile in disposition. And lastly, see to it that your females are sound and free from hereditary disease. This will insure strong and vigorous offspring.

The sire has been said to be two-thirds of the herd. This statement has not been overthrown. If you must economize in any part of the herd, let it not be here. The sire cannot be too good. To select any sire but the money foolhardy. A scrub sire will reproduce a scrub calf just as surely as a purebred herd sire is likely to reproduce his quality. It follows that one should never head his herd with any but a pure bred sire and one that is bred closely in the line. He should be vigorous and strong—one whose ancestors have strong official records far at least four generations. His vigor, vitality and constitution are indeed very important points to be taken into consideration.



Now and here—not then and there—lies your opportunity. The Ford product has been multiplied by two-and-a-half—but the demand has been multiplied by four. If you want one for spring service you must get it now. Don't delay.

There are more than 226,000 Fords on the world's highways—the best possible testimony to their unexcelled worth. Prices—runabout \$675—touring car \$750—town car \$1000—with all equipment, f.o.b. Walkerville, Ont. Get particulars from Ford Motor Company of Canada, Limited, Walkerville, Ontario, Canada.

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Siberian Oats, clean and pure, 70c per bush. No. 21 barley, from hand selected seed, absolutely pure, \$1.25 per bush. Empire Btato, Delaware and Satisfaction Potatoes, all from selected registered seed. \$2 per bag. Cash with order, bus free. A. HUTCHINSON, MOUNT FERRIS, ONT.

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Watch the Result

If your dealer cannot supply you, write direct for samples and prices.

The Canada Linseed Oil Mills

Mills at LIMITED

MONTREAL and TORONTO

FARM AND DAIRY

AND RURAL HOME

Published by the Rural Publishing Company, Limited.

I. FARM AND DAIRY is published every Thursday. It is the official organ of the British Columbia, Eastern and Western Ontario, and Bedford District, Quebec, Dairywomen's Associations, and of the Canadian Holstein Cattle Raisers' Association. U. S. Representative: W. H. Stockwell, 62 Peoples Gas Building, Chicago, Ill.

II. SUBSCRIPTION PRICE, \$1.00 a year. Great Britain, \$1.20 a year. For all countries, except Canada and Great Britain, add 50c for postage. Notices of the expiration of subscriptions are sent to all subscribers, who then continue to receive the paper until they send notice of discontinuation. No subscription is continued for more than one year after date of expiration. A year's subscription free for a club of two new subscribers.

III. ADVERTISING RATES should be made by Post Office or Money Order, or Registered Letter. Postage stamps accepted for amounts less than \$10. No charge add 20 cents for exchange fee required at the bank.

IV. CHANGE OF ADDRESS.—When a change of address is ordered, both the old and new addresses must be given.

V. ADVERTISING RATES quoted on application. Copy received up to the Friday preceding the following week's issue.

VI. WE INVITE FARMERS to write us on an agricultural topic. We are always pleased to receive practical articles.

CIRCULATION STATEMENT.—The paid subscriptions to *Farm and Dairy* exceed 15,248. The actual circulation of each issue, including copies of the paper sent subscribers who are but slightly in arrears, and sample copies, varies from 14,130 to 17,200 copies. No subscriptions are accepted at less than the full subscription rates. The annual detailed statements of the circulation of the paper, showing its distribution by counties and provinces, will be mailed free on request.

OUR GUARANTEE.—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 matter. We turn away all unscrupulous advertisers. Should any advertiser herein advertise 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 in writing to advertisers you state: "I saw your advertisement in *Farm and Dairy*." Returns shall not ply their trade at the expense of our subscribers, who are our friends through the medium of these columns; but we shall not attempt to adjust trifling disputes between subscribers and honorable business men who advertise, nor pay the debts of honest bankrupts.

FARM AND DAIRY

PETERBORO, ONT.

THE MANURE WASTE

A well-kept manure heap may be safely taken as one of the surest indications of thrift and success in farming. Neglect of this resource causes losses, which though little appreciated, are vast in extent. Waste of manure is both so common as to breed indifference and so silent as to escape notice. Many of us have no idea what a valuable fertilizer we have in farmyard manure. But without it or its equivalent our farms would not continue long to produce crops.

Experiments indicate that the average fertilizing value of the manure produced in a year by different farm animals is as follows: Horses, twenty-seven dollars; cattle, twenty dollars; hogs, four dollars. Reasoning on this basis the value of the manure produced on a farm supporting six horses, twenty-five head of

cattle and twelve hogs would be seven hundred dollars. This estimate is based on values usually assigned to the fertilizing ingredients of commercial fertilizers and is possibly somewhat too high from the practical standpoint. Offsetting this, however, is the value of farmyard manure to the mechanical condition of all soils, which value is not found in commercial fertilizers.

Experts who have studied the fertilizer problem tell us that it is safe to assume that fully one-third of the fertilizing value of farmyard manure is lost through careless management. At this conservative estimate the yearly loss through indifference in the handling of manure amounts to over \$300 on the average 150 acre farm.

We may not appreciate how serious this loss is while the natural fertility of our soils will stand the strain that we make upon it. The time is coming, however, when we will have to consider this loss and when it will take many years to bring our soils back to the state of fertility that they would have been in did we start right now to make the best use of farmyard manure. Let us do it now.

RURAL INFLUENCE ON MORALITY

"Uncle Henry" Wallace, editor of "Wallace's Farmer," and chairman of the Roosevelt Country Life Commission, never tires of telling of the advantages, both to the individual and the nation of life on the farm. Speaking recently at a farmers' gathering in Nebraska, "Uncle Henry" declared that a survey of Iowa statistics showed that the million people on the farms of that state, furnish but ten per cent. of the criminals, while the million and a quarter of the city dwellers furnish ninety per cent. of the criminals. It is safe to infer that some of that nine per cent. of country criminals owe their criminal instincts to contact with city influences.

We believe that if we had a similar survey of Canada it would have proved that in this country, too, the cities are furnishing the criminals, and that the maintenance of a highly moral population in our country depends on our maintaining a numerous and contented rural population. Here we have another reason why our Canadian people should regard with apprehension the depopulation of our rural districts.

As we have stated many times, the population of rural Ontario is now 100,000 less than it was ten years ago. In the three maritime provinces rural population also shows an actual decrease. In Quebec there has been a slight increase in the rural population, and in the Western Provinces decided increases. But in no province of Canada has the country population increased proportionately with the city population. The effect that rural depopulation will have on our economic status is serious enough to make this problem one of first importance. But it is more than an economic problem. The continuation of this exodus from the

farms is a menace to the well-being and the morality of the Canadian people. It must be checked. How? We believe that the solution is easy. Give the farmer a chance to make his occupation as remunerative financially as are other occupations, and the question will solve itself. This solution involves "the elimination of all special privilege monopolies."

LAGGING BEHIND

Canada is one of the very few civilized countries of the world without an adequate parcels post system. We, in this new country, generally consider that we are much more progressive than are the peoples of the older continents; but in this one department at least we are lagging behind. The people of Spain have long had parcels post. The same is true of Italy. And these are countries that we are inclined to look down on; we regard their people as being intellectually our inferiors. We would never think of placing the people of the South American Republics in the same class with ourselves; and yet in spite of the revolutions and counter-revolutions that have characterized their political career, several of the Latin Republics of America have instituted parcels post. The more progressive of the older countries—Great Britain, France, and Germany—all have their parcels post system. We formerly had the United States for company in our lagged way, but now our neighbors to the south have seen the errors of their way and adopted a parcels post measure. We are left alone.

It might be illuminating to discover why the United States and Canada, two countries that have made more progress economically than any other two countries in the world in recent years, should have been the last to harness our Post Office Departments for the carrying of parcels. We believe that the principal reason for our backwardness lies in the fact that we have allowed private corporations to gain control of our transportation facilities, that these corporations in their turn have gained control of our legislators, and through the influence that they (the companies) have brought to bear, post office reform has been kept in the background. In the fight for parcels post in the United States, the retail merchant associations fought the measure bitterly, but most of the opposition came from the express companies and their accomplices, the railway companies, who feared that parcels post might seriously compete with them, making a reduction of express rates necessary.

It took the farmers' organizations of the United States almost a score of years to convince legislators at Washington that they were deserving of more consideration than a few express companies. The farmers of Canada have now opened a similar fight. Both eastern and western farmers' organizations have endorsed parcels post. We have not yet heard

FREIGHT rate extortion is worse. And land extortion is responsible for more poverty than the other two combined and multiplied many times. These evils can be remedied only by legislation secured through the united action of all. Many of us, however, are subjecting ourselves to greater extortion than do these outside agencies. Poor seed, poor cows and poor business methods are making thousands of farmers poor. These sources of extortion can be eliminated, each man for himself.

from the opposition, the transportation companies and the merchants, but there is nothing surer than that the same bitter fight must be waged in Canada as was waged in the United States. Every farmer in this country should write his representative in Parliament, stating his views on parcels post. Did the member find that a good percentage of his constituents were interested enough in the subject to write him about it, he and other members would very soon see to it that satisfactory legislation was enacted.

Selling the Farm

(Hoard's Dairyman)

There seems to be a regular bewitchment in the minds of many farmers to sell their farms when they get to be about fifty years of age and move into some village. As a general thing, those farmers are very poor judges of what it costs to live in town and they are also poor judges of how much the farm helped them to make a good living.

A few years ago a farmer informed us that he could sell his farm for \$12,000 and he thought he would do so and move to Fort Atkinson. We urged him strongly not to sell the farm, even if he moved to town, for as we observed, "the interest on the money will not support you anywhere near as comfortably as the farm does it in an abode of one-half." We figured it to him in this wise:

"After buying a home in town you will not have more than \$9,000 left. This will earn at 5 per cent only \$450. Taxes, insurance and repairs will carry out over \$50 a year and how can you live on \$400? The old farm furnished lots of vegetables, eggs, milk, cream and meat that you never gave a credit for, but which you would have to buy out in cash. The farm with its herd of cows ought to earn at least \$1,500 to \$2,000 a year and it will do it if it is in the hands of an industrious, honest tenant. But your old head, Bill, is just as good for manacment as it ever was. Why not hire some good married man with a helper, and run the farm yourself? It will keep your blood stirring, your mind employed and you will get double out of it in the way of support that you will if you depend upon the interest from its purchase price."

Bill concluded to take our advice and has the old farm yet and all the increased support that has come from the rise in land.

We have seen some very sad mistakes come from selling the old farm. The poor house of this country is the refuge to-day for several of these mistakes, and it may be the same in other countries. It is best to hang to the old farm as long as possible.

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Opportunities on the Farm
Gordon McGregor, Northumberland Co., Ont.

It is stated that 90 per cent. of the automobiles in the United States are owned by farmers. Why can't we have an even higher percentage in Ontario with heavy draft horses selling at \$250 to \$300; winter eggs selling at a premium, while \$1,000 is a common thing for a fair-sized well-kept orchard? Dairy cattle (registered) sell from \$100 to \$1,000 each, while the supply of hogs, milk, etc., is away below the demand. Yet farmers fail to produce these products.

Farming is bound to go ahead if it is given a chance. Few farmers keep books for there are few who can, as it is no taught in our public schools. Fewer still have an office in which to transact business. In-

AD. TALK

LXXI.

When the news went out last week that Mr. Geo. H. Pedlar was dead, many thousands of people experienced a sense of loss. These were the farmer people who these many years back have come to know Mr. Pedlar through his personal signed advertisements, each carrying his portrait.

In November, when we saw Mr. Pedlar last, he talked of living to be 100 years old. He was then completing the Pedlar mausoleum, in the Union cemetery at Oshawa, to have it ready when the end did come. He was always looking ahead—always a man of vision—great vision—even unto death! Had you seen the man and been given to reading heads, you would have observed the reason for his vision and intuitive sense.

His was an unusual head, as you may have noted in his advertisements; it was truly remarkable in its make-up, giving him withal great faculties of vision and initiative. And that great strong jaw of his, how it could hold on and drive him to persevere in spite of any odds!

He was originally a tinker; had a small tinsmith establishment in what was then a very small town. Now, at his death, he leaves a gigantic institution—an immense business—the plant in Oshawa being the largest concern of its kind under the British flag and doing a business of some \$4000 a day.

His vision, or faculty of imagination, early led him to see clearly how he must advertise to let people know he was in a business making a product that they needed. His ads. are familiar to everyone throughout the land. For years he used full pages in the leading farm papers, and today his Company is one of the largest users of Canadian farm paper advertising space, creating a market, ever growing, and assisting sales.

Now, although the chapter is closed for him on earth, his business will go on. The Pedlar People, Ltd., have branch offices and large warehouses in Toronto, Montreal, Ottawa, London, Chatham, Winnipeg and Vancouver, and in several other important centres, and their goods are handled by agents in many foreign countries.

Truly great is this business made so by the personality of Mr. Pedlar, whose vision of the possibilities of the country has made his name and products known in the farm homes of Canada, of course, including those of the readers of *Farm and Dairy*—

"A Paper Farmers Swear By"

gine a doctor or lawyer without an office, yet these men only make a living and sometimes not a very good one at that, while a farmer could actually turn his farm into a gold mine by adopting proper business methods.

If you find anyone keeping an account on a farm it is generally the boy. He sees his father transact business and put the money down in his deep, cavernous pockets. The father goes to town and spends it all, then comes home and tells the book-keeper what he spent wisely, but doesn't tell what he spent foolishly on tobacco and the like. The boy's balance sheet still shows a good profit. He suggests some needed improvements on the place. The father proudly declares he hasn't money for such foolishness, declaring that it is only for rich people to think of such things, and the boy, his ideal of a great, well managed farm broken, disheer becomes an easy-going, disinterested farmer like his father, or sends it up in disgust for some other less profitable sphere in life.

Lime in the Stable

J. R. Jobb, Oxford Co., Ont.

At various times I have seen it advocated that dairymen use lime on the stable floor to ensure cleanliness. The use of this lime would cause one of the greatest evils that could happen around the farm. Lime hastens the decomposition of the manure and the escape of the ammonia in the form of ammonium carbonate. And ammonia contains nitrogen, the most valuable element of plant food.

If we must use a clarifier in the stable, let it be land plaster or phosphate. It has the effect of saving the ammonia in the form of the solid ammonium sulphate. This is a small point but an important one.

