

FARM AND DAIRY

RURAL HOME

PETERBORO, ONT.

AUGUST 26 1909

Canada J. H. C.E.F.



A WENTWORTH COUNTY HOME, A TYPE OF FARM HOUSE BECOMING POPULAR IN ONTARIO
 The day that the majority of the farm homes in Ontario were plain, square brick or frame buildings, is fast disappearing. To-day, as one travels through Ontario, and in other provinces as well, farm houses can be noticed that compare favorably with the best city residences. The home here illustrated, is on Summer Hill Farm, owned by D. C. Flatt & Son, of Millgrove, Ont. Mr. Flatt is the president of the Dominion Swine Breeders' Association and a director of the Canadian Holstein-Friesian Association, and is one of the best known farmers and breeders in Canada.

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A Young Ayrshire Breeder

An Ayrshire breeder who, although still considerably less than 30 years of age, has already exhibited successfully at the Toronto and Ottawa exhibitions and who is likely to do so again, is P. D. McArthur, of North Georgetown, Ont. Like a good many other well known breeders, Mr. McArthur got started showing at the fall fairs and in breeding cattle while he was only a youngster.

When a mere boy he went to an auction sale. In the stable he noticed a cow of good conformation and which, although she had been milking for some time, still had a large udder. He put a good price on her and got her. The gross income he received from her from the first of June to the 17th of the following March was \$130.35. Her feed cost for the year was about \$50. This encouraged him. About 15 years ago being then only a boy, he persuaded his mother to let him purchase a pure bred bull. He got a good one and soon had some good grade cows. About five years ago he decided to make another step and purchased a pure bred yearling Ayrshire heifer from his near neighbor, the noted Ayrshire breeder, Mr. R. R. Ness, of Howick. Mr. Ness is always ready to help his neighbors, especially new beginners, and he helped Mr. McArthur to secure a good heifer. This gave Mr. McArthur his first start in breeding pure breeds.

"Since then," said Mr. McArthur, to one of the editors of Farm and Dairy, who visited his farm, "if I have seen a good pure bred animal that has suited me if I found that I could afford it, I have bought it. When buying animals I make sure first that they are good milk producers after which I endeavor to secure all the quality and truthness to type possible."

Two years ago Mr. McArthur purchased an imported bull through Mr. Ness. Last fall he exhibited at the Toronto and Ottawa exhibitions for the first time. At Toronto his two-year-old bull won first prize and near by beat Mr. Ness' noted aged bull for the best bull of the year. He won fifth prize on his calf and fourth prize on a spring bull calf from his old bull. At Ottawa he won second on his bull—some breeders thought that he should have got first—first on a dry cow not shown at Toronto and second on a Canadian bred cow. Mr. McArthur is a member of the Canadian Ayrshire Breeders' Association. With the start he has now got it should be only a few years before he will be in the forefront of Canada's leading Ayrshire breeders.

Cobourg Horse Show

The attendance and interest at the Cobourg Horse Show last week were phenomenal. That it was a great show was the unanimous verdict. Fair wear and a record entry list contributed much to the success of the best show that Cobourg has yet known. Amongst the new exhibitors were the Hon. Clifford Sifton, Ottawa, who was present; Mr. Cromarty, Galt; Mrs. Shoemaker, Toronto; Hon. J. R. Stratton, Peterboro; Sir Henry Pellatt, Aemilius Jarvis, Toronto; and many others. Miss Wilks, Galt; Crow & Murray, Toronto; Hon. Senator Beith, Bowmanville, and Chas. Wilmot, Belleville, again made large exhibits. Besides these were Cobourg's own and the Counties' fine showing of horses.

The agricultural and draught classes were excellent. The hackney class brought together as good an exhibition as was ever seen in America. No matter how good of what are probably the best hackney stallions in America were at the Show. Five hunt teams, pacers, unicorns, and carriage pairs were numerous. The difficulty was that each afternoon was crowded with interesting events and

it would seem that a five day's show would be necessary another year instead of four as has been. The judges were: J. J. Dixon, Toronto; Dr. J. H. Reed, V. S.; Guelph; Col. Lewis, Ottawa; Dr. C. J. Alway, Montreal; J. M. Gardhouse, Weston; Dr. Routledge, Lambeth; Major Quinn, Brantford. Special features of the show were the presence of the Royal Canadian Dragoons and the 48th Highlanders' Band, the Dragoons giving their celebrated musical ride. Evening concerts given by the Highlanders' Band were very popular, Donogon Park where the fair was held, being illuminated for this.

THE AWARDS

Some of the awards were as follows: Draught or agricultural classes, brood mare with foal, 1, John Brenton, Bethel Grove; 2 and 3, Henry McLaren, Cobourg.

J. B. McGill's special for best foal of 1909, sired by registered Wilksdale, West Northumberland, 1 and 4, Henry McLaren; 2, John Brenton; 3, W. R. Morton, Port Hope. Sam Clark's special for best mare for breeding purposes sired by Clyde-dale, Shire or Percheron stallion, open to West Northumberland and South Monaghan, 1 and 2, D. H. Taylor, Centreton; 3, John Brenton; 4, Jas. Foster.

Open combination class for best saddle and harness horse: 1, Hon. J. R. Stratton; 2, Mrs. W. H. Shoemaker; 3, Miss K. L. Wilks.

Harness pairs, 1, 2 and under: 1, Hon. J. R. Stratton; 2, Crowe & Murray; 3, Percy Clarke, Cobourg. The Covert Cup given by Robert F. Massie for the best roadster foaled in the united counties of Northumberland and Durham was won by W. L. Thompson, Port Hope. There were 16 entries and the competition was keen.

The Henderson cup, presented by the ladies of Louisville, Ky., in honor of Miss Henderson, who was instrumental in organizing Cobourg's first summer Horse Show, was won by Mrs. J. R. Stratton.

The Counties Council prize for best team in Durham was awarded as follows: 1, C. J. Lewis, Charrlecote; 2, Leonard N. Smith, Millbrook; 3, Wm. Hassard, Port Hope.

Best farm team in Northumberland west: 1, D. H. Taylor, Centreton; 2, James Foster, Wicklow; 3, Henry McLaren, Cobourg.