How to Restore Competition

Warren E. Irwin and Co., Stock Brokers and members of the Consolidated Stock Exchange of New York, in a recent market letter, discuss the causes of the high cost of living. Coming from those who are usually supposed to profit through conditions as they are, their ideas are worthy of consideration. The following is an extract from their letter:

"We believe in competition—equal opportunities to all to produce and to exchange products. But two important reforms are necessary to restore or to create such freedom of production: 1. Abolish all tariff and other laws that grant special favors and create monopolies. 2. Remove all other taxes and obtain all revenue by taxing what is called the unearned increment of land values.

"We hope that the voters of this and other countries will agree with us in time to experiment with these simple reforms, before they make experiments with Socialism—very dangerous experiments as we fear they will prove to be. We are quite certain that Governor Wilson does not fully understand the present meaning of these two apparently simple reforms. Otherwise, he would, as we believe, not lay such great stress upon anti-monopoly legislation, as he laid recently when he announced his 'sweeping program of changes in the corporation laws of New Jersey,' and the introduction of seven drastic anti-monopoly bills. Free and unrestricted competition never be restored by putting trust officials in jails and penitentiaries. It will be restored only when we remove those officials from temptation by wiping out the special privilege law that are back of all monopolies. Much will be accomplished by reducing tariff duties to a revenue basis."



Cheapest As Well As Best

Every sensible person wants the best of everything, but in many things the best is beyond their means and they must necessarily be content with something less.

In the case of the Cream Separator, however, the best is fortunately the cheapest as well, and it is of the greatest importance that every buyer of a separator should know this.



Moreover, the best is of more importance in the case of the Cream Separator than in anything else, since it means a saving or a waste twice a day every day in the year for many years.

It is true that DE LAVAL Separators cost a little more in first place than some inferior separators, but that counts for nothing against the fact that they save their cost every year over any other separator, while they last an average twenty years as compared with an average two years in the case of other separators.

And if first cost is a serious consideration a DE LAVAL machine can be bought on such liberal terms that it will actually save and pay for itself.

These are all important facts which every buyer of a Cream Separator should understand and which every local DE LAVAL agent is glad to explain and demonstrate to the satisfaction of the intending buyer.

If you don't know the nearest DE LAVAL agent simply address the nearest of our main offices as below.

DE LAVAL DAIRY SUPPLY CO., LIMITED
MONTREAL PETERBORO WINNIPEG VANCOUVER

SPECIAL PRICES ON QUANTITIES

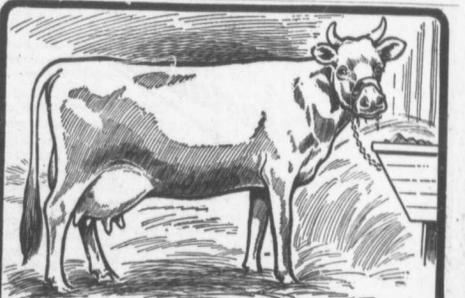
O. A. C. No. 21 RADLEY, choice threshed and not scoured. Ten bushels carefully lots, 85 cents. Best cotton bags 25 cents each. Write early and be sure of satisfaction.

H. R. NIXON, - ST. GEORGE, ONT.

FOR SALE AND WANT ADVERTISING

TWO CENTS A WORD, CASH WITH ORDER

FOR SALE—Iron Pipe, Pulleys, Belting, Ralls, Chain Wire Fencing, Iron Posts, etc., all done very cheap. Send for list, stating what you want.—The Imperial Waste and Metal Co. Dept. F. D., Queen Street, Montreal.



The Feed That Makes the Cream

Livingston's Oil Cake is the cheapest feed for cows—cheaper than corn, shorts or even hay. Because it actually increases the richness of cream—and also increases the amount of butter that you get out of the milk.

Test your cows before and after feeding Livingston's Oil Cake for a month—and your "butter money" will show its economy.

Livingston's Oil Cakes contain from 8 to 18 of pure Lined Oil—are soft enough to break into small bits—and are completely and easily digested. Write us for samples and prices if your dealer cannot supply you. Dominion Lined Oil Co., Limited, Redon, Toronto, Montreal.

Livingston's Dairy Oil Cake

A FARMER'S GARDEN

IS without real serious meaning to any thousand farmers because they think it is too hard work or it is not convenient to work a horse, so many farmers fail to understand what truly wonderful possibilities there are in modern hand tools

IRON AGE Wheel Hoes and Drills (See also in Canada) do all of the sowing, hoeing, cultivating, weeding, turning, ridding, etc. in any garden with better results, far less work and some real pleasure for the operator. Ask your dealer about them and write us for our booklet. "Landmen with Modern Tools" also copy of our paper "Iron Age Farm and Garden." News—both are free. The Rutland-Whitcomb Co., Limited Toronto, Ontario. 42 Campbell Ave.

A Pure Wholesome Nutritious Meal CALFINE

CALVES LAMBS COLTS PIGS GUARANTEED ANALYSIS Protein . 20 per cent. Fat . . . 8 per cent. Fibre . . 4 per cent. Save \$15.00 to \$20.00 on Your Calf Feed Write for Booklet and Prices CANADIAN CEREAL AND FLOUR MILLS, LIMITED Toronto, Ontario

Creamery Department

Butter makers are invited to send contributions to this department, to ask questions on matters relating to butter making and to suggest subjects for discussion. Address letters to Creamery Department.

Working Together

This is a true copy of a letter from a buttermaker recently received by one of the Dairy Record advertisers in the East, and, by the way, it is not the only one of its kind that finds its way from the creameries to the merchants:

"Your last returns at hand. I want to say that I am very satisfied with same. Your remarks about hot weather flavors and off quality are all right; at least, I know that our last two shipments have not been up to the standard and any time we have complaint coming I am ready to take one. I have been engaged long enough in creameries to know it every time if there is anything wrong with our butter.

"I use every precaution to teach our patrons to bring in cream in first-class condition, and I have even returned lots of it already, but a creamery man has to have lots of patience and must not be too radical in order to keep the good thing coming. Therefore, if there are any complaints about our butter, do not be afraid to let me know about them. Have our tubs been moldy in the past?"

HE HAD RIGHT IDEA The buttermaker who wrote this letter evidently has the right idea about the relationship between the creamery and the merchant. On the

receipt of a complaint he does not go right straight up in the air, nor does he switch around and ship to another house, leaving the old house that was honestly trying to help him, to wonder if it really be true that creamery men are just as quick to change as are the farmers who are over ready with their "If you don't like it I'll ship."

He knows when his butter isn't up to its usual standard, and deep down in his heart every buttermaker knows when he falls down. If he is any buttermaker at all he knows, because, even if he is unable to score the butter accurately, he knows or ought to know the quality of his raw material, and he cannot but know the conditions and methods in his own factory. So, after all, it is a great deal more sensible and more profitable in the long run to acknowledge the shortcomings and cooperate with the receivers of the butter in improving the quality.—Dairy Record.

Artificial refrigeration in creameries has come to stay, but it is hardly time yet to say that all creameries, regardless of size and other conditions, should install a refrigerating plant, and there are no doubt many places where natural ice should be used for some time at least. On the other hand, it is difficult to predict how long it will be before every creamery doing a fair amount of business will find it a paying proposition to use artificial refrigeration in place of ice.

I tested 1,144 samples of milk this year for adulteration and I am pleased indeed to report that not one sample was found wrong and that this diabolical form of thievery is about dead.—A. H. Wilson, Dairy Instructor, Leeds Co., Ont.

FOR SALE BUTTER FACTORY EQUIPMENT

Complete and in good order. Also three steel gang cheese presses, cheese hoops, milk vats. Very cheap to quick buyer. F. A. OLMSTEAD, - SUTTON, P. Q.

CHEESE MAKER WANTED

Good experienced man to take charge of factory. Duties to commence May 1st, 1913. Apply to OAK GROVE CHEESE & BUTTER CO. Limited. NEW HAWBURY, ONT.

CREAM WANTED Highest City prices paid for cream. We furnish cans, pay all charges, remit promptly. Haven't paid less than 3c for two months. Write TORONTO CREAMERY CO. LTD. Toronto

FOR SALE

Second-hand Milk Vats and Agitators complete. In first-class condition. Also Gang Presses and Strain Tubes. For prices and particulars, apply Box 1823, FARM AND DAIRY, PETERBORO, ONT.

WANTED

Unmarried Buttermaker for cream-gathering creamery. State qualifications. Full particulars on application to Box 1823, FARM AND DAIRY, PETERBORO, ONT.

Creamery for Sale

Creamery, running summer and winter. Very large make. Everything in first-class order. Large house. Good ice house and refrigerating large stock with sheds and other buildings 4 acres good land. Close to town and railroad. This is one of the best dairy districts in Ontario. Write NELSON SCHATZ, - BADEN, ONT.

What The Dealer Can Show You

GO and see the Standard cream separator at our agent's in your locality. It will strike you as being a handsome, compact, convenient-looking machine.

First appearances will delight you. And naturally you'll want to know more about the



You'll want to know why it has earned the title of "The World's Greatest Separator." Our dealer will be glad to show you.

He will show you the low supply can. You will smile cheerfully when you notice that it is over one foot lower than the supply cans on ordinary separators. The high and awkward lifting of a pailful of milk are banished with the Standard.

Then he will get you to step over and turn the crank. You will see right away that you don't have to do any back-breaking stooping.

The Standard eliminates that, by having the crank shaft four inches higher than on other separators.

Easy To Clean

Next, he will show you the wide open bowl. You will observe that there are no milk or cream tubes to clog up. And the discs, on a special disc holder, can all be washed in a minute. If your wife is present, this feature will make her happy.

And when you are looking at the discs, the dealer will call your attention to the unusually wide space between the discs and the bowl. This space accommodates the impurities in the milk and prevents the discs getting clogged. It means absolutely clean cream and no waste.

He will next direct your attention to the fact that the only visible moving part of the separator is the crank, the gearing being entirely enclosed, which banishes all danger of the children getting clothes caught or fingers crushed should they venture to touch the machine when it is running.

Self-Oiling System

He will ask if you can find any grease cups or glass lubricators on machine. You can't, because the Standard hasn't any. Its self-oiling system



automatically supplies the working parts with a continuous bath of oil. And the oil cannot drip on to the floor and be wasted either.

He will show you — but we've not the space here to tell you all you'll see. But we've a catalog that describes the Standard very fully. Also a folder, entitled "Skimming Results," which gives what we believe are world's records for close skimming accomplished by the Standard. If you cannot conveniently visit the dealer, write for this catalog and folder. Of course, you'll want them right away, so mail us a card or letter promptly.

The Renfrew Machinery Co., Limited

Head Office: and Factory: RENFREW, Ontario

Agencies Everywhere in Canada



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For information send us your West Toronto

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etc. Seed Pkg. quotations assured. CRAMPTON & K

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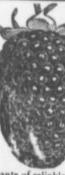
Toulouse Co. bred stock. 3 day. Barred. Barred. Blue. C. Rock. Pullets. Hens. \$1.75 each. Partridge. Leghorn. Hens. Order early. H. WHARTON



For Sale CEMENT TILES, all sizes send in your business. Acme Tile Machine

CALVES

Steel. Brigs



plants of reliable shipment by mail. N. E. MALL

SKIPPED NO

Every bill you pay means money in your pocket. This is the only plan perfectly unless there is a hard correction of money



"LONDON" Drain Tile Machine
 Makes all sizes of tile from 3 to 16 inches. Cement Drain Tile are here to stay. Large profits in the business. If interested send for catalogue.
LONDON CONCRETE MACHINERY CO.
 DEPT. B.
 LONDON, - ONT.
 Largest manufacturers of Concrete Machinery in Canada.

Cheese Department
 Makers are invited to send contributions to this department, to ask questions on matters relating to cheese making and to suggest subjects for discussion. Address letters to The Cheese Maker's Department.

Reduce Cost of Production
 In both Canada and the United States the cheesemaker is receiving too little for the manufacture of cheese. J. A. Rudlick, Dairy Commissioner for Canada, recommends that manufacturing prices be advanced one-half a cent to a cent a pound. Discussing the same problem in a recent issue of the "Dairy Record," Mr. T. A. Theobald, a Wisconsin cheesemaker recommends a reduction in cost of production. He says:

men. System is one of the greatest labor savers there is. This is especially true in a cheese factory where there are so many small details to look after.

ANOTHER SMALL WASTE
 Another saving might be effected by not using an excessive amount of rennet extract. There are not a few factories that are using more every day than is necessary. A certain quantity of rennet extract is the right amount per thousand pounds of milk. This has been demonstrated time and again. Now, if this is true, to use a larger amount does not turn out as good a cheese in the end as the right amount. From two and one-half to three ounces of rennet extract, of standard strength, is enough for normal milk, yet many cheesemakers use four ounces per thousand pounds of milk and more daily.

BEAVER DAIRY SUPPLIES

IN SUMMER THE DEMAND FOR MILK INCREASES

Are you prepared to handle the increased demand for milk? Would not a few suggestions on coping with this additional trade help you? Write us to-day and we'll send you a book of very helpful suggestions. On your service. Address: **DEPT. "B"**

W.A. DRUMMOND & CO.
 214-KING, ST. EAST
 TORONTO - CANADA

FERTILIZERS
 For information regarding all kinds of mixed and mineral fertilizers of the highest grade write **THE WILLIAM DAVIES CO., LTD.**
 West Toronto - Ontario

Seed Grain All standard varieties of Oats, Barley, etc. Seed Potatoes. Write for prices and quotations. Eight years old. Satisfaction assured.
CRAMPSEY & KELLY, GOVERNMENT RD., TORONTO, ONT.

Cheesemakers
 Make big money in your spare time getting subscriptions for *Farm and Dairy*. Write our circulation department now for full particulars.

EGGS AND POULTRY FOR SALE
 Toulouse Game Eggs, from large purebred stock, \$3.00 per half doz. Bred-to-day. Harrod Rock Eggs, \$1.00 per doz. Barred Rock, \$2.50 each. Barred Rock Pullets, \$2.00 each. Harrod Rock Hens, \$1.75 each. Harrod Rock from bred-to-day strain. Silver Grey Dorking Pullets, \$2.00 each. Partridge Rock Pullets, \$2.00 each. Leghorn Hens, \$1.50 each. All pure bred. Order early.
E. WARTON, EDEN MILLS, ONT.