The special given by the Adams Wagon Company, Brantford, of a farm wagon for the best agricultural team went to D. H. Taylor, Centreton, who also won first on draught pairs in harness.

Items of Interest

The Fairs and Exhibitions Department have arranged for meetings of the directors of the Vegetable Growers' Association on Sept. 7th, in the departmental tent on the grounds of the Industrial Exhibition, Toronto. The officers and directors of the Fairs and Exhibitions Association will also meet on Sept. 8th in the same place; and the Horticultural officers and directors in the same place on Sept. 9th.

A disease suspiciously like cholera has been discovered among the hogs around Ottawa. Forty-three animals have been destroyed by order of Dr. Rutherford, Chief Dominion Veterinarian and five other herds are under quarantine. Dr. Rutherford attributes the outbreak to the practice of feeding hogs about Ottawa on garbage, gathered in the city, and thinks the disease may have originated from Ottawa hogs being fed scraps of American pork.

"I am very much pleased with Farm and Dairy. It is improving all the time."—Chas. W. Ross, Rennie Co., Ont.

Issued
Each Week

Vol. XXVII

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FORMERLY THE CANADIAN DAIRYMAN AND FARMING WORLD

Vol. XXVIII.

FOR WEEK ENDING AUGUST 26, 1909.

No. 34.

CRATE FATTENING POULTRY—SOME FACTS ABOUT THE BUSINESS

D. Burch, Mgr. Valley View Poultry and Fruit Farm, Norfolk Co., Ont.

Good profits are made from crate fattened chickens. Much poultry is being sold at a loss because it is not fattened. Specific instruction on how to make the business a success

SOUND advice is that counsel "go slow with a new thing." It has a double application where poultry is concerned. I commenced to fatten chickens four years ago on a small scale. I bought 19 well bred barred rocks and 38 barred rock and white wyandotte crosses; in all 52 birds. They weighed 260 pounds alive. The account showing cost of fattening these birds is as follows:

52 birds weighing 260 lbs., at 6c. a lb.	\$15.00
Cost of meal ration	4.65
Milk	1.28
Grit, 40 lbs. (40c.), tallow 7 lbs. at 5c., (35c.) .....	.75

Total cost \$22.28
After feeding for four weeks, the chickens weighed 392 lbs. when starved 24 hours. When dressed they weighed 324 lbs., and were sold at 12 cents a lb., realizing \$38.88, which left a net profit of \$16.00, less my work.

PENS VS. CRATES.

The next year, I received a better price per lb. for my fattened poultry and have increased that price each year since. I exhibited 48 fattened chickens at our Christmas market fair and received prizes on 46 out of 48 shown, none of the prizes being lower than 3rd. This lot was fattened in a pen. I cleaned the pen three times a week; it made too much work. I made troughs and fastened them to the wall, but it was impossible to keep the chicks from getting into the trough, so the next year I made crates the same

as recommended by Government experiment stations. They have been used ever since. I made crates for 500 chicks. A crate for 16 birds cost about \$1.00. They have given such good satisfaction that I would not undertake to fatten chickens in a pen again if the crates cost four times as much. One decided advantage in using crates is that you can sort the birds so as not to have small chickens and large ones together. This cannot very well be done when pen fattening is practised. In the crates the small chickens get the same chance as the larger ones.

WHITE FLESH IN DEMAND

I fatten about 1500 birds each year. It costs about 11 cents a bird for chop,—taking the average for the last three years. In 1906 the average cost of feed was \$1.10 a cwt. Chop averaged \$1.46 a cwt. in 1907 and \$1.39 in 1908. I have used a great many different kinds of mixture. I consider that good oat chop, with the large hulls removed, should be used in all mixtures, since it tends to make the flesh white and tender. The English market demands a white fleshed chicken, and our own people are beginning to learn that a white fleshed chicken, as a rule, is only produced by special fattening. The ration that I like best is two parts of oat chop, one part corn, one part barley, one part low grade flour, one part buckwheat, all ground very fine and mixed with sour or thick milk or whey to a consistency such as will pour out of a pail. I like chickens to weigh three and a half to four pounds when they are put in the crates. They have given me bet-

ter net profit than larger ones or even smaller ones.

THE SECRET OF SUCCESS.

For the first week the chickens should get just what they will eat up quickly three times a day. The proper amount is that which leaves them so that they would eat a little more. If the feed is not all eaten up in about five minutes, I take it away and turn the trough upside down so that they will not have anything to pick at. The whole secret of successful crate fattening is not over feeding during the first week. By over-feeding them on the start they are liable to get indigestion.

Do not undertake to fatten any chicken unless it is up to the mark. Chickens for fattening should be of blocky type. As an example to follow, model after a show bird of any of the utility breeds and you will not go very far astray. Never undertake to fatten any birds of the breeds known as the "active breeds." There is no profit in fattening them. They will make nice plump chickens, but they do not put on enough extra flesh to pay for the trouble.

OTHER ATTENTIONS.

My fattening birds are fed twice a week. When the weather is cool I do not give them any water, as the feed contains all the drink they need. Before the birds are put in the crates they should be given a good dusting with sulphur to kill the lice. They will not do well if they are lousy. I feed the chickens from three to four weeks. If they have been properly fed and have done as well as they should, they are ready to kill in three weeks. There are always a few in each lot, however, that will take four weeks. I dress air our chickens by bleeding them in the mouth. A ring of feathers is left at the head, and at the leg joint. The tip of the wing is also



Two Cemeteries in Prince Edward County, Ont., only a few miles apart, which tell their own tale

Why is it that many of the most progressive and prosperous farming centers in Canada allow cemeteries to be neglected in the shameful manner that many of them are? The cemetery that is shown on the left, in the above illustration, is located at West Lake, in Prince Edward Co., and is a credit to any vicinity. The cemetery is an old one, it having been used for its present purposes for over 40 years. Each year a small sum of money is collected among the people of the community, and is used to pay a man to cut the grass each week during the summer season. The cemetery shown on the right is about five miles from it, and is on one of the most travelled roads in the county. When the photograph was taken by the Editor of Farm and Dairy, numerous grave stones were noticed that had fallen over, and were buried by the mass of weeds and long grass. Among the grave stones are mentioned specifically in this instance, almost every other county in the province can be so treated with more honor and respect. While Prince Edward County is mentioned specifically in this instance, almost every other county in the province can be so treated on this subject. Where nothing else can be done, why should not the township councils make small grants to insure neglected cemeteries being kept in better condition?

left. The birds are starved for 24 to 36 hours before killing and are put on the market un-drawn.