The prices for making cheese are too low, and cheese supplies are high. The high and going still higher. The cheesemaker assumes a great deal of responsibility, and hardly makes fair wages, yet the farmer cannot afford to pay more for having his cheese made, for feeds are very high and farm labor is the most expensive labor employed, considering the skill and education required in different lines of employment.

Some cheesemakers color their cheese too high for the general market. There is nothing gained by putting in a half ounce extra per thousand pounds of milk, and remember color is expensive.

The same holds good with salt. If a good cheese salt is used, two pounds to a thousand pounds of milk is sufficient for a normal curd in the summer time, yet we know of plenty of cheesemakers who use three pounds. In this one item the cost of production might be reduced one-third, and your cheese would be improved. Too much salt makes a dry, hard cheese.

595 AND UPWARD

AMERICAN SEPARATOR

THIS SEPARATOR IS NO CATCH. It is a solid machine to stand well made, a fine running separator for \$1.50. It separates milk making heavy cream. It is built from the best small dairies, hotels and large families. Inferred from this picture, which illustrates our large capacity separator, easily cleaned. Cheesemakers made generally from **W. H. N. P. CO. OF CANADA** ST. JOHN, N. B. Write for more details and obtain our handsome free catalogue.

AMERICAN SEPARATOR CO., BAINBRIDGE, F.Y.

TILE

For Sale Cement, Sewer Pipe & Drain Tile, all sizes. Corning and Townships send in your orders to **JOY & SON**, Nanawana, Ontario. Agents for Acme Tile Machines and Six Rock Machines.

LET COST BE LESS
 To solve this problem, both cheesemakers and dairymen should turn their attention to cheapening the cost of production. If a cheesemaker would keep a careful record of all his expenses, and balance at the end of each month, he might discover leaks that are unnecessary. He might take one item at a time, and study it carefully from day to day, and see what chances there are for cutting down expenses. While looking over a large manufacturing plant in Milwaukee, we were shown through the engine and boiler rooms, and were told that some of their firemen used a third more coal to raise the same amount of steam. Here is a pointer for you, and might mean quite a saving for your cheese factory.

MAKE FULL SIZE CHEESE
 Weigh the curd into the hoops, and make the cheese full size. This has several advantages. Your cheese look better to be all of a size; you use all the bandages, and bandages are quite an expense to the factory, and, by having your cheese full size, you get the full use out of your cheese box. Some factories I have noticed turn, out their trays at 60 to 62 pounds to the box. The standard size for twine is 66 pounds. The difference between 62 and 66 pounds means quite a number of boxes during the season.

WANTED
 An Assistant for the St. Paul Cheese Factory for the coming season. Address **MR. MCNISH, R. R. NO. 6, ST. THOMAS, ONT.**

CALVES RAISE THEM WITHOUT MILK Booklet Free. **Steele, Briggs Seed Co. Ltd., Toronto, Ont.**

Mallory's Seed Corn
 Highly productive, prize winning strains of best standard varieties at moderate prices. Strong growing seed. Shipped on ten day approval. Returnable on our terms. Send for samples and circular. Also Berry shipment by mail express.
N. E. MALLORY, Blenheim, Ont.

SAVE IN STEAM
 Then try to ripen your milk so that you do not have to keep up steam all day. Quite a saving may be effected in this way. Arrange your work so that it can be done with the least possible labor and done wet. To cheapen the cost of production does not mean to slight anything; on the contrary, this might actually increase the cost of production.

Over-Cooked Curd
 Overheating of curd in the whey will, unless rectified by subsequent handling of the curd, produce a "dry" body in cheese, a body that is variously characterized as too firm, corky, mealy or rubbery. If an accident of this kind happens there will usually be no need of waiting for acid development, and the lowering of the temperature can readily be accomplished by turning off steam and partially replacing the whey with water.

Get this **LOUDEN** Bird Proof **Barn Door Hanger**

and have the barn door hang and run right for all time. This is positively the finest Barn Door Hanger on the market. As its name implies birds cannot build in the track. The track is hollow with closed ends. No ice or snow in winter or trash in summer can possibly get in to clog it. Runs on two strongly leaved rubber wheels always smooth and easy running. Hinged so as to make it flexible and to allow the door to swing upwards and upwards if occasion requires.

SKIPPED HILLS RAISE NO POTATOES
 Every hill you miss in planting means money lost out of your pocket. No machine can plant perfectly unless there is a hand correction of missed spots.

IRON ACE Improved Potato Planter
 This machine is made in Canada! It is a seed sowing and spacing machine. No picks used and he can be controlled. Perfect spacing of seed and uniform spacing. No hand weeding. For more details write for booklet, which will be mailed immediately on receipt of "request." We make full size and trade sizes. Write to **William C. Eastel, 100 Chalmers Ave., Toronto, Ont.**

Have things arranged so that the milk can be weighed and taken into the factory in the shortest possible length of time. Remember farm any of it for the farmer.

Where power agitators are used, and these set to work to stir the milk while it is being taken in, this would relieve the helper of doing that work, and he could be taking the cheese out of the press or doing some other labor that is usually put off until later on. Some factories that are using three men now would get along with two if all the work about the factory were carefully systematized, and the work need not be any harder for the two men than it is now for the three

To counteract the drying effects of overcooked curd it is usually recommended to pile it higher, keep the air from drying curd further by placing hot water in the vat, milling later than usual and using somewhat less salt than customary. The correction of the difficulty by soaking curd in pure cold water after milling is effective, though by the removal of the milk sugar from the curd the keeping quality is injured, and we believe cheese so made should be branded to indicate their nature—N. Y. Produce Review.

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 —over 47 years of experience and practical experience go to make Louden goods efficient and reliable. We make

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 including Cow Stalls, Stanchions, Litter and Feed Cans, Hay Forks and Slings.

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 Dept. 90 - GUELPH, Ont. 9



OUR grand business is not to see what lies dimly at a distance, but to do what lies clearly at hand.—
Carlyle.

Rose of Old Harpeth

By MARIA THOMPSON DAVISS

"Copyright, 1912, The Bobbs-Merrill Company"

(Continued from last week)

"I'S as He will daughter," answered Uncle Tucker as he laid a tender hand on the braids resting against his shoulder. "It isn't wrong for us to go on keeping it if we can just pay the interest to our friend—pay it to the day. That is the only thing that troubles me. We must not fail behind and—"

"Oh, but honey-sweet, let me tell you, let me tell you!" exclaimed Rose Mary with shining eyes, "I've got just lots of money, more than twenty dollars, nearly twice more. I've saved it just in case we did need it for this or—or any other thing," she added hastily, not willing to disclose her tooth project even to Uncle Tucker's sympathetic ear. Uncle Tucker's large eyes brightened with relief for a second and then clouded with a mist of tears.

"What were you saving it for, child?" he asked with a quaver in his sweet old voice, and his hand clasped hers more closely. "You don't ever have what pretty women like you want and need, and that's what grinds down on me most hard and est of all. You are young and—and mighty beautiful, and looks like it's wrong for you to lay down yourself for us who are a good long way on the other side of life's ridge. I ought to send you back across the hills to— to find your own—no matter what happens!"

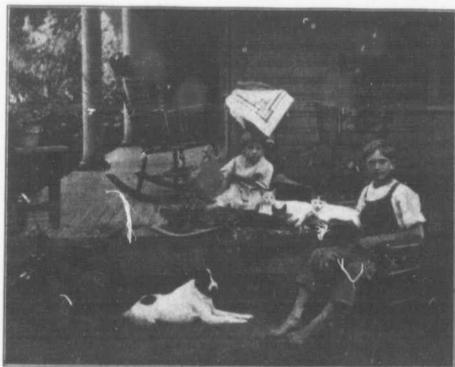
"Try it!" answered Rose Mary, again lifting her star eyes to his. "I was saving that money to buy Aunt Viney a set of teeth that she thinks she wants, but I know she couldn't use them when she gets them. If I'm as beautiful as you say, isn't this blue homespun of over twentieth century style, adorned enough? Some people—that is some one—Mr. Mark said this morning it was—was chic, which means most awfully stylish. I've got one for my back and one for the tub all out of the same old blue spread, and a white linen marvel contrived from a pair of sheets for Sunday. Please don't send me out into the big world—other people might not think me as lovely as you do," and her railery was most beautifully dauntless.

"The Lord bless you and keep you and make the sun to shine upon you, flower of His own Kingdom," answered Uncle Tucker with a comforted smile breaking over his wistful old face. "I had mighty high dreams about you when that young man talked his oil-wells to me a months ago, and I wanted my rose to do some of her flowering for the world to see, but maybe—maybe—"

"She'll flower best here, where her roots go down into Sweetbriar hearts—and Sweetbriar prayers, Uncle Tucker; she knows that's true, and so do you," answered Rose Mary

quickly. "And anyway, Mr. Mark is making the soil survey for you, and if we follow his directions there is no telling what we will make next year, maybe the interest and some of the money, too, and the teeth—and a sky-blue silk robe for me—and that's what you'd like to see me wear, though it would be inconvenient with the milking and the butter and—"

"Tucker, oh Brother Tucker!" came a call across the garden fence from the house, in a weak but com-



The Joy of Ownership is Common to All

Why is it that this little boy is so proud of his ferrier, that this little girl thinks that her kittens are just it? It is because they own them and the responsibility that goes with it, particularly when the things owned are living animals, does much to develop in children those traits that will afterwards make them useful men and women.

manding voice, and Rose Mary caught a glimpse of Miss Lavinia's white mob cap bobbing at the end of the porch, "that is in Proverbs tenth and nineteenth, and not nineteenth and tenth, like you said. You come right in here and get it straight in your head before the next sun sets on your ignorance."

"Fly-away!" exclaimed Uncle Tucker "now Sister Viney's never going to forgive me that Bible slip-up if I don't persuade her from now on till supper. But there is nothing more for you to do out here, Rose Mary, the sun'll put out the light for you," and he hurried away down the path and through the garden gate.

Rose Mary remained leaning over the garden wall, looking up and down the road with inquesting shining in her eyes and a laugh and nod for the neighbors who were hurrying superward or stopping to talk with one another over fences and gates.

A group of men and boys stood and sat on the porch in front of the store, and their big voices rang out there and again with hearty merriment at some exchange of wit or clever bit of horse-play. Two women stood in deep declave over by the Potet gate, and the subject of the council was a small bundle of flannel and lawn displayed with evident pride by a comely young woman in a pink calico dress. Seeing Rose Mary at the wall they both smiled and started in her direction, the bearer of the bundle stepping carefully across the ditch at the side of the walk.

"Lands alive, Rose Mary, you never did see nothing as pretty as this set Potet baby," exclaimed Mrs. Plunkett enthusiastically. "The year before last one, let me see, weren't that Evelina Virginia, Mis' Potet? Yes, Evelina Virginia was mighty pretty, but this one beats her. I declare, if you was to fall us with these spring babies, Mis' Potet, it would be a disappointment to the whole of Sweetbriar. Come next April it will be seven without a year's break, astonishing as it do sound."

"It would be as bad as the sweetbriar roses not blooming, Mrs. Potet," laughed Rose Mary as she held out her arms for the bundle which cuddled against her breast in a woman-maddening fashion that made her clasp the mite as close as she dared.

"Yes, I tell you, seven hard-run-

the store for some tansy, when he weren't a hour old, he found all the menfolks had done named him that for us, and it looked like we didn't have the chance to pass the compliment. We ain't told you-all nothing about it, for they all wanted Mr. Tucker to read it in the deed first."

"And ain't them men a-going to have a good time when they see Mr. Tucker that deed to read? Looks like, even if it is some trouble, you couldn't hardly begrudge Sweetbriar these April babies, Mis' Potet," said Mrs. Plunkett in a consoling voice.

"Law, Mis' Plunkett, I don't mind it one bit. It ain't a nite of trouble to me to have 'em," answered the mother of the seven boys. "You see, all are so kind to help me out all the time with everything. Course we are poor, but Jim makes enough to feed us, and every single child I've got is a good thing, just as big down size for somebody else's children. Five of 'em just stair-steps into clothes of Mis' Rucker's four, and Mis' Nickols saves me all of Bob's going to the doctor, so I never have a mite of worry over any of 'em."

"Yes, I reckon maybe the worry spread over seven don't have a chance to come to a head on any one of 'em," declared Mrs. Plunkett thoughtfully, and her shoulders began to stoop dejectedly as a perturbed expression dawned into her grey eyes. "Better take him on home now, Mis' Potet, cot and all, it is house-time for babies in my opinion. Hand him over, Rose Mary!"

Thus admonished, with a last, clinging embrace, Rose Mary delivered young Tucker to his mother, who departed with him in the direction of the Potet cottage over beyond the milk-house.

"Is anything worrying you, Mrs. Plunkett, or has that old woman Rose Mary as her neighbor lingered for a moment and glanced at her with wistful eyes. Mrs. Plunkett was small, though round, with mournful big eyes and clad all in time in the most decorous of widow's weeds, even if they were of necessity of black calico on week days. Soft little curls fell dejectedly down over her eyes and her red mouth defined a dimple that had been wont to shine at the left corner, and kept to confines of straight-tipped propriety.

"It's about Louisa Helen again and her light-mindedness. I don't see how a daughter of mine can act as she does with such a little feeling. Last night Mr. Crabtree shut up the store before eight o'clock and put on his coat to come over and set on the front steps a-avisting of her, and in less'n a half hour that Bob Nickols had whistled for her from the corner, and she stood at the front steps a-avisting about every light in Sweetbriar was put out, and I know it muster been past nine o'clock. And there I had to set a-trying to distract Mr. Crabtree from her light-headedness. We talked about Mr. Plunkett and all our young days and I felt real comforted. If I can just get Louisa Helen to see what a proper husband Thomas Crabtree will make for her, and her mouth set down comfortable like. He wants her bad, from all the signs I can see."

"But—but isn't Louisa Helen a little young for—?" began Rose Mary, taking what seemed a reasonable line of consolation.

"No, she's not too young to marry," answered her mother with spirit. "Louisa Helen, eighteen years old in May, and I was married to Mr. Plunkett before my eighteenth birthday. He was twenty-one, and I treated him with proper respect, too, and never had no fault to say. Louisa Helen says to that Nickols boy, even to Mr. Crabtree, hisself."

(Continued on page 24.)

Flower and Vegetable Seeds

Selecting good seed has a great deal to do with the ultimate success of growing flowers or vegetables. The love of flowers should inspire those who cultivate them to select the choicest and most reliable seeds. Gardening for profit or pastime should be done with a view to getting the best results. The size, quantity and excellence of flowers and vegetables are things that are governed largely by the character, strength and pedigree of the seeds.

should be done with a view to getting the best results. The size, quantity and excellence of flowers and vegetables are things that are governed largely by the character, strength and pedigree of the seeds.

CARTER'S TESTED ENGLISH SEEDS

These famous seeds are known, sown and grown the world over. Wherever used they have made extraordinary records for productiveness. Your flowers and your garden vegetables for next season will be the admiration of all who see them and a source of pride and satisfaction to yourself if you sow Carter's Tested Seeds this Spring. Order from the catalogue. Write for a copy at once, so you can order early.

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A DELIGHTFULLY healthful summer and winter climate with neither extremes of heat or cold—a well distributed rainfall, varying from 45 to 60 inches annually—the production of nearly all fruit, vegetable and other crops known to the temperate zone—the rural telephone, improved highways, modern schools, ample church and social privileges—these are some of the advantages that tend to make the Southeast the "Home Land of the Nation."

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The Dunleith farm in Mississippi, from a 28 acre field of alfalfa averaged six tons per acre for five cuttings. The net profits were \$69.17 an acre at the local selling price of \$15 per ton.

There is not a state in the South today which does not import annually over \$10,000,000 worth of beef, yet Government experiments have proved that beef can be produced cheaper in the Southeast than elsewhere in America, the cost varying from 3 to 4 cents per pound.

Over \$32,000,000 worth of butter is shipped into the Southern Railway States each year, though nowhere else can dairy goods be produced so cheaply.

Northern Florida truckers were marketing strawberries the latter part of December, receiving locally \$1.00 per quart.

Good Land \$15 an Acre Up

The present price of Southeastern land is but a fraction of the cost of those in other sections. Good two and three crop lands are selling from \$15 to \$50 an acre, prices varying according to improvements and location.

Market Conditions Favor Farmers

The large consumption of farm produce by the rapidly growing cities, towns and factory districts of the South, and the Northern market for winter truck will always exceed the supply, thereby maintaining good profits to the producer.

You should investigate now the wonderful opportunities of this section. Send for the "Southern Field," our free magazine, mention the State and line of agriculture in which you are interested, and booklets and land lists will be sent.

M. V. RICHARDS, Land and Industrial Agent, Room 30 Washington, D. C.

Rose of Old Harpeth

(Continued from page 22.)

"Oh, please don't worry about 'em," said Mrs. Plunkett. She is just so lovely and young—and happy. You and I both know what it is to be like that. Sometimes I feel as if she were just my own youngness that I had kept pressed in a book and I had found it when I wasn't looking for it." And Rose Mary's smile was so very lovely that even Mrs. Plunkett was dazzled to behold.

"Lands alive, Rose Mary, you carry your thirty years mighty easy, and that's no mistake. You put me in mind of that bluish penny bush of yore by the front gate. When it blooms it makes all the other flowers look like they was too pudy to shake out a petal. And for sheep's eyes, them glances Mr. Gid Newsome casts at you makes all of Bob Nickols' look like foolish lamb squints. And for what Mr. Mark does in the line of sheeps—now there they come, and I can see from Louisa Helen's looks she have invited that rampage in to supper. I'll have to hurry and get me a knock up an extra sally-lunn for him, I reckon. Good-bye till morning!" And Mrs. Plunkett hurried away to the preparation of supper for the suitor of her disapproval.

For a few moments longer Rose Mary let her eyes go roaming over the valley that was lying in a quiet hush of twilight.

Lights had flashed up in the windows over the village and a night breeze was showering down a fall of apple-blow from the gnarled old tree that stood like a great bouquet beside the front steps of the Briars. All the orchards along the Road were in bloom and a fragrance lay heavy over the pastures and mingled with the earth scent of the fields, newly upturned by the plowing for spring wheat.

"Is that a excitement you've got camping in the garden, Rose Mary?" asked Everett. He came up the front walk in the moonlight some two hours later and found Rose Mary seated on the top of the front steps, all alone with a perfectly dark and sleep-quiet house behind her.

Rose Mary laughed and tossed a handful of the pink blue that had gathered over her shoulder. "Did you have your supper at Bolivar?" she asked solicitously. "I saved you some; wait it?"

"Yes, I had a repast at the Citizens' but I think can manage yours an hour or two later," answered Everett as he seated himself beside her and lighted a cigar, from which he began to puff rings down into the moonlight as he sat down on to them through the young leaves of the bloom-covered old tree.

"You weren't afraid of frost such a night as this, were you?" he further inquired, as he took a deep breath of the soft, perfume-laden air.

"I'm not now, but a cool breeze blew up about sundown and made me afraid for my garden babies. Now I'm sure they will all wilt under your covers, and you'll have to help me take them all off before you go to bed. Isn't it strange how loving things make you get when they wail freeze or wilt or get wet or cold or hungry?" asked Rose Mary with such delightful ingenuousness that a warm little flush rose over Everett's collar. "Owing just frightens itself, like children in the dark," she added musingly.

"And you saved my supper for me?" asked Everett softly.

"Of course I did; for you know I would!" asked Rose Mary quickly, in her simplicity of heart not at all catching the subtle drift of his question. "They all missed you, and Uncle Tucker meant to feed almost grumpy, while Stonie—"

"Rose Marie," came in the sleep but determined voice as a General in a long-tailed nightshirt appeared in the dark doorway, "I want to sleep and you never came back to hear me pray. Something woke me; maybe the puppy in my bed or maybe God. I'll come out there and say 'em so he won't wake the puppy, because he's gone back to sleep," he added in a voice that was hushed to a tone of extreme consideration for the slumber of his young bed-fellow.

"Yes, honey-heart, come say them hush. Mr. Mark won't mind, I came back, Stonie, to hear them, truly I did, but you were so fast to sleep and so tired I hated to wake you." And Rose Mary held out tender arms to the little chap who came and knelt on the floor at her side, between her and Everett.

"But, Rose Mamie, you know Aunt Vine says tired ain't no 'scuse to the Lord, and I don't think it are neither. I reckon He's tired, too, sometimes, but He don't go back on the praying. It wouldn't be fair. Now start me!" and having in a completely argumentative way stated his feelings on the subject of neglected prayer, the General buried his head on Rose Mary's shoulder, folded one bare, pink foot across the other, clasped his hands at proper angle and waited.

"Now I lay me," began Rose Mary in a low and tender tone.

"No," remonstrated Stonie in a smothered voice from her shoulder.



A Good Idea in Planting

The outside privy surrounded by a tall cedar hedges.

"This is 'Our Father's' week! Don't tire out the yard with the 'Now I lay me,' Rose Mamie!"

With an exclamation of regret Rose Mary clasped him closer and led the petition on through to its last word, though it was with difficulty that the sleepy General realized him Amen, his will being strong but his flesh weak. The little black head burrowed under Rose Mary's chin and the clasped pink feet relaxed before the final words were said. For a few minutes Rose Mary held him tenderly and buried her face against the back of the sun-burnt little neck while as helpless as young Tucker Stonie willed upon her breast and floated off into the depths. And for still a few seconds longer Everett sat very still and watched him with a curious gleam in his eyes and his teeth set hard in his cigar; then he rose, bent over and very tenderly lifted the relaxed General in his arms and without a word strode into the house with him, very carefully he held him in the little cot that stood beside Rose

(Continued next week)

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Are Girls Worth Educating

Mrs. J. Muldrew, Red Deer, Alta.

Quite recently, in discussing the value of training in Home Economics for girls, a very fair-minded man, and one that greatly favored this kind of education, said to me: "I find a good deal of opposition to the teaching of Household Science. Both men and women tell me that once a girl has had training at one of these schools she is never contented to go back home and work again, and that she is helpless if she has not the faculty at her finger tips, and that the schools, instead of making a girl a better worker, simply make her discontented with home conditions."

Now there may be a good deal of

OUR business is not to build quickly, but to build upon a right foundation and in a right spirit. Life is more than a mere competition between man and man; it is not what can be done first, but who work best; it is not who can rise highest in the shortest time, but who is working most patiently and lovingly in accordance with the designs of God.—Joseph Parker.

truth in these statements, and the discontent may be a divine discontent. Our young men are sent by the hundreds to College to learn agriculture, and when these boys return from College, one of them may be heard to say to his father: "Father, we are a long way behind the times, and this old farm is not much more than paying expenses." Now if you want me to do this work so as to get the very best results and to make this farm worth working, you will have to do the work in the proper machinery, to do the work in the way that I have seen it demonstrated."

If this father happens to be a progressive man, and if he has any faith in the boy and in the educational institutions where he has received his training, he will not hesitate to give the boy a chance to see what he can do with the education that he has received. If, on the other hand, he is a pig-headed man, or one who has become fossilized and can see no good in modern methods, or if he is a vain man, and it hurts his vanity to think that his child can teach him anything, he will very likely say that the College is a nuisance, and that his boy is no good for anything since he went there. You will hear him grumble somewhat to this tune:

IS IT ANY WONDER

"My boy is not content to do farming in the way I was taught to do it. He is not the man with the hoe. He wants the cultivator, says there is no sense in his keeping the farm, but will make the farm keep him, and that is more to this effect. The college is a nuisance than anything else."

While all will agree that all boys and all girls that go to College do not come back paragons of wisdom, I think we are also agreed that the College may not be altogether the blame. I am reminded of a remark from the "Letters of a Self-Made Merchant to his Son," "College doesn't neither does it make wise men; it only develops them."

If a young girl goes to a College to learn the most approved methods and the wisest and the most up-to-date systematic housekeeping, and on her return to her home says: "Mother, we are 50 years behind the times in our housekeeping, and father gets credit for being the most progressive man in the county." I hold that there is something radically wrong with that household that a sensible girl

with good training and a fair chance can do a lot to mend.

I believe, too, that we should give the girls the same chance that the boys get. Girls are our most valuable asset to this country as boys are, and if we are to make the right amount of progress, it is only by seeing that the girls get all the chances they can to develop into as progressive home-makers as the boys get, to be progressive in agriculture or any other kind of business they may undertake.

FRESH AIR FOR ANIMALS

Sometimes when I go around the country, and see a splendid barn, up to date in every respect, and hear the animals talk of the value of fresh air for the animals to breathe, and a good

water supply, I am led to wonder a bit as I look at the low-ill-ventilated place where the cats and dogs spend Sundays, whether he does not spend more thought on the living condition of the cattle, horses and pigs than he does upon his good wife and children. I wonder if he often discusses the question of fresh air for the children, if he knows how many cubic feet of fresh air they ought to have, and whether they have it or not.

I wonder, too, if in looking into the face of his wife, he does not realize that the fresh girl that 10 years ago was the pride of his heart, is fast becoming an old woman, and is losing the elasticity from her step, and is cheer from her voice, that she is seldom anything but tired, and that he has not taken her or sent her away from home for a rest for years.

The centre of the farm life is the home, and the centre of the home is the woman that is trying to make this place her own, and if out of this place were art to expect men of brain and brawn, men with strong moral force, the place to begin is with the education of the women who are to have the direction of them during their childhood's days.

We are all familiar with the reply to the question as to when the education of a boy should begin. "Begin with his grandmother." As people of this generation are looking out towards the future of Canada, we are alive to the value of education, and have provided good public schools, but there are some things that the schools as they now are cannot compass, and to everyone who can at all afford it, I would beg that they do not forget to be generous with the special training that today can be secured for the very girl. At least we should think that it is the same consideration that is given to the boys, and that if it seems only plain common sense to educate a boy in terms of his daily life, it is equally demanded that the same be dealt out to the girls.

When making pastry that is to be served cold, milk should be used for the cream as the pastry will keep crisp longer than if mixed with water.

If, afterwards, after being blanchéd, are plunged into cold water they will keep snow white. To blanch them it is best to put them in the cold water and let it come just to the boiling point.



THE PLAYTIME WASHER

Means a saving of money to the farmer and his wife. The time and energy spent over the wash tub could be employed more profitably in some other way. It might mean more and better butter, poultry, fruit and eggs. The "Playtime" is adapted to either hand or power operation. In either case it eliminates the HARD work of washing and saves wear and tear on the clothes.

Get your dealer to show you the "Playtime" or send us for full literature.

Cammer-Dawell Ltd., Hamilton, Ont.

Seeds Grown by Rennie are the best it is possible to produce

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Full of interesting and instructive information for the Farmer and Gardener. Tells what and how to plant. A bright book—profusely illustrated. Shall we send you a copy? If so, write to-day.

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It Pays to Clip
It's a well-known fact that sheep are healthier and tender better because they are clipped. The heavy coat that matted the wool around their necks and heads, looks better, gets more food, and grows more wool. The best and most successful way to clip is with the Stewart Clipping Machine.

The Stewart Clipping Machine

It's a well-known fact that sheep are healthier and tender better because they are clipped. The heavy coat that matted the wool around their necks and heads, looks better, gets more food, and grows more wool. The best and most successful way to clip is with the Stewart Clipping Machine. It's a well-known fact that sheep are healthier and tender better because they are clipped. The heavy coat that matted the wool around their necks and heads, looks better, gets more food, and grows more wool. The best and most successful way to clip is with the Stewart Clipping Machine.

CHICAGO FLEXIBLE SHEAF CO., 272 Ontario St., CHICAGO, ILL. Write for complete catalog showing wools, markets and most modern line of horse clipping and sheep shearing machines.

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It contains 400 pages, illustrated. Gives all the medicine, doses and remedies—just what you want to know even if you do call in your Horse Doctor. Paper bound edition given free for one New subscription that you will send us for Farm and Dairy, and 10 cents extra to cover cost of mailing. The quality paper is of additional value. Get the New subscriber and send your name to us. Only limited number of these valuable books are available. FARM AND DAIRY, PETERBORO, ONT.