To the amateur my counsel would be: Start with good blocky birds; don't overfeed during the first week, especially, or at any time; feed regularly; keep the chicks quiet, do not allow dogs to come in sight of them; make the feed palatable by using a little salt. For the first week the birds will gain very little. They will make the largest gain during the second week. When the birds are fed, their crops should be full and if when you go to feed them again, their crops are nearly empty, your birds cannot help but be doing well.

FIRST CLASS PRODUCT IN DEMAND.

It should not be thought for a minute that there is a possibility of overdoing the business of fattening chickens. One of the main causes of the low prices for poultry during the past two seasons has been the very poor condition of the birds marketed. People get disgusted with skinny poultry and they buy other meats, whereas if the poultry was well fattened, it would create a better appetite for poultry and this would mean increased consumption. There is very little danger of over production of the first class product; in fact there is very little No. 1 poultry to be seen on the markets. The demand is almost unlimited for crate fattened chickens. The universal opinion of those that I have supplied with crate fattened chickens is "I never knew what a good chicken was before." If you don't fatten your poultry as I have outlined, make them as good as you can in the ordinary way. You would not think of trying to sell your hogs when half fattened if they are intended for killing. The same principle applies to poultry and the loss by selling unfinished poultry is much greater.

After Harvest Cultivation

L. C. Cameron, Halton Co., Ont.

Fields, that are to be fall plowed, should be turned over lightly as soon after harvest as possible. Where advanced methods of farming are practised there will not be much to plow save soil. After plowing, such cultivation as is necessary to put the soil in good tilth should be given. This will cause rapid decomposition of the stubble and other vegetable matter.

Three weeks after plowing bring the broad-sharred cultivator into use. This will cut all weeds and leave them near the surface. Then by means of the harrows bring the roots on top where they will be killed by the sun. Cultivating twice with the broad shares and following with the harrows is a very effective way of destroying weeds.

Late in the fall the land should be ribbed up in shallow ridges. This will allow the frost to penetrate readily into the soil. The many furrows will carry off the water in the spring with little wash, owing to the amount of water being small that passes down each furrow. Land handled in this manner will be in fine condition in the spring. It will work down readily with the spring-toothed cultivator into a fine seed bed.

Municipal Forests in Canada

The agitation that has been conducted by Farm and Dairy in seeking to arouse greater interest in the matters of reforesting the waste lands of Ontario, is having effect. A bulletin prepared by the Canadian Forestry Association, under the direction of Mr. R. H. Campbell, Supt. of Forestry at Ottawa, has just been issued to newspapers throughout the Dominion drawing attention to the convention recently held at Cobourg, where at the instigation of Farm and Dairy, a number of forestry experts and others met to discuss the feasibility of reforesting the waste sand lands of Durham and Northumberland counties.

The bulletin deals with matters discussed at the convention and is as follows:

Small municipal ownership be extended to forests? This question, it is hoped, will shortly be answered affirmatively in Ontario, and perhaps in other provinces of the Dominion. The question was discussed lately at a meeting in Cobourg of representative men of the Counties of Durham and Northumberland, which are united for municipal purposes. In these counties, along the ridge, which forms the watershed between the streams flowing into Lake Ontario, and those adjoining the Trent River, is a large tract of sand land, some 15,000 acres in extent. Originally this land was heavily timbered with a fine crop of pine. After this was cut off the land was for some years farmed with fair success. The fertility of the soil, however, has steadily diminished, and now few farmers are left on the ridge. Buildings and fences are going to ruin and areas of "blow" sand have developed which in some cases are drifting on, and covering up good land. Not only is this the case, but the streams throughout the district have been affected, with the usual result, that instead of flowing steadily throughout the year, they are torrents in springtime, while in summer and autumn their beds are almost dry.

CAPABLE OF PRODUCING TIMBER.

The land is capable of producing fine timber. Abundant evidence of this is seen in the large stumps still existing in many places, and in the fine young timber that is springing up. Already one plantation made on sand land in Durham county some four years ago, is growing well and thriftily.

As sand land can, it is thought, be bought at an average price of five dollars an acre. If the land is bought at this price and planted with white pine, at a cost, for plants and planting, of \$10.00 an acre, the cost per acre of the planted area would, at the end of sixty years, amount to about \$165. This includes a liberal allowance for expense of management and protection, and for taxes at the rate of 17 mills on the dollar. (Money is assumed to be worth three and a half per cent. per annum.)

The pine timber standing on the acre of ground would be worth, even at prices now prevailing, \$600. In other words, not only would the investment repay the interest at the rate of 3½ per cent. per annum, but in addition would yield an amount equivalent to a yearly payment throughout the 60 years of about two and a quarter dollars. Thus the yearly revenue would amount to almost half the amount paid, in the first instance, for the land.

THE CONVENTION.

At the meeting referred to, addresses were given by Messrs. Thos. Southworth and Jas. Lawler, president and secretary, respectively, of the Canadian Forestry Association, Dr. B. E. Fernow, Dean of the Faculty of Forestry, of the University of Toronto, and others. Figures given by the last-named speaker with regard to similar planting in Germany and France aroused much interest. Resolutions were passed by the meeting favoring the reforestation of the lands in question, the co-operation of the provincial government to be secured, if possible. The matter will be further discussed at a series of meetings to be held during the autumn, to conclude with a meeting of representatives of the counties in December.

Other parts of Ontario present much the same problem as the district referred to and similar action could with advantage be taken in them. In other parts of Canada, too, there are good chances for municipal forests. The city of Prince Albert, Sask., for instance, has a splendid opportunity for the creation of such a forest reserve in the sandy jack pine lands lying to the north of the Saskatchewan. The state legislature of Pennsylvania, it may be noted, at its last session passed an act permitting the municipali-

ties of the state to acquire forest lands for the purpose of establishing municipal forest reserves.

To Encourage Earth Road Improvement

D. James, York Co., Ont.

Much is being written in our daily papers just now in reference to good roads; not too much of course, for good roads are quite necessary. The Provincial Government and the County Councils both appear to need more light on the subject in order to make the proper financial adjudication so as to cause more of the good work to be performed. Or, it may be a matter of education of some sort that is required. While the matter of good leading roads is important to farmers and merchants, it also appears to be all important to that increasing class, the automobilist. If people of wealth in our towns and cities use our leading roads, not so much on matters of business, but of pleasure, to the great injury of the roads and also to the hindrance of farmers and their families who have contributed so largely in building and maintaining the roads, there should be some way of equalizing the matter and of making the roads accessible and safe for all classes who may wish to use them.

Having recently visited a section in Lincoln Co., and knowing of the good work done by Mr. W. B. Rittenhouse, I suggest the following way of equalizing the financial part of a good roads scheme, especially from a farmers' standpoint. It refers to the split-log drag road, which has proven so successful in Lincoln and in some other counties.

FUNDS FOR A COMPETITION.

Let the Provincial Government set aside \$20,000 or \$30,000 annually for a term of six years for the encouragement, by means of competitions, of the use of the split-log drag. Limit the number of municipalities to be assisted from three to five in each county according to the size of the county; the municipalities in a county first making application to have the preference. No municipality should be assisted that did not have at least 15 or 20 competitors. The length of road for each competitor should not be less than one-quarter of a mile; the municipality should exempt each competitor from statute labor or payment of commutation tax during the term of three years in which he shall use the drag up on the portion of the road; the municipality to maintain an inspector or instructor, or both, during said term; the municipality to offer prizes for the best pieces of roads, taking into consideration the length of road, the condition before commencing, and at the end of each year during the three years term; the Government grant to be depended upon by each municipality for at least three years and of course supplemented to some extent by township or private subscription.

These portions of roads, kept as they should be, would be an object lesson to all who would visit them, from the different parts of the township, or county, as the case might be. No doubt, many, later, would enter into the scheme, which would bring not only good returns financially, so far as saving of cost of hauling is concerned, but would increase the value of lands adjoining or contiguous to those roads. From the aesthetic standpoint, and this is not the least pleasing feature of the scheme, a well kept wayside speaks well for the people of a community, besides being a pleasure for the travelling public.

I hope, Mr. Editor, you will see your way clear to urge upon municipalities and upon the Provincial Government the value of educating, initiating and assisting our people in improving and beautifying our true farm roads, not necessarily upon the aforementioned plan, but possibly on a better one, this communication merely calling attention to the need and to some extent a feasible way of assisting the farmers of the whole Province.

T. R.

Preparation made many ways arated from do in the wa the foal. This is undertaken is begun the this preparat grain. This the dam in the floor where the follow will examp her seeing it has got a share every tin The best age has plenty of c the youngest months or even er. In case the ie weaned early milk is fed al be diluted with er and sweet with a little at SEPARATING DAM

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To tie the foal placed on each si tie-strap should go These rings should will not be any de either rope when t A large, light and out feed box, water place for a foal di can be led out to a bucket can be plac out of and be m should be given in floor, the box also eaten.

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Weaning the Foal

T. R. James, Middlesex Co., Ont.

Preparations for weaning the "colt" should be made many weeks before it is to be actually separated from its dam. One of the first things to do in the way of preparation is to halter break the foal. This is not a difficult thing to do if it is undertaken early in its life, and the earlier it is begun the easier it will be. Another thing in this preparatory course is to teach the foal to eat grain. This can best be done by feeding grain to the dam in a shallow box placed on the ground or floor where the foal can easily reach it. The little fellow will see its dam eat the grain and following her example will begin to nibble at it. Once it has got a taste, it will be on hand to get it's share every time the dam is fed.

The best age to wean is five months, but if one has plenty of cow's milk, and it is desired to wean the youngster sooner, it may be weaned at four months or even earlier. In case the foal is weaned early and milk is fed it should be diluted with water and sweetened with a little sugar.

SEPARATING DAM AND FOAL

When well halter broken and taught to eat grain, weaning can be done without checking its growth appreciably. One of the best methods, when convenient, is to place the dam and foal in adjoining box stalls with a small opening through which they get their noses together. Discontinue the grain ration for the dam. Feed

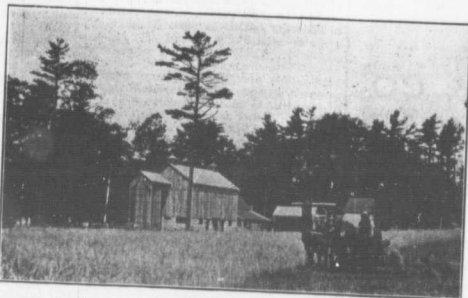
her only dry hay and water her often but sparingly, in order to prevent the secretion of milk. For the first four days after separating, allow the foal to suck three times a day. For the next four days, twice a day, morning and night, will be often enough to let it suck. After this let the foal suck once a day for two or three days and then do not allow it to go near the dam again. If two stalls are not available, use two open stalls which adjoin, but see that an opening is made between them through which the dam and the foal may get their noses together.

To tie the foal a good stout ring should be placed on each side of the stall and a rope or tie-strap should go from each to the foal's halter. These rings should be high enough so that there will not be any danger of the foal stepping over either rope when the head is lowered to the floor. A large, light and well-ventilated box stall without feed box, water pail or manger is the safest place for a foal during weaning. The youngster can be led out to water at frequent intervals or a bucket can be placed in his stall for him to drink out of and be removed when he is finished. Feed should be given in a shallow box placed on the floor, the box also being removed when he has eaten.

THE GRAIN RATION

The grain ration for the foal when being weaned should consist of ground or whole oats, preferably the former, two parts to one part of wheat bran. Begin with a light ration and increase daily until the foal is eating from three to six quarts of the grain ration. For a good-sized foal four quarts of oats and two of wheat bran, daily, divided into three feeds will be none too much.