Homeseekers' Excursions

TO MANITOBA, SASKATCHEWAN AND ALBERTA
Each Tuesday March 25 to October 15 inclusive via Chicago to October 15. Through coaches and Pullman Tourist Sleeping Cars will leave Toronto 11 p.m. on above dates for WINNIPEG. No Change of Cars. WINNIPEG AND RETURN \$35.00 EDMONTON AND RETURN \$43.00 Tickets good for 60 days. Proportionate low rates to other points.

Settlers' Excursions

TO ALBERTA AND SASKATCHEWAN
March 15th and every TUESDAY thereafter until APRIL 25th inclusive, from stations in Ontario, Peterboro, Port Hope and West. Through Coaches and Tourist Sleeping Cars to WINNIPEG without change, leaving Toronto 11 p.m. on above dates. Low Rates.

Get it right down and digs out the dirt, try it on your Kitchen Floor-



Many uses and full directions on large wrapper—Can 15c

Lakemont Place, Kingmere, Que. FOR SALE

Situated in one of the most beautiful and beautiful Canadian summer resorts, having a grand view of the Gatineau Mountains, on a good automobile road and near the Lake, splendidly furnished for a summer hotel and a general line of farming industry, or for a gentleman's summer residence. Could be subdivided for summer cottages. For particulars apply to A. GILLIVRAY, 673 ECHO DRIVE, OTTAWA, ONT. CANADA

THIS WASHER MUST PAY FOR ITSELF.

AMAN tried to sell me a horse once. He said it was a fine horse and had nothing the matter with it. I was told it was a fine horse, but I didn't see anything about horse much. And I didn't know the man very well either.

He told him I wanted to try a horse for a month. He said "All right, I'll give you a pack my first, and I'll give you back your money if you don't like it all right."

Well, I didn't like that horse at all. I was afraid the horse was "at all right" and that I might have to waste for my money if I once parted with it. So I didn't buy the horse, although I was told it was "at all right". Now, this set me to thinking.

You see I make Washers—the "1000 Gravity" Washer.

And I said to myself, lots of people may think about my Washing Machine as I thought about the horse, and about the man who owned it. But I'd never know, because they wouldn't write and tell me. You see I sell my Washing Machines by mail. I have sold over half a million that way. So, thought I, it is only fair enough to let people know, before they pay for them just as I wanted to try the horse.

Now, I know that you "1000 Gravity" Washer will do. I know it will wash the clothes, without scrubbing or tearing, in less than half the time they can be washed by hand or by any other machine.

I know it will wash a tub full of very dirty clothes in six minutes. I know other machines were invented that cost, without wearing the clothes. Our "1000 Gravity" Washer does the work every day that would cost you at least as much as a strong woman, and it don't wear the clothes, fry the skin, or break buttons, the way all other machines do.

It just drives soapy water clear through the fibers of the clothes like a force pump might.

So, said I to myself, I will do with my "1000 Gravity" Washer what I wanted the man to do with the horse. Only I won't wait for people to see me. I'll offer it, and I'll make good the offer every time.

Let me send you a "1000 Gravity" Washer on a five day free trial. I'll pay the freight out of my own pocket, and if you don't want the machine after you've used it a month, I'll take it back and pay the freight too. Surely that is fair enough, isn't it?

Doesn't it prove that the "1000 Gravity" Washer must be all that I say it is? You can't pay me out of what it saves for you. It will save in whole cost in a few months for you and tear on the clothes alone. And it will save me 75 cents a week over that in a woman's wages. So, keep the machine after the month's trial, I'll let you pay for it out of what it saves you. If it saves you, I'll take that cheerfully, and I'll wait for my money when the machine has paid for itself.

Drop me a line to-day, and let me send you a month's trial of the "1000 Gravity" Washer. Write names clothes in six minutes.

Address me personally: W. MORRIS, 1000 Washers Co., 377 Yonge St., Toronto, Ont.

Conserving Energy

There are more ways than one to practice economy. Money isn't the only thing we are wasteful of. This is in an age of hurry when in high time we began to practice self-control for the sake of conserving energy.

If business men made as much fuss over their little duties as women usually do over theirs, they would have no energy left to manage large affairs. Nervousness is largely a habit of making mountains out of mole hills. While nervousness is an unnatural condition of the nerves due to ill health it is none the less true that nervousness is indirectly the result of habit.

There is too much "hurry" in the vocabulary of the average American family. "Hurry, now, Willie, and bring me some wood." "Get the potatoes ready for dinner now, quick, Mary." "Don't ask foolish questions now, Johnnie, I'm in a hurry." In spite of the hurry there is much left to do. We might say because of the hurry the work is never done.

The one who moves steadily but calmly about gets more done than she who hurries. She has more time with no definite idea of what to do next or how easiest to do it.

WORK CALMLY

Speed takes training in folks just as in horses. A horse is a horse, and brings a big splurge at the start and soon "goes to pieces." Some women move about with apparent ease and do a lot of work without creating excitement. Steady nerves? Yes, they have schooled themselves to work calmly, doing the right thing at the right time. They do not try to do tomorrow's duties today, nor do they worry over the unessential left undone to-day.

If going down cellar after potatoes take something along that will go down. Don't make two trips where one will do. When the stove is booming for baking bread, do something cooking something else that takes a long hot fire. Then you are free from heat just that much.

There's no reason why most women can't do as well as rest and relax. Go to bed and sleep instead of lie awake and think of more work to do or worry about what is left undone. Housekeeping can be more simple making slaves of ourselves. Men admire beauty in women just as much as they love a good meal. There's no reason why beauty and disposition should be sacrificed for the sake of so-called household duties. Study how to save steps, to conserve energy to keep fresh and attractive.—Western Farmer.

The Art of Bed Making

By Mrs. Gordon W. Handlett.

For health and comfort we now use a brass, white enameled, or iron bed in place of the horsehair mattress. A spiral spring is used if one wants the best. If the mattress be of hair, wool, or cotton it should be the best of its kind. A mattress pad is used to cover the mattress. One pair of pillows 22 by 30 inches, a pair of blankets and a light comfort or extra pair of blankets are one wish. Pillow cases should be 36 inches long, sheets, when homed, two and three-quarters yards or more if one wants them extra long.

To make the bed, place mattress pad smoothly over the mattress, then spread the lower sheet right side up and tuck in all around. Place upper sheet wrong side up with wide hem six inches above the top edge of mattress if you wish to fold the top sheet back over the blankets. I do not like the upper sheet so much longer than the blankets as the lower sheet. The sheet six inches from the top edge of the mattress and tuck the lower end

firmly under the mattress. Spread blankets with the open edges just below the wide hem in the upper sheet, smooth downwards and tuck in at bottom. With metal beds do not tuck in at sides. The spread should be large enough to hang over the foot and sides and cover all of the top of the mattress. Fold the comfort or extra blankets in some pretty way and lay across the foot of the bed.

The bedding needs constant attention. In order to prevent dust from coming up through the springs to the mattress there should be a protector made of some wash material. Open the windows in the room and turn the mattress back over the foot

THEY might not need me, Yet they might; I'll let my heart be Just in sight.

A smile so small As mine might be Precisely their Necessity.
Emily Dickinson.

of the bed about every other day to get a good airing. Once a month take the mattress out-of-doors for a good sunning and beating. Take the blankets and comfort out often as they need more airing and beating than the mattress for they are more exposed to the dust. Sheets and pillow slips should always be clean and nicely laundered.

THE COOK'S CORNER

Recipes for publication are requested. Inquiries regarding cooking, recipes, etc., gladly answered upon request, the Editor, Farm and Dairy, Peterboro, Ont.

Plain Fritters.—Two cups flour add two teaspoons baking powder, one-half teaspoon salt, and sweet milk to make a batter that will spread, but not run. To either of the above batters may be added chopped tart apples, chopped ribs, or canned tomatoes; chopped nut meats, or ground meats of various kinds. Name your fritters according to its contents. All are good.

Meat and Pastry Rolls.—Ham, chicken or meat may be used. Chop fine, season well, mix with savory fat or butter to make shape of round balls. Make a short dough: One pint flour; two tablespoons lard; one teaspoon baking powder; salt; milk to mix. Roll thin. Cut into strips and fold about the filling carefully to keep in regular shape. Bake in a quick oven until brown. Serve hot.

Fruit Dumplings.—Take one quart of any canned fruit you like. Let boil. Have ready a batter made of two cups of flour, one teaspoonful of baking powder, one-half teaspoonful of salt and sweet milk to make rather thick batter. Drop by teaspoonsful over boiling fruit. Cover, and bake for ten minutes. Serve with thick cream and sugar if desired.

Salted Almonds.—Blanch by pouring hot water on them, then rubbing off the skins with a cloth. Dry them, and dredge lightly with olive oil or melted butter. Toss about with a fork until well coated, set aside for an hour, then sprinkle with salt, and dredge over with fine white sugar or brown, shaking the tin frequently. They will be done in about 10 minutes.

CURES CAKED UDDERS OVER NIGHT

A Saskatchewan Stockman's Experience With Douglas' Egyptian Liniment

The stockman, and more particularly the dairy farmer, has to keep a sharp look-out for caked udders, for he knows how seriously trouble of this kind is likely to affect the milk production of his herd.

W. Robinson, of Ituna, Sask., does not worry about it any more, however, for he has found a quick and certain cure. He says:

"I have used your Egyptian Liniment with splendid results. I have had cows calve at night with their udders so badly caked that it was impossible to milk them, but after one application of your liniment they were all right next morning."

Caked udders demand quick action. The safest, wisest plan is to keep a bottle of Douglas' Egyptian Liniment always on hand for such emergencies.

See at all dealers. Free sample on request. Douglas & Co., Napanee, Ont.

Capable Old Country Domestic

Parties arriving about March 25th and April 7th
MAKE APPLICATIONS AT ONCE TO
The Guild, 71 Drummond St., Montreal and 47 Pembroke St., Toronto

A Commonsense Message of Cheer

To People With Bad Complexions

All too many people try to cure pimply skin blotches, and had complexions without stopping to think what really is the cause of their affliction. In the majority of cases the reason lies in the fact that their systems do not properly rid of the waste that accumulates in the human body. This waste accumulates and clogs in the lower intestines and generates poisonous matter, which is absorbed into the system, permeates the blood, and displays itself not only on the surface of the skin, but in various ways that cause illness more or less serious.

There is one common-sense remedy for this, and it is not by the aid of drugs. Drugs give only temporary relief, and have to be constantly taken in increasing doses, and in the end make us slaves to the drug habit.

The scientific way, approved by physicians, and used by hundreds of people, is the internal bath, the simple treatment calling only for pure water. Does this not appeal to your common sense? If you are a sufferer from any of these troubles, try this in increasing doses, and in the end make us slaves to the drug habit.

"After using your J. B. L. Casoide I feel it my duty as a thankful patient to express my enthusiasm for the great benefit it has been to me. You cannot feel my emotions as I write this letter in praise of your great medicine, so I will express my thankfulness for first learning of your Casoide. Previous to using it I could not do a day without a drug of some sort. Since using it I have not, on my word of honor, swallowed five cents' worth of drugs. I spent over \$100 in the two years previous to hearing of the J. B. L. Casoide. I am a young man and a woman I see in this town with their faces covered with horrid, unsightly pimples used to say they would soon get rid of them as I did."

You owe it to yourself to learn more about this simple and remarkable treatment of drugs. I spent over \$100 in the two years previous to hearing of the J. B. L. Casoide. I am a young man and a woman I see in this town with their faces covered with horrid, unsightly pimples used to say they would soon get rid of them as I did.

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Quick Work

Washes Big Tubful in 5 or 6 Minutes

The tubful of clothes runs on ball-bearings. The powerful coil springs swing it from side to side almost without help from you. And the clothes are washed spotlessly clean in one half the time.

Connor Ball-Bearing Washer

saves time, saves labor, saves wash-board wear. Washes shirts without loosening a button. Washes handkerchiefs, pieces of lace, delicate fabrics, just as carefully and well as it does blankets, tablecloths and sheets. A guarantee tag attached to every Connor Ball-Bearing Washer assures satisfaction or your money back. A booklet, describing this newest, most convenient washer, free on request. Write for it. Learn more about the most modern way of washing clothes.



J. H. Connor & Son, Ltd., Ottawa, Ont.

A MOTH EXTERMINATOR

For Only 25c Post Paid

Like moths, but they don't like me. I have no disagreeable odor. I take away all the trouble and worry with moths. Try me. You're sure to like me. For sale by Leading Druggists, or sent by mail, postage paid, on receipt of 25 cents.

A. C. FAULKNER MANUFACTURING CO. Sole Canadian Manufacturers PETERBORO, ONT.

The Call of The North

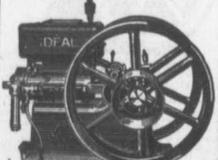
Do you know of the many advantages that New Ontario, with its Millions of Fertile Acres, offers to the prospective settler? Do you know that these rich agricultural lands, obtainable free and at a nominal cost, are already producing grain and vegetable second to none in the world?

For literature descriptive of this great territory, and for full information as to terms, homestead forms, settlers' rates, etc., write to:

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How to Restore Velvet

The old way of restoring velvet—running it over a hot iron covered with a damp cloth—is as good as any that has been invented. There is a tea kettle implement that fits onto make an excellent iron for the back of the velvet as it is passed across while raising the nap. But a flat iron—the kind with adjustable handle—is best—is just as good. Place the hot flat iron bottom side up after the handling is removed, cover it with a padding of damp cloth and then run the velvet over it, holding it out straight meanwhile in the hand. If it has been badly wrinkled, place the velvet back down on the iron and brush it gently with a soft velvet brush. If it is beyond improvement in this way “pamper” it by ironing it on the wrong side. Of course all dust should be removed before the velvet is steamed.—Ex.

A Sunday Dinner Prepared on Saturday

Do not stay at home Sunday working hours after a hot stove preparing dinner, when you could, in those same hours, enjoy a morning walk and a sermon worth while. Whatever you do, do not let Sunday make a slave of you. Make it a holiday by serving a simple meal at noonday, all of which may be prepared the day before. This is such a meal:

- Pot-rosast of beef
- Browned potatoes
- Creamed carrots
- Lemon jelly
- Individual apple pies with whipped cream
- Coffee

The preparations to be made Saturday are:

Pot-rosast a three or four-pound roast of beef until very tender. Allow it to fry down rich and brown. Set away, covering the kettle with a piece of cheese-cloth.