Feed the foal well cured hay, the best and earliest cut hay available. Feed only as much as it will eat with a relish, but feed often. If there is plenty of cow's milk to be obtained teach it to drink sweet skimmed milk. Most foals easily learn to drink milk but some refuse. To such begin by wetting oat-meal with milk, making the mixture thinner each time until soon the colt will be drinking clear milk. A lump of rock salt or a salt brick should be placed in the stall where the foal can help itself whenever he wants to. Exercise is absolutely necessary in order to insure the foal's well-being. As soon as weaned, the youngster should be given a paddock or pasture to run in when the weather is good so that his limbs may be developed in proportion to his body. Keep the feed box and the stall clean. Look after the feet and by the use of a rasp keep them from growing irregularly or getting too long.



Barley Harvest at "Danais" Farm, the Barns in the Background

Leaders in agriculture have long taught that were the information available, men are quick to recognize the value of advanced farm practice and readily apply what they learn to their farms and country homes. Mr. Barlow Cumberland, a Toronto business man, whose country home is in Durham Co., Ont., is making a distinct success of his 40 acre farm. The silo, alfalfa, a carefully planned four rotation, and intensive cultivation, are a part of his farm.

Some Features of a Well Kept Competing Farm

In these days when dirty farms are common, it is a pleasure to find one that is practically free from noxious weeds. Such a farm is that of Mr. W. C. Shearer, of Bright, Ont., who is well known throughout the Province of Ontario as a successful farmer and Farmers' Institute speaker. This farm is located on lot 2, concession 11, Township of Blandford in the County of Oxford, and is entered in Farm and Dairy's Prize Farms Competition. It consists of 95½ acres, the balance of the lot being sold to the G.T.R. Co. The land has sufficient roll to readily carry off surface water. The soil is a good clay loam.

HEDGES AND TREES.

The visitor cannot fail to be impressed with the fine hedges along the road and lane leading to the house. Beside the public road soft maples have been planted. The same kind of trees adorn each side of the lane leading to the house. In the lane these trees meet overhead. They have been trimmed out so that to one standing at one end and looking to the other the lane looks not unlike a tunnel. It reminds one of the world-famed drive between Paris and Versailles in France.

This farm has been conducted as a dairy farm for many years. Mr. Shearer's father made cheese on his own farm before the establishment of a co-operative cheese factory in this section. Mr. Shearer's barns are large and commodious. Water is installed in front of the stock, being pumped by a windmill from a well into a tank, then regulated by a float valve as it passes into the basins. Cement floors, and a ventilator leading through the roof are a part of the stable.

SILAGE FOR SUMMER FEEDING.

There are two silos on the place. One is used for storing silage for the summer. A litter carrier is in use in the stable. A rack lifter in the barn hoists the grain and hay nearly to the roof and reduces the labor of unloading materially. Ample storage room is available for implements. These are all kept safely under cover. Ice in abundance is on hand for cooling the milk which is sent to the Bright Cheese factory. The cows kept are for the most part Holsteins, a number of them being registered and are very fine individuals.

The farm dwelling is a comfortable one. It is built of concrete. A neat well kept lawn adorns its front. Mr. Shearer's place was noteworthy for being free from noxious weeds, for its neat fences and gates, and, for the absence of sticks, stones or other rubbish lying around the buildings, lanes or fields.

RURAL MAIL DELIVERY

Mr. Shearer is fortunate in living on a route where Rural Mail Delivery is enjoyed. He gives Farm and Dairy much credit for bringing this about through its special series of articles bearing on this question. As he sits on his verandah he can see the mail carrier deposit his mail in the box, and in another minute he is enjoying his daily paper. Mr. Shearer also has a telephone, which keeps him in touch with his neighbors and with the business places in that section of the country.

A five year crop rotation is followed on Mr. Shearer's farm, land being one year in hay, one year in pasture, one year in grain, one year in corn or roots and one year in grain that is seeded with clover. Mr. Shearer has been successful in growing the finest crop that the Ontario farm produces. He has seven bright, healthy boys, the oldest fifteen, who are an honor to their parents.—H.G.

Corn promises to be an abundant crop. It is now being grown extensively. Silos are not to be seen in the same proportion to the fields of corn. Could there be a better investment and a better time to erect a silo than after harvest of the present year? Cement silos are favorites with many. They are permanent and indestructible buildings. Cement can now be purchased for about 40 per cent. less than it could a year ago. In view of the movement on the part of a number of cement manufacturing companies to form a merger, cement is not likely to be so cheap another season. Where gravel and small stone can be obtained convenient, the present would seem a favorable time to build.—H. Johnson, Middlesex Co., Ont.

It is always good practise to let the calf have the milk of its dam. If this is not possible it should be fed on the milk of the same cow for a few weeks till its digestive system becomes strong enough to digest less carefully prepared food. The food of the cows from which the milk is taken should also be carefully looked after. Musty or heated hay, rotten roots, the drinking from stagnant pools or from any other source of impure water should be avoided, as milk produced from such sources is quite unfit for feeding to young and delicate animals.—Dr. H. G. Reed, V.S., Halton Co., Ont.

Our alfalfa seeding of last year sown with one bushel of barley per acre is making a showing that does the heart good. We have 12 acres now and are clearing 15 more this year. We intend to have lots of it on the policy that it's not possible to have too much of a good thing.—R. E. Gunn, Manager Dunrobin Stock Farm, Ontario Co., Ont.

If you have any difficulties in the care of your orchard or garden send enquires to the horticultural editor of Farm and Dairy.

Seed Wheats of Merit

We offer the following varieties of Fall Wheat, all of which have given satisfactory results after careful trials. All successful farmers realize the importance of a change of seed, also the necessity of growing the newest and best sorts, and we recommend with confidence those varieties, which have been grown for by careful farmers, and thoroughly re-cleaned for our trade. Samples generally are excellent in this district.

NEW GRAND PRIZE—Jones' latest introduction which is highly recommended. It has bold, brown chaff; straw, medium tall, very stocky, thick walled and large at base of heads; heads square built, compact, and square to tip; grain, plump and medium dark red, fine milling quality. It is practically fly proof, is a strong healthy grower, a heavy yielder, and it is equally at home on light, sandy, gravel, strong clay loam or river bottom. One lb., 25c.; 5 lbs., 75c.; post paid by freight, peck 75c.; 1/2 bushel, \$1.40; bushel, \$2.50.

NEW RED WAVE—Jones' latest introduction, which is highly recommended. It has bold, brown chaff; straw, medium tall, very healthy, thick walled and large at base of heads; heads square built, compact, and square to tip; grain, plump and medium dark red, fine milling quality. It is practically fly proof, is a strong healthy grower, a heavy yielder, and it is equally at home on light, sandy, gravel, strong clay loam or river bottom. One lb., 25c.; 5 lbs., 75c.; post paid by freight, peck 75c.; 1/2 bushel, \$1.40; bushel, \$2.50.

ABUNDANCE—A splendid bold white wheat, and a great yielder. Splendid quality grain. Very hardy and a great stower. Straw stiff and stands up well. We highly recommend this variety. One lb., 25c.; 5 lbs., 60c.; post paid by freight, peck 65c.; bushel, \$1.45.

DAWSON'S GOLDEN CHAFF—Bushel, \$1.45.

RED CLAWSON—Bushel, \$1.45

We also offer choicest grades of the following, specially re-cleaned for seed:

Full Eye, bushel	.....	\$1.10	Hair Vetch, bushel	.....	\$5.25
Timothy, bushel	.....	\$3.00	Crimson Clover, bushel	.....	7.00
Timothy, bushel	.....	\$3.50	Medium Red Clover, bushel	.....	5.00
Two-bushel cotton bags, best, 20c. each good, 25c. each extra.					

We allow a reduction of 5c. a bushel on Eye, and 10c. a bushel on Wheats (excepting Red Wave) in 10 bushel lots.

Our Descriptive Price List of Wheat, Poultry Supplies, and Seeds, for fall sowing is ready to be mailed free to applicants.

Our new Fall List will be issued early in September. Send for it free.

JOHN A. BRUCE & CO.

ESTABLISHED 1850
Seed Merchants HAMILTON, ONT.

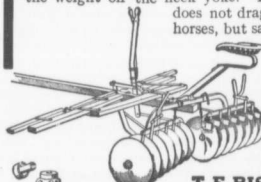
Twice as Good An Investment

When we say that the "Bissell" Disc Harrow is twice as good an investment, we mean just that.

The "Bissell" cuts cleaner and turns the soil over better, and all the time runs so easy that the work is done in half the time it takes with others. You can prove it by a comparison test.

The "Bisse"

is easiest on the horses' necks. It is so perfectly adjusted that it is not necessary to carry the pole on the whiffletrees to lift the weight off the neck yoke. The "Bissell" Disc Harrow does not drag all the strength out of the horses, but saves it.



Surely, the harrow that does better work in half the time and is easiest on the horses is "twice as good an investment"—and that is the "Bissell." Free Booklet on request. Write Dept. R., or ask your local dealer.

T. E. BISSELL COMPANY, Ltd., ELORA, ONT.

GRAND TRUNK RAILWAY SYSTEM

FARM LABORERS EXCURSIONS

VIA CHICAGO, DULUTH and FORT FRANCOIS, or Toronto and North Bay.

\$10	\$18
GOING	Additional Returning

AUG. 27 From all stations in Ontario, Toronto and east, and east of Orillia.

SEPT. 7 From all stations in Ontario, Toronto-North Bay line and West. From all stations West of Renfrew and East of Orillia.

SEPT. 10 From Stations, Toronto, Renfrew and East, and east of Orillia. See nearest Grand Trunk Agent for tickets and particulars regarding Transportation arrangements west of Winnipeg.

CANADIAN NATIONAL EXHIBITION—TORONTO

Very Low Rates From All Points
AUGUST 28th TO SEPTEMBER 1st

Full information from Grand Trunk Agents.

It is desirable to mention the name of this publication when writing to advertisers.

Ontario's Milk Commission

Ontario's milk commission, comprising Dr. R. A. Pyne (chairman), W. F. Nickle, Kingston, C. J. R. Dargavel, Leeds; F. G. Macdonald, West Elgin and W. Bert Goodhouse, (sec.) have returned last night from a tour of New York State which was undertaken in the interests of a pure milk supply. The commission gained much valuable information which will be submitted to the government in the form of a report.

At Rochester the commission saw Dr. George W. Goler, medical health officer, whose work of inaugurating milk depots for the State has attracted a wide attention, and has resulted in the decrease of infant mortality, by nearly 50 per cent. Dr. Goler's plant was visited and the commission were also entertained at luncheon by Mr. Miner, president of the chamber of commerce.

Dr. Tolman, medical health officer at Syracuse, received the Ontario investigators, with Dr. J. M. Little, did Mr. Fredericks, acting commissioner of public safety. There they visited the Cully farm, a widely known model institution producing certified milk. New College University was visited. The dairy department of the state is located there, and Dr. C. A. Puhlow, an Ontario boy, is one of the officials.

Proceeding to New York City, Dr. Pyne and his colleagues interviewed Dr. Darlington, health commissioner, and Dr. Park, chief bacteriologist. Through the courtesy of Dr. Darlington and inspectors, a visit was made to the leading dairies and stores in which milk is retailed, as well as to the Strauss plant, a pasteurization established by Nathan Strauss, where the pasteurization method is seen in its perfection. Dr. J. R. Greene and W. Wirt Mills explained the system to the commissioners.

On the return trip the commission stopped off at Albany and called on the state department of agriculture. Friday, Aug. 20th, was spent in Hamilton, where a number of milk depots were inspected. These were established by New Chamber Roberts, M.H.O., after the model seen at Rochester. It is expected that the commission has gone on to Chicago, where pasteurization has been adopted as a municipal regulation.