Boil the potatoes in their jackets, peel them and set aside. In your double-boiler make a white sauce by boiling milk and thickening it with flour and butter. Set this away in a cool place.

Cook the carrots until tender, and drain.

Line muffin tins with a rich pie-crust. Prick to avoid blisters, and bake. Peel and quarter apples; core, and slice. Cook in syrup until thick.

Put the pot-rosast on the fire, Sunday, and when hot, lay the potatoes around the roast and brown well. If the roast is turned once or twice it will not take more than 30 or 25 minutes to heat it thoroughly.

Add the carrots to the white sauce, and set the double-boiler on the stove. It will be hot by the time the meat and potatoes are ready.

Make the coffee.

Fill the pie-crusts with the apple sauce, adding a spoonful of whipped cream to each.

This gives you a hot dinner, with relishes and dessert, and the entire time spent in its preparation on Sunday, need not be more than 30 minutes.

The menu might be extended in every direction, serving soup as a first course; adding gravy to the dinner course; making a salad course to take the place of the lemon jelly; but all this means more work in serving, and there are few housewives without maids who enjoy exercising their culinary skill to any great Sunday—the one day when the family might enjoy a rest.

SPECIAL PATTERN SERVICE

We realize the great interest that all of our readers take in the new spring styles, and have therefore made arrangements whereby we can send you the most few weeks. These will illustrate many of the attractive spring styles. Should you wish patterns other than you see in Farm and Dairy from week to week write us and we'll do our best to get them for you. When orders are patterned kindly be sure to give name and address, size and number of pattern desired. Address Pattern Dept., Farm and Dairy, Peterboro, Ont.

BOY'S RUSSIAN SUIT, 7412



No suit that the little boy wears is prettier or more becoming than this style. It is adapted to washable materials, the wool and silk so to suit all occasions. It is childish and attractive. This pattern is cut in sizes for boys of 2, 4 and 6 years of age.

SIX GORED SKIRT FOR MISSES AND SMALL WOMEN, 7741



Skirts that give a front effect at the panel and back are extremely becoming and are exceedingly smart both for between seasons and for spring wear. Plaits that are spread, producing a low, footy, flat, low-freedom without increasing the apparent width of the skirt. For the 16 year size the skirt will require 4 1/2 yards of material 36, 38, 40, 42, 44 or 46 inches wide. The width of the skirt at the lower edge is 2 1/2 yards when the plaits are laid. This pattern is cut in sizes for girls of 16 and 18 years of age.

TWO-PIECE SKIRT, 7746



Every form of the draped skirt is to be smart throughout the spring. This one is distinctly novel and the simplest possible garment to make. There are two pieces in the skirt proper and the drapery is the third piece. It is included in the right position and draped over the front lapped over the front of the skirt to be held in position by buttons or other ornaments. This pattern is cut in sizes from 22 to 30 inches waist measure.

GIRL'S DRESS, 7752



Little girls are wearing great many dresses made with straight shaped skirts. This one includes also a prettily shaped collar and it is closed at the left of the front. There are not-inches that can be finished below or above the collar. For the 10 year size, the dress will require 2 1/2 yards of material 36, 38, 40, 42, 44 or 46 inches wide with 5 1/2 yards 27 inches wide for the trimming. This pattern is cut in sizes for girls from 6 to 12 years of age.

COMBINATION CORSET COVER AND FOUR-GORED SKIRT FOR MISSES AND SMALL WOMEN, 7751



Well-cut, shapely underwear is always important but just as important to anything like good style. The skirt is made in four pieces—the corset piece in three. The armhole edge can be finished with banding or with sleeves that are wide enough to support shirred at the under-arms and taper to nothing at the shoulders. For the 16 year size, the garment will require 2 1/2 yards of material 36 or 38 yards 44 inches wide with 5 yards of banding 3 or 4 inches wide for the trim.

This pattern is cut in sizes for misses of 14, 16 and 18 years.

TUCKED BLOUSE OR SHIRT WAIST, 7753



The pretty shirt waist is one of the garments of which the woman cannot have too many and, consequently, every new design finds its place. This one includes a little panel at the front that is well adapted to lace or embroidery. The lines are all exceedingly becoming and the waist is as pretty dainty one as the simplest of the same time. This pattern is cut in sizes from 34 to 42 inches waist measure.

SEMI-PRINCESS GOWN, 7751



The demand for the simple one-piece or semi-princess gown is constantly increasing. Here is a new one with the closing at the right side and a shirred feature and with drooping shoulder lines. It includes a separate chemise that can be worn when occasion requires. For the medium size of the gown will require 6 1/2 yards of material 36, 38, 40, 42, 44 or 46 inches wide with 5 1/2 yards 27 inches wide for the trimming. This pattern is cut in sizes from 34 to 42 inches bust measure.

FANCY BLOUSE, 7755



The fancy bodice made with front closing is one of the innovations of the season. This one includes a full chemise that can be made with a round or a high neck and a longer shorter sleeve. It is double collar is hand-made and allows material, but the under one can be made if one can get a steeper effect is desired. This pattern is cut in sizes from 34 to 42 inches bust measure.

Raisins and figs should be plumped by dipping for an instant in boiling water before serving.

GRANGE NOTES

Mr. Walter C. Anderson, a member of the Malden Center Grange, is one of the live wires in Grange work in Essex county. He has recently helped to organize two subordinate Granges, which are now taking an active part in the Essex county Grange. These Essex county Grangers hope, by means of their county organization to weld into a bond of friendship and business the people of the county. Through their organization the weak Granges will be made strong and the strong ones will be made stronger.

W. C. Anderson

Mr. J. J. Morrison, secretary of the Dominion Grange, has recently contracted smallpox. It is thought that he contracted the disease during his Eastern trip. We trust that his recovery will be speedy and that no ill-effects will result in his case.

The Merits of Grading

Nature is plastic in the hands of the skilled breeder. By careful selection and mating it would be possible in time to produce improved stock from the common stock of the country. But why should they do that to all that trouble and take all that time to do what has already been done, when by grading up there is a shorter way? As an example of what grading up will do, take for instance the razor-back hog of the southern mountains—a hog whose snout is half as long as its body, and which has to stand sideways to cast a shadow. It hardly looks as if one could make a Poland China or Berkshire out of him. Yet with half a dozen crosses of Poland China or Berkshire blood the mountain hog becomes to all intents and purposes, as far as meat production goes, a Poland China or Berkshire. This is an extreme case; yet it is going on all through the South.

If it were possible for breeders to impress upon the farmer studying with Holstein blood would do for their pocketbooks and their cows, the depreciation of pure-bred bulls at good prices would extend the supply for many years to come. It is plain the pocketbook first because it is easier to reach many men through the pocketbook than in any other way. The main difficulty is in getting a man started—getting him to invest in his first bull. The cost looks large, and he does not look far enough ahead to see the other side of the account. He does not stop to consider that it is not a question as to whether he can afford a pure-bred bull, but rather a question as to whether he can afford to do without one.

FIGURES THAT COUNT

Suppose a man buys a Holstein bull and gets but 10 heifer calves that each but one pound more of milk at each milking than did their dams at like ages. The gain per milking would be so small as not to be recognizable without the scales. Yet the 600 milkings of a 300-day lactation period would show 600 lbs. of milk worth at the lowest average computation \$7.50; and the 10 heifers would show \$75.

But he does not stop with the one year's milking, for the milking life of

a dairy cow averages about six years; and six years at \$75 per year amounts to \$450. Now anyone who knows anything about it at all knows that the first cross from a well-bred Holstein bull is more apt to show a gain of 2,000 lbs. milk per year than a gain of 600 lbs., and that if you get a man started he will go on with the grading up of his herd. Starting with a common herd that will not produce over 5,000 lbs. of milk per year, by progressive breeding in 10 years the milk production can be doubled, and the younger heifers will carry fifteen-sixteenths of Holstein blood.—Extract from address.

A Graphic Lesson

It has been charged, and with reason, that the whole tendency of public school education as it now is, is to give school children a distaste for farm work. There is nothing in

societies and used by all the farmers in the neighbourhood. Half a dozen farmers prefer a Shorthorn. Another half dozen think that there is nothing like the Ayrshire, and still others like the Holstein. In order to satisfy all the farmers, the Jersey was introduced. A Shorthorn is got first. When a change is needed an Ayrshire is got to please some of the rest, and this may be followed by a Holstein or a Jersey. No matter how good the bulls you buy, stock in the province will never improve as it should under such a system.

WHY THEY ARE FAMOUS

Speaking at another meeting of the course along the same line Professor Cumming said:

"Why is it that breeders, when in need of new stock, go all the way to Scotland or the Channel Islands? It is because in these countries one breed and one breed only has been used for generations. As a result all of the farmers in one county or in several adjoining counties have only

are not concentrating blood along any one line. And in cases that have come under my observation sires of beef breeding have been added to this mixture. I never stopped to figure out just what the progeny of the blood, but in my experience it has been just "scrub"—what we started with.

HORSEMEN NOT ANY WISER

In horses the same policy has been pursued, but not to such an extent. Most of us used the best horse in the section, irrespective of breed. Thanks to the efforts of the Nova Scotia Government the attention has been directed more and more to Clydes, and now good grade Clydes are only seen in a few sections, and they are becoming more numerous everywhere.

Of course, this is not the state of affairs all over the province. In some sections pure bred sires have never been used. The scrub bull is still doing his injurious work. In many sections, however, the need is not pure bred sires, but pure bred sires of one breed. We have a client here in the breeding both cattle and horses which we succeeded. If we only learn these two lessons pointed out by Professor Cumming and practise them, we can have as good stock as Scotland or any other country.

We have good breeders, too. We have herds of Ayrshires, Holsteins, and Jerseys here in Nova Scotia that would do credit anywhere. I think I can safely say we have the best Guernsey herds in the Dominion of Canada. We need to copy the methods of these good breeders.

The Gasoline Engine

The gasoline engine is doing the world's work everywhere. Particularly does the farmer find this style of power well adapted to his requirements for a farm power. There is hardly a rural community anywhere where there is not one or more gasoline engines at work on the farm, and very few farmers have any knowledge of the principles of the gasoline engine or can repair their power when it talks.

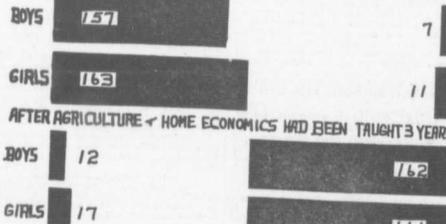
Realizing the need for definite, concrete information on gasoline engines, Mr. X. W. Putnam has recently issued a book, "The Gasoline Engine," a practical treatise on the construction, repair, management and use of this great power as applied to all farm machinery and the farmer's work in doors and out. This treatise, because of its simple, untechnical nature of intricate principles, is especially valuable to those without previous knowledge who wish to become thoroughly familiar with the operation and care of gasoline engines. The book is well bound in a cloth covers, printed on highest grade paper, and splendidly illustrated throughout. Farm and Dairy publishers arrange with the publishers whereby this book can be sent postpaid to subscribers for \$2.50.

I never saw a colt that would not drink milk in its life. Of course you have to teach them to do it.—John Gardhouse, York Co., Ont.

The man with little money and plenty of brains is more liable to make a successful farmer and breeder than a man with little brains and much money.

I received the pure-bred Holstein bull calf for securing 25 new yearly subscriptions for Farm and Dairy, and was very much pleased with him. He was in good condition, and has kept on growing.—Arthur McClatchie, Huntingdon, Que.

WHAT THE BOYS AND GIRLS WANTED TO DO BEFORE AGRICULTURE AND HOME ECONOMICS WAS TAUGHT TO LEAVE FARM TO STAY ON FARM



STATISTICS FROM 34 SCHOOLS IN WRIGHT COUNTY, IOWA.

EXTENSION DEPARTMENT OF IOWA STATE COLLEGE.

their whole system of study to give them the idea that agriculture is the most useful and most ennobling occupation of mankind. Their text books deal almost entirely with city subjects. A start is now being made towards introducing a study of agriculture into the rural school. The diagram reproduced on this page shows the effect that this study had in a North Dakota school on the ideals of the pupils.

It will be noted that before agriculture was introduced as a subject that the great majority of the school children did not wish to stay on the farm. After they had studied agriculture for a year and had been given a glimpse into the possibilities and immensity of the subject, they were again asked the same question and the majority in favor of country life was just as great as it had previously been against it. The moral is obvious.

Mistakes We Have Made

E. F. Eaton, Colchester Co., N.S. The use of pure bred sires alone will never permanently improve the stock in any section. We must take pure bred sires of one breed and stick to that breed. Prof. Cumming of the Nova Scotia Agricultural College placed his finger on one of the great reasons why stock in this province is not improving faster than it is when in addressing the students at a short course held at the college he said:

"You will never have better stock while you continue to change the breed of your sires every year or two. In many sections the bulls, for instance, are got by the agricultural

one breed of horses or cattle, as the case may be, and most of the stock is high class. A buyer can pick up a very short time in such a country. He does not have to travel a great distance to get a large number of desirable animals as he would here in Nova Scotia.

Young breeders when starting out frequently pick on a breed that is little known in that section, as they feel the compulsion of older breeders. This is a mistake. Select the breed most generally kept in your locality. You will then be able to get stock readily and sell easier. As soon as buyers hear that good cattle are to be had in quantity in your section they will go there. Frequently the older breeder will be unable to supply a would-be purchaser and send him to you."

Professor Cumming has here nicely summed up the two weakest points in our breeding operations. In many sections pure bred sires have been used exclusively for the past 25 years, but the cattle are very little better than they were at the beginning of that period.