Co-operative Experiments with Autumn Sown Crops

Four hundred and ten farmers throughout Ontario conducted experiments with autumn sown crops during the past year. Reports have been received from 36 of the counties of the Province. Those counties which furnished the greatest number of good reports of successfully conducted experiments were Middlesex, Huron, Brant, Norfolk and Muskoka. Average results of the carefully conducted co-operative experiments with autumn sown crops are here presented:

Winter Wheat.—Four varieties of winter wheat were distributed last autumn to those farmers who wished to test some of the leading varieties on their own farms. The average yield per acre of straw and of grain are as follows: Imperial Amber, 1.4 tons, 24.1 bus.; Abundance, 1.3 tons, 23.9 bus.; Bulgarian, 1.2 tons, 21.9 bus.; and Nigger, 1.4 tons, 21.9 bus.

The Imperial Amber gave the greatest yield per acre in the co-operative experiment throughout Ontario in 1907 and 1908, as well as in 1909. It also came first in popularity with the experimenters in each of these years. The Imperial Amber will again be distributed throughout Ontario this autumn as one of the varieties for co-operative experiments. We distributed the Dawson's Golden Chaff for a co-operative experiment throughout Ontario in each of 12 years, but not within the last three years. According to

extensive enquiries which we have made this year, the Dawson's Golden Chaff is still the most popular and the most extensively grown variety of winter wheat in the Province.

Winter Rye.—The average yield of grain per acre of each of three varieties of winter rye, distributed in the autumn of 1908, is as follows: Mammoth White, 28.5 bushels; Common, 22.1; and Washington, 19.6. In the experiments throughout Ontario, the Mammoth White surpassed the Common rye by an average of 5 bushels per acre in 1907, 6 bushels in 1908, and 6 bushels an acre in 1909.

Fertilizers with Winter Wheat.—In the co-operative experiments with different fertilizers applied to winter wheat, the average yield of grain per acre for five years are as follows: Mixed Fertilizer, 25.2 bus.; Nitrate of Soda, 23.8 bus.; Muriate of Potash, 22.4 bus.; and Superphosphate, 22.7 bus. The unfertilized plots gave an average of 19.9 bus. an acre. The Superphosphate was applied at the rate of 320 pounds and the Muriate of Soda each at the rate of 160 pounds an acre. The Fertilizer consisted of one-third of the quantity of each of the other three fertilizers here mentioned. The usual cost of the fertilizers as used in this experiment is between four and five dollars an acre.

Fodder Crops.—In each of six years, the seed of Hairy Vetches and Winter Rye has been distributed throughout Ontario for co-operative experiments in testing these crops for fodder purposes. In the average of six years' experiments, the Hairy Vetches produced slightly the largest yield of green fodder an acre, but in 1909 the largest yield was produced by the Winter Rye.

DISTRIBUTION OF MATERIAL.—As long as the supply lasts, material will be distributed free of charge in the order in which the applications are received from Ontario farmers wishing to experiment and to report the results. The following are the winter tests: 1, three varieties of Winter Wheat; 2, two varieties of Winter Rye; 3, five fertilizers with Winter Wheat; 4, Autumn and Spring Applications of Nitrate of Soda and Common Salt with Winter Wheat; 5, Winter Sinner and Winter Barley; 6, Hairy Vetches and Winter Rye as Fodder Crops. The size of each plot is to be one rod wide by two rods long. Material for number 3 and 4 will be sent by express and that for the others by mail.

O.A.C., Guelph, Ont. C. A. Zavitz,

Poultrymen at Guelph

The members of the International Association of Instructors and Investigators of Poultry Husbandry met at Guelph, Friday and Saturday, August 13th and 14th, for their second annual meeting. There were present less than 40 persons but it is a question if there has been in the Province as many representatives of the same business on the continent. Those present constituted the heads of all the poultry departments of the agricultural colleges all through Canada and the United States, men who have spent years studying the question and

(Continued on page 9)

THICK, SKINNED GLANDS

that make a horse Wind, or Choke-drawn, can be cured with

ABSORBINE

It cures Hay Fever or Swelling of the Throat, no matter how bad, in 10 minutes. It cures Croup, whooping Cough, and all other ailments of the Throat, in 10 minutes. It cures all kinds of Croup, Whooping Cough, and all other ailments of the Throat, in 10 minutes. It cures all kinds of Croup, Whooping Cough, and all other ailments of the Throat, in 10 minutes.

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L. E. BARKER, Montreal, Canada Agent.

FARM

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FARM MANAGEMENT

Comment on Five Year Rotation

We have been following a five year rotation on a 100 acre farm for several years. Rotation is thus

Wheat Pasture Meadow Oats Corn

The corn stubble was plowed under in fall for oats. Second crop clover was pastured. Wheat was seeded and pastured, manured in winter and plowed in spring. Land for wheat was also manured before plowing. We find the land getting rather foul, and although we shall miss the pasture, have thought of changing to the following rotation:

Barley, Oat, etc.	Wheat	Corn	Plow fall, Pasture by Wheat	Meadow	Pasture
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With the five year rotation we had scarcely any permanent pasture. Now we are plowing out 30 acres of meadow. 12 acres for hay crop and same shallow after harvest and the wheat stubble is plowed fall when it is plowed again deeper. Manure is used on the wheat and balance for meadow. Please comment on advisability of such a change when the aim is to get more milk from more cows by buying less mill feed.—Wm. J. Brant Co., Ont.

I consider the rotation now in use very much superior to the one in which it is proposed to change. In an of the opinion that the apparent tendancy of the land to increasing foulness or weediness is due to faulty cultivation or wrong system of working, rather than to the rotation in use. I believe the change proposed would only make matters worse.

As a remedy or as a plan to probably improve matters I would suggest the following changes in cultural methods. Supposing the following to be the rotation, which is the way I understand things:

1st year, corn, manured.
2nd year, oats and barley (seeded down).

3rd year, clover hay.

4th year, pasture, plowed in July or August, sown to wheat (or fall).

5th year, wheat (spring or fall), (manured.)

6th year, corn again, etc.

Then I would suggest the following treatment:

1st year, corn. Fall plow, manure during winter and spring, work in with disc, etc. After corn, rib up with cultivator or plow with very shallow furrow not over three inches deep.

2nd year, Oats or barley. Seed down. Sow 2½ bus. oats or 1½ bus. barley an acre and in time 12 lbs. timothy, 6 lbs. red clover and 2 lbs. alsike an acre. If land is strong and rich a somewhat lighter seeding may do.