Suppose a pure bred Holstein bull is used on grade cows. The resulting progeny is 50 per cent. Holstein blood. The Holstein has been bred along the lines of heavy milk production, and by following up that line of breeding our cattle would soon be practically pure bred. The chances are that a change will be made, and perhaps a Jersey used. We will then have heifers that are 50 per cent. Jersey, 25 per cent. Holstein, and 25 per cent. grade. The Jersey has been bred for quality rather than quantity of milk. By such breeding we

HOLSTEINS

Eimcrest Stock Farm

Offers a Bull Calf, mostly white, low set, straight and blocky, whose sire's dam, Olive, being a cow, made 27.50 lbs. butter in 7 days, and was exceptional cow for her class. His dam made over 15 lbs. butter from 38.3 lbs. of milk in 7 days at 1 yr. 11 months—a beautiful specimen. His daughter of Netherlands Bred Female—acceptable at "Bluebell"—at 2 yrs. old, 1912, whose milk tested 41% fat. Also a few good females, one a four-year-old, milking nearly 20 lbs. per day, and a show cow. Write for prices.
W. H. CHERRY, GARNET, ONT.

CAMPELLTOWN HOLSTEINS

A few cows of Kordyke Veeman Pontiac for sale. Also a number of Cows and Heifers to be sold. Come to Tillsonburg if you want to buy Holsteins and I will see that you get them. Farm, North Broad way, Tillsonburg.
R. J. KELLY, - - - TILLSONBURG, ONT.

A Year Old Bull, closely related to May Echo, will sell or exchange for another Bull. Now ready for service, marked, about half white.
Wm. A. Shaw, Box 11, Foxboro, Ont.
SAM ARMSTRONG, R.R. No. 1, INDIAN RIVER, ONT. (Peterboro Co.)

GLENDALE HOLSTEINS

Best cow of Purebred Holstein Bull Calves and a number of fine Heifers, whose three nearest sires have sired May Echo by his, over 15 lbs. butter in 7 days, R. O. M. at 1 year 11 months (world's record). Lela Kora, 19.90 lbs. in R. O. P. as a senior two-year-old (world's record), and Jewel Pet Coach De Kol, 28.9 lbs. butter at 4 years (world's record). Prices reasonable. All correspondence promptly answered.
WM. A. SHAW, BOX 11, FOXBORO, ONT.

ELMDALE DAIRY HOLSTEINS

Bull Calves for sale, sired by Paladin Ormsby, and out of dams with over 19-lb. records. Paladin Ormsby's sire is a year-old with R. O. M. 63 lbs. milk 1 day, 25.20 lbs. in 7 days.
Also six junior 2-year-olds with records from 13.60 lbs. to 20 lbs. in 7 days. Apply to FRED CARR, - - - BOX 11, ST. THOMAS

Lyndale Holsteins

Offers 3 Young Bulls, fit for service, sired by "Prince Hengerveldt" and "King Pontiac Arts, Canada." Good individuals, nicely colored. The records of their 3 nearest dams average over 17 lbs. butter each in 7 days. Females, any age.
BROWN BROS., - - - LYN, ONT.

CATTLE AND SHEEP LABELS

Size	Price	do	50	75	1.00
Light Cattle	75c				
Sheep	or Hog	40c			

No postage or tax to pay. Cattle and sheep labels get better price. Circular and sample free.
F. G. JAMES, - - - BOWMANVILLE, ONT.

HAMILTON DAIRY FARM

The Home of Lake Eggs, the World's Best. Send for our list of prices.
WE SELL BULLS AND BULL CALVES ONLY and offer now

A Bull Ready for Service

Write or come to see him. His Pedigree showing High Records sent on request.

THE PRICE IS RIGHT

D. B. TRACY
COBURG, ONT.

HOLSTEINS

"PROOF OF THE PUDGING"

Stamford, March 27th, 1913
Mr. R. F. Hicks
Dear Sir
The bull calf arrived last night at six o'clock, in fine shape.
The calf that played with him, was very much surprised at his size and if he saw him doing as well as he is now he will go beyond our expectations.
You will find enclosed a marked cheque for the amount of \$100.00 Dollars.
Thanking you for the splendid animal.
Yours very truly
John C. Brown.

NOTE:—I have a copy of the satisfactory kind for Write for description.
R. F. HICKS, Newton Brook, Ont.

LAKEVIEW HOLSTEINS

We are now testing some of the daughters of Count Hengerveldt, Faye De Kol, and they are running from 16% lbs. with first calf to 20 lbs. with second calf. There are still a few young bulls from those heifers that we are offering at half their value, in order to make room. They are sired by Dutchman and Gales. If you come to the farm and see the dams of those bulls and their dams.
E. F. OSLER, BRONTE, ONT.

Purebred Registered HOLSTEIN CATTLE

The Greatest Dairy Stock
For FREE Literature send to:
Holsela Farms, Ltd., Bantelboro Vt.

LYNDEN HERD

High Testing HOLSTEINS For Sale
Bulls, fit for service, one a son of Spot Lady De Kol, 27.50, and all sired by a son of Lulu Gildred, also Bull Calves.
Also any Female of a milking age has a price. Write or come and see them.
S. LEMON, - - - LYNDEN, ONT.

Durville Holstein Herd

Only one son of Dutchland Colantra Sir Abbecker left. Speak quick if you want him. A dandy from a 24.50 4-year-old. Write for pedigree and prices.
LIDLAW BROS., AYLMER WEST, ONT.

RIVERVIEW HERD

3 Young Bulls from 2 to 12 months, sired by King Isabelle Walker, whose sister, 3 nearest officially tested dams, a sister of his dam, and 2 sisters of his sire average for the eight 30.24 lbs. from R. O. M. and R. O. P. dams.
P. J. SALLEY, - - - LACHINE RAPIDS, QUE.

YOUNG COWS AND HEIFERS

HOLSTEINS of different ages
Sale in call to a son of the great bull De Kol the 2nd's Butter Boy the 2nd.
Also Yearling Heifers, and Heifer and Bull Calves for spring delivery. Write for prices.
W. W. GEORGE, - - - CRAMPTON, ONT.

Avondale Stock Farm

A. C. HARDY, PROPRIETOR.
HERD Sires
Prince Hengerveldt Piete, 22.30 (30.22),
Sire, Piete Zind Woodruff Land
Dam, Princess Hengerveldt De Kol,
A. R. O. 33.62.
Highest record daughter of Hengerveldt De Kol.
King Pontiac Arts, Canada, 19.42 (72.94)
Sire, King of the Fontaines, also Bull Calf, Pontiac Arts, 31.2 lbs. butter 7 days, 17 lbs. milk 385 days.
Daughters of Hengerveldt De Kol
We are offering bulls from those great sires and all records, and also a limited number of cows in calf to them. No heifer calf will be sold at any price. Address all correspondence to:
H. LORNE LOGAN, Mgr., BROCKVILLE

WHEATKILN DAIRY FARM

Offers 10 HEIFERS, ranging 1 yr. old, 10 HEIFERS, ranging 3 yrs., 5 Bulls, ranging 1 yr. old, and 10 yearling cows.
Also Bull Calves, all milked.
Purchased in pairs not skin. Write, phone or come and inspect.
WM. HIGGINSON, TREKMAN, ONT.

HOLSTEIN-FRIESIAN NEWS

Farm and Dairy is the official organ for readers of the Canadian Holstein-Friesian Association, all of whose members are readers of the paper. Members of the Association are invited to send their names to the publishers for publication in this column.

JOHN C. BOECKH—A HOLSTEIN BREEDER

While passing along the road from Mr. R. F. Hicks, at Newtonbrook, recently, to inspect Mr. John C. Boeckh's stock, at Willowdale, one of the editors of Farm and Dairy recently dropped in to see the Holsteins on Mr. John C. Boeckh's farm. Farm and Dairy readers will remember Mr. Boeckh as having been an exhibitor at the Canadian National Exhibition last year.

He is one of a firm of brush and broom manufacturers in Toronto, and has his small farm, like many another city man, as a recreation. The farm consists of some 30 acres. On it have been erected very suitable and sensible buildings for Dairy and stock raising. The buildings on the farm; they constitute as nice a start for a first class herd as one could wish for. The stables are in a modern style, with, having cement floors and mangers, modern stanchions, stalls, litter carrier, feed carrier, water bowls, etc.
A automatic water tap set up by the Ontario Wind Engine and Pump Company, supplies the buildings with water. The water is pumped by means of a Stickey gasoline engine.

Poultry is one of the largest departments of this small farm. Mr. Wm. Scarborough, the manager, was away when we called, and we did not get definite information. About the poultry, however, there appeared to be something over 1,000 hens on the place, and they were laying well.

B. E. HAGERMAN'S HOLSTEINS AT BELLEVILLE

Eleven thousand pounds (11,000 lbs.) each in 6% milk, and a whole herd in Mr. Hagerman's cheese factory record for the past two years.

When a man, including heifers, can show such a wonderful production for the two years, it is a record. There are few outstanding individuals in it of unusual merit. Jessie Inks De Kol, entered in this herd, Belleville, set the record for the greatest cow, judged from any standpoint, in this very class's herd. It was certainly in the best of the attention of Holstein breeders generally to Mr. Hagerman and his herd. A sister of May Echo (Canadian champion), by the same sire, and out of the same dam as the sire of Lulu Gildred, Canadian champion, two-year-old milk cow, form a combination of producing ancestors that is hard to equal. This young cow has milked up to 31 lbs. in one day, 2.69 lbs. in one month, over 17,000 in nine months. In additional proof that "like begets like." Individually she is nearly perfect, and the fact that she freshens right for Toronto should make her a prize worth seeking by any showman who is serious; considering the amount of a winning herd on the latter fair. With any kind of success the calf she is carrying should be a valuable qualification of a 100-lb. a-day dam and sire's dam, as Mr. Hagerman's three entries are either in the money. Mrs. Hengerveldt's son, whose dam milked 190 lbs. in one day, made 23 lbs. butter in seven days, and has 20 lbs. of butter to value. It is interesting to note that two of his near relatives, one of the great De Kol have been sold at Belleville Open-Season Sale for nearly \$3,000, while the dam of her daughter, who has her next calf brought \$1,500. How much is such a cow with such a future worth?

We would advise who want cattle that possess type, breeding and good milk, to buy the sire and dam that built up Mr. Hagerman's offering at Belleville.

CREATE A MARKET FOR SURPLUS BULLS

Malcolm H. Gardiner, Bellevue, Wis. Of the bull's born in Holstein herds, not one in 10 is required for a breeding herd, and the other nine must either find a place in some other herd, or be sold, come veal or beef. To improve the other bull's fit to head and improve the common herd, it is necessary to have a market to convince the farmer-dairymen that Holstein grades are vastly more productive in the dairy than any other or mixed part of the country. Breeders of purebreds know that these bulls will do, and the man who will credit them to their words seems to them very big headed and lacking in all desire for im-

provement. But a large share of the farmer-dairymen of the country are from Missouri, and they are not so glib, and want to be shown.

During past years there has been some talk in Holstein-Friesian circles of going something in the line of showing what the Holstein-Friesian grades can do, but nothing has as yet been done. The reputation of its grades, the Holstein-Friesian, is such that it is a safe bet; cap; for the black and white color is no persistent that cattle with one-fourth or more of Holstein blood, and the regular black and white markings; and the Holstein-Friesian and the Holstein-Friesian marked a Holstein. To show that they will do for their owners it is necessary to do so at a price that is not too something the results above any doubt; and for this we have the machinery in the semi-official long-time. It is probable that it would pay and pay well to somewhat reduce the amount of price offered for purebred cows, in order to set aside a certain sum as special prize-money for the owners of grade cows making the best records, with no division into classes and a minimum requirement for the winning of any prize. It is not time to do something to prove the capacity of Holstein-Friesian bulls, and no man is going so far toward solving the problem of the disposition of surplus bull calves at profitable prices.

MAY ECHO VERBELLE TO BE SOLD

When May Echo went to the hammer and brought at the Belleville Open-Season Sale, she was sold for \$1,200 two years ago and she a 10-year-old. The buyer, for all she had, took her to the Belleville district. People there are not so kind to her as she is; no; she became ever better. This year, at 12 years of age, she made 31.3 lbs. butter in 7 days, and she is a mother of 25-lb. cow. The good ones continue to be born. Her daughter, and another Red Letter day is scheduled for this year, when May Echo Verbelles-daughter May Echo—will be sold at the Belleville sale.

Through her dam, her own good stock, and through the stock of her owners, this cow, May Echo Verbelles, has no equal in Canada, and possibly no equal in the world as a producer for one day, seven days or one year, for three generations. The May Echo family have reputation for producing good dairy stock. The first milk in the world was a cow seen on the farm of the late Mr. Verbelles, who milked 104 lbs. in one day, and she was on a 19th of a day, and with two junior cows, she milked 100 lbs. in one day, and she had over 70 lbs. milk in 24 hours. This year she has milked 100 lbs. in one day, and she ought to make history for Belleville!

What is it that makes a cow valuable? It is her breeding, the quality of the milk that of her nearest ancestry and her ability to reproduce these valuable qualities in her offspring. It is the quality of the milk, judged by this standard, May Echo Verbelles, and the necessary qualifications for giving value to a calf that a cheque of handsome dimensions. The fact that Lawrence May Echo Piete, a three-year-old daughter of May Echo Verbelles, and the champion milk producer (junior two-year-old), will also be sold adds additional interest to the sale of her dam. This young cow, beginning her record at two years of age, has produced in one day 16 lbs. in seven days, and 100 lbs. in one month. She is a full sister, May Echo Sylvia, being her dam's first calf.

Holstein breeders generally have arrived at this conclusion; that it is the quality of the milk that makes a cow good ones with very creditable records at this year's great Belleville sale. The average 100-lb. a-day cow, and other cows with very creditable records at this year's great Belleville sale. The fact that Lawrence May Echo Piete, a three-year-old daughter of May Echo Verbelles, and the champion milk producer (junior two-year-old), will also be sold adds additional interest to the sale of her dam. This young cow, beginning her record at two years of age, has produced in one day 16 lbs. in seven days, and 100 lbs. in one month. She is a full sister, May Echo Sylvia, being her dam's first calf.

AN INTERESTING MEETING

The Southern Ontario Contagious Sale Co. held a meeting recently at the home of one of its members, Mr. H. M. Haley, who was too ill to attend. After a long session, it was decided to have been satisfactorily disposed of. It was decided to hold the third annual sale on Tuesday, December 20th, at the home of the meeting Mrs. McQueen gave an account of the dairy business of the company and their members. The meeting was spent, and every one left for home with a good deal of interest in the minds of Mr. and Mrs. McQueen for their kindness.—R. J. Kelly, Tillsonburg.

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AYRSHIRES

AYRSHIRE CATTLE AND YORKSHIRE PIGS

For Sale—Ayrshire Cattle and Bulls, fit for service. Yorkshire Pigs, \$5.00 each, or, if registered, \$6.00. All the above are from first prize stock. Send in orders now, with instructions re shipment later. Apply to
W. H. OWENS, Prop., or ROBERT SINTON, Mgr., Rivers Park, Hesse Falls, Que.

AYRSHIRES FOR SALE

Three Ayrshire Bulls, 1 year old, fit for service, all registered, from famous Westford strain (Madison College). Apply to
ROBT. PATTERSON, EAST BOLTON, QUE.

TANGLEWYLD AYRSHIRES

Special offering, Yearling Bull, 1 year, Primrose of Tanglewyld Bull, B. of P., 2 year-old, 2,897 lbs. granddam, Primrose, average test 4.41; granddam, Primrose of Tanglewyld, B. of P., 16,195 lb. milk, 65.62 lb. fat, sire, Royal Star of Traa, son of Eileen, B. of P., 13,857 lbs. milk, 65.48 lb. fat.
WOODSIDE FARM, - ROTHWAY, ONT.

FOR SALE

Two Ayrshire bulls, 12 and 7 months old. The oldest bull is neatly white, and well developed for age. From B. of P. dam and sire. A fine animal. Write for particulars.
E. B. PALMER & SONS, Norwich, Ont.

Rensdale Stock Farm

PHILLIPSBURG, QUE.

Special offering of Bulls, fit for service. Write for breeding and prices.

W. F. KAY, M. P., Proprietor.

Burnside Ayrshires

Winners in the show ring and dairy tests. Animals of both sexes. Imported or Canadian bred, for sale.
 Long distance 'Phone in house.
R. R. NESS, - - - - - ROWICK, QUE.

AYRSHIRE BULLS

Of choicest individual merit, sired by Duke of Ayr, the particularly good son (one of the best bulls living) of the champion R. of P. cow 18,188 lbs. milk and 739 lbs. butter), and from dams of heavy milking strains. All ages. State about what age you want and all information as to breeding and records will be gladly given. Can spare a few bullions of fall of 1912 birth.
R. R. W. BALLANTYNE & SON, - - - - - STRATFORD, ONT.

Have You Anything for Sale?

Once a month or sometimes often you have a buyer come along and ask you this question: You cannot afford to pass up the chance buyer coming along. It will pay you to go out to seek the market. This you can do to your greatest advantage through advertising. Tell over 16,000 possible buyers what you have for sale through advertising in Farm and Dairy.

MISCELLANEOUS MAXWELTON FARM

Has some of the BEST JERSEY CATTLE in the land. Also BERKSHIRE SWINE. Make your wants known to the Manager.

MAXWELTON FARM
STE. ANNE DE BELLEVUE, QUE.

Clydesdale Fillies and Stallions

We have a choice selection, prize-winners, and stock of approved conformation and the best of popular breeding. Write for descriptions. Prices right. Take advantage of our many years of successful experience as breeders and importers.
Smith & Richardson, Columbus, Ont.

AYRSHIRE BREEDERS PROSPERING

(Continued from page 31)
 Ministers of Agriculture, and their replies will be put before you.

Farm Register

Pursuant with the resolution passed at last annual meeting, a register was opened for farm or herd names. So far, 71 have taken advantage of this feature, which established a herd by its name rather than that of the owner. There are been several cases, where two parties have chosen the same name, but the rule "first applied for" has been recognized.

Field Work

It has given me pleasure to visit as many exhibitions as possible. I spent a few days at Winnipeg, Brandon and Western Expos, where I met many Western breeders, gave them a word of encouragement, discussed ways and means to improve the trade in Ayrshires in that fast developing country, where we will have a market for many years. There are great possibilities for the breed on

OUR GUARANTEE:

WE GUARANTEE that every advertiser who does this is reliable. We are able to do this because the advertising columns of Farm and Dairy are edited as carefully as the reading columns, and edited to protect our readers who turn away all unscrupulous advertisers. Should any advertiser herein deal with any other advertiser, 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 advertiser to be as stated. It is a condition of this contract that in writing to advertisers you state: "I saw your advertisement in Farm and Dairy."

Readers shall not be treated as the expense of our subscribers, at the expense of our subscribers, medium of these columns. We shall not attempt to adjust trifling disputes between subscribers and honourable business men who advertise, nor pay the debts of honest bankrupts.

those Western plains, as the Ayrshire is peculiarly adapted to the conditions that prevail there. We must send them only the best, if we want to build up a substantial and healthy trade in that newer part of our fair Dominion.

HAGERMAN'S HOLSTEINS ARE PRODUCERS

Mr. B. E. Hagerman, of Minto, one of the prominent Holstein breeders of Belle-Ville District Holstein Breeders' Club, has following records of his animals for some time. In 1912 his cows gave as follows:

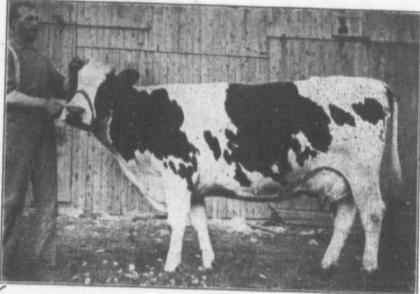
No.	Age	Quantity of milk.
1	6	15,002 lbs.
2	6	12,399 "
3	6	12,779 "
4	3	10,679 "
5	3	14,423 "
6	3	12,746 "
7	5	11,456 "
8	4	14,879 "
9	4	14,429 "
10	3	11,429 "

making an average of 12,715 lbs. for ten cows of an average age of four years. In 1911 as follows:

No.	Age	Quantity of milk.
1	4	11,554 lbs.
2	4	13,137 "
3	7	13,207 "
4	3	12,389 "
5	3	12,389 "
6	5	12,206 "
7	6	11,200 "
8	6	11,058 "
9	7	11,750 "
10	7	11,629 "
11	7	10,629 "

making an average of 12,271 lbs. per cow of an average age of five years. Mr. Hagerman has had 17 cows tried to all them every year.

Some of his cattle will figure again this year at the great Holstein sale at Belleville. It is interesting to notice that most of the cows in the herd are of pure or less related to the great "May Echo." One of the half-sisters and another a daughter of the half-sister "May Echo." The head of Mr. Hagerman's herd is "Sarah Jewel Hengerfeldt" son, the dam being the first cow to make a record in a full day in official test. Her full sister, Sarah Jewel Hengerfeldt had a record of 30.39 lbs. of butter in seven days. The other sire of this herd is a son of De Kol Pils, ex-champion of the Dominion. Those who are versed in the records of Holsteins will not be slow to see the importance attached by Mr. Hagerman of having a good sire to head the herd.



You Who Know Good Dairy Cows

Note this One! "Nonpariel," one of many ones in my herd at Willow Creek Farm, which Entire Herd of Holsteins will be dispersed April 2nd in connection with the

Great Belleville Sale

My splendid herd of Holsteins must now be disposed of because I have taken an opportunity in a business way in the City of Belleville, and am giving up my farm. Catalogue gives full particulars of breeding. Got one by writing F. R. Mallory, Frankfort, Ont., secretary of sale.

While I have never had the opportunity to go in for official 'F' day work, I am told by practical men, competent to judge because of their own work, persons all the work that my cows can do superior work. I have always selected them with great care as to the individuality and production. You would think I stuff and profitable buying for you.

Come to Belleville to the sale, April 2nd. You'll find great buying in my consignment.
W. G. HUFFMAN, - GILEAD, ONT.
 WILLOW CREEK FARM

Important Auction Sale

40 Holsteins Pure Breed Cattle



The Maple Stock Farm will offer for sale at their Barns, Bealton, Ont.

WEDNESDAY, APRIL 2nd
 1913

As I have purchased the entire herd of the estate of I. G. WYCKOFF, I will offer the whole herd, except calves and yearlings, 32 HEIFERS AND COWS, EITHER FRESH OR IN CALF, bred to the herd bull of this herd, Sir Diotiane Paul Posch, which is getting fine strong vigorous calves, with the best of quality. This fine sire, which is two years old, rising three, will be sold in the sale. He is a beauty, light in color, and will make a 2200-lb. bull. He is as quiet as a cow.

Seven Yearling Bulls, nearly all from Record of Merit Dams, making good records. They are a good lot.

This herd of cattle are of the large, broad, deep-bodied cows, the show kind that everybody likes. The foundation of the larger part of this herd is sired by Prince Abbecker Pauline, a son of Tiger Abbe with 28 lbs. each of butter in 7 days. He has 7 sisters with 28 lbs. each of butter in 7 days.

Never before have we been able to offer such a choice lot of the right kind. Don't miss this opportunity of getting good foundation stock to start or to improve your herd.

Catalogues will be ready by March 25th, be sure and read and get the breeding of these cows.

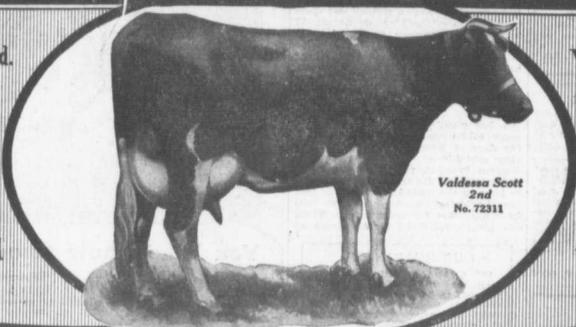
All trains will be met at Waterford and taken back for evening cover. Terms cash. Time up to six months on approved notes, with interest at six per cent.

WM. SLAGHT, Prop.
BEALTON - - - - - ONTARIO
 COL. WELBY ALMAS, Auctioneer

As we have done before everything will be sold straight. Sale at 1 o'clock sharp.

Greatest Cows in the World

Valdessa Scott 2nd.
Beats
All Ages
All Breeds
of
The World



Valdessa Scott 2nd.
The
First
40 Pound
Cow
in
The World

Smashes All Previous Records to Smithereens!

Take off your hat to Valdessa Scott 2nd—the "Wonder Cow" of the world. She certainly is entitled to such recognition. She has more than done herself proud and accomplished a feat **never before** attained by any cow in the world of any breed or age.

In thirty days' test she produced 2935.9 pounds of milk and 165½ pounds of butter. Her one day record is 108.6 pounds of milk and 6 pounds of butter.

Her one week record (7 days) is 695.1 pounds of milk and 41.875 pounds of butter. What do you think of that? Remarkable! Phenomenal! Unparalleled! Her milk tested 4.70 per cent butter fat.

All of the above tests were conducted by W. D. Golding and Prof. Alfred S. Cook, of the New Jersey Experiment Station. Naturally you wonder—what sort of ration was fed. Here are the words of her owner—he tells it in a letter just received.

Fiderno Stock Farm, Fiderno, N. J.

THE QUAKER OATS CO., Chicago Ill.

Gentlemen: During the past two or three years we have been feeding your SCHUMACHER FEED and have secured splendid results. SCHUMACHER was incorporated in the ration fed Valdessa Scott 2nd during her wonderful result-producing test. Used as a base with a good protein concentrate it is a winner. Yours truly, B. MEYER, Owner.

Schumacher Feed

Now read what the owners of other World's Champion and World's Record Breaking cows have to say of this wonderful feed.

Springvale Stock Farm—Home of Colantha 4th's Johanna.

THE QUAKER OATS CO., Chicago, Ill.

Gentlemen:—Replying to yours of the 3rd we are making Schumacher Feed one-third part of our herd ration and we are getting results. Several of our cows are milking up to over 75 lbs. per day with this as part of our grain ration.

Rosendale, Wis.

Yours very truly,
W. J. GILLETT.

Stevens Brothers Co., Home of Pontiac Artis.

THE QUAKER OATS CO., Chicago, Ill.

Gentlemen:—For several months Schumacher Feed has been our principal ration and the best evidence of our success in feeding it is the fact that during this period a dozen or more of our cows have made official 7 day butter records. We count ourselves fortunate in finding a ration that answers our requirements so fully as Schumacher Feed.

Yours very truly,
THE STEVENS BROS. HASTINGS CO.

Lacona, N. Y.



Colantha 4th's Johanna

Owned by W. J. Gillett, Rosendale, Wis. is the champion long-distance cow of the world. Her official record for 365 days is 2748.5 pounds of milk, and 938.25 pounds of butter fat.

SCHUMACHER FEED is composed of finely ground, kiln-dried corn, oats, barley and wheat products, giving just the variety, balance and appetizing flavor which your cows relish so keenly. They will lick it up greedily, digest it easily and won't get "off feed" as they do on rations that do not have this necessary variety. For heavy, steady milk production without injury to the cow the following Schumacher Feeding Plan has no equal. A trial quickly proves our claims.



Pontiac Artis and Son, King Pontiac Artis

Owned by Stevens Bros. Co., Lacona, New York. PONTIAC ARTIS is one of the greatest cows living, always cows a large, consistent and constant producer. Her work as a two-year old, three-year old, four-year old and six-year old has never been equaled by any other dairy cow.

Try This Feeding Plan NOW

Mix three parts of Schumacher with one part of any good high protein concentrate you are now feeding, such as Gluten, Cottonseed Meal, Distillers' Grains, Oil Meal, Malt Sprouts, Blue Ribbon Dairy Feed—and note the results. You will be surprised at the increased yield—how eagerly your cows eat it and thrive on it—how their condition improves. It affords that much needed variety of grain products which you know are so essential, and also that **Stamina** so necessary to withstand "forced" or heavy milk strain. There's nothing like it—nothing can touch it for results and condition. Schumacher Feed is sold by all good dealers.

Here is Your Opportunity

Never since you started in the dairy business have you had a better opportunity to make big money from your cows. Conditions are especially favorable right now.

Crowd your dairy to the limit—sell money while you can. **Milk prices are**

good—feed prices are low, especially if you follow the Schumacher Feeding Plan endorsed by the owner of Valdessa Scott 2nd and other successful dairymen.

Write for Free Sample

Just tell us how many cows and hogs you have and we will mail you at once prepaid a liberal sample of this wonderful feed (roughing feed). Sent today.

(3-C)



The Quaker Oats Company
PETERBORO, CANADA