3rd year, Clover hay—pasture after starting to plow.

4th year, Pasture. Plow late July or early August. Shallow furrow four inches, roll or disc harrow at once, cut sod up thoroughly with disc, roll again if sod does not lie well; work at frequent intervals, every two or three days till sod disintegrates or about 10 days plow. Work in with disc harrow. If for fall wheat, sow about September 10th or 12th. If for spring wheat ridge land up with double-mold-board plow about October 20th.

5th year, Wheat. If fall wheat, nothing to do unless possibly run light harrow or better, a weeder, across when wheat gets started, and when weeds start to grow. If spring wheat then break down ridges with roller and sow when in good tillth. After wheat harvest plow, shallow furrow (inches), cultivate at intervals and plow deeper furrow (6 in.)

October 20th.—C. E. H. Grisdale, Agriculturist, C. J. F., Ottawa.

Eastern Townships, Que., Notes

The season is sufficiently advanced to be able to determine the results of the husbandmen of this part of the province. A late spring, followed by a dry June is not conducive to speedy vegetable growth. Such were the conditions which prevailed during the spring and early summer. A few showers in July refreshed vegetation and brought the corn, roots and potatoes along nicely. They were too late to help the hay crop which did not cut over a 60 per cent. crop. Clover was badly winter killed, so the cut of this valuable forage crop was small. Timothy was the chief crop. It was of fine quality and was come on fine and promising an average crop of grain with straw. Wheat which is sown in small areas has done well. Peas are not as widely grown as formerly but are a fair crop. Roots and potatoes are sown lately with the drought, as has corn also, especially on clay soils. The fine rain of the 16th August will put new vitality into the crops and refresh the pastures which had become very bare and brown. Those dairymen who were mindful to prepare land and put in a soiling crop have been well repaid in maintenance of milk flow. Those who put it up with a reduced milk flow and consequent smaller returns. We find vetches and oats and peas second to none for July and August feeding. These are followed with corn in September.

The milk flow has become reduced, therefore the make of butter and cheese is lessened. These products have maintained a steady price all season and are returning a good income to the dairymen. There is becoming a shortage of milk in Montreal and dealers are inquiring for new shippers. At this season there has been an oversupply in this city and frequently shippers had to convey a mess or two of milk to the cheese or creamery.

'Tis now a foregone conclusion that there will not be sufficient feed for wintering the present stock carried by our farmers. Realizing this, many are taking advantage of the high prices for beef and hifers on the market. These are selling at good long. Pork is high in price, in fact, the highest for many years. Choice hogs bringing \$8.00 a cwt. at station. There has been a fair trade in heavy horses; more heavy mares have been bred this season than usual and a superior class of stallions have been used.

Our stockmen are getting ready for the fall fairs, which are numerous, every county having its fair, besides the largest at St. Johns, such as Sherbrooke and St. Johns. As harvesting will be later than usual, it may detract from the attendance. At these fairs the best live stock in the community is seen, expert judges usually place the awards and they are to-day of great educational value to our young farmers. We trust they will attend in large numbers.—“Habitat.”

Three Satisfied Workers
The great satisfaction evinced by agents for Farm and Dairy is apparent in the many letters we receive each week. The popularity of our pig disposed of a large number of pigs this season to readers of Farm and Dairy, who have now a pure bred line in return for a club of seven new subscribers. Among the latest to acknowledge receipt of their pigs are the following: Mr. J. T. Donnelly, of Elizaville, Ont., who writes, “I have received my pure bred pig sent me by H. W. Todd, of Corinth, Ont. The

FLY KNOCKER
A SURE AND EFFECTIVE REMEDY AGAINST FLIES AND MOSQUITOES
Is easily and quickly applied with any sprayer. GUARANTEED THE BEST PREPARATION ON THE MARKET. Protects animals from the unsupportable torments of Flies and Vermen. It is cheap. One Gallon applied properly will keep 25 Cows Fly Free for 2 weeks. Can yield one-third more milk when sprayed with FLY KNOCKER.
Price, 50 Cents Quart. \$1.75 Gallon. Freight Prepaid
WILLIAM COOPER & NEPHEWS
152 BA' STREET TORONTO, ONT.

Life Is Not Worth Living
on the farm if you are not fitted up with good Storage Tanks. You can have all the luxury of city life for a very small outlay. Our Barn and General Storage Tanks are made of heavy galvanized steel of the best quality, imported from the Old Country to ensure getting the best.
Steel Trough & Machine Co., Limited Tweed, Ont.

pig arrived safely, in good condition and is a dandy. Many thanks to Farm and Dairy.”

Young Pig Management

A hog is half made when past the weaning period without a stunt or kink in its growth. Every check or halt in prosperity through its first two months is more expensive than at any later period. Too much rich, feverish milk of the dam, causing thumps or other ailment, may leave harmful results, perhaps as much so as scant feeding or other neglect of the sow. More injury may be done to a pig's growth in two or three days than can be repaired in a month, even if she is made the subject of special care, which, where many are raised is not the rule nor easily practicable. “Good luck” with pigs calls for attention, and that not occasional, but frequent and regular.

From the first week after farrowing until weaning time the sow will be little else than a milk machine, and to be a high-power machine in perfect operation she must have proper care. Nothing else is so well calculated to make pigs grow as a plentiful supply of wholesome sow's milk, and the pigs that have plenty of other feed with the milk of a well-slopped sow for eight weeks will ordinarily have much the start of those weaned at five or six weeks, no matter how much food and attention the earlier weaned pigs may have had.

At eight or nine weeks old, most pigs are, or rather should be, fit to take away from the sow; some litters are individually older at seven weeks than others at ten, and better fitted for weaning. Sometimes it is necessary to wean when the pigs are five or six weeks old, and in other cases it may be advisable to wait until the pigs are ten weeks or even older. Breeders who wean at early ages generally do so in order to more profitably produce two litters a year.—From Cornburn's “Swine in America.”

Keep the pigs growing and making frame, remembering that too much fat will check the growth of bone and muscle.

I find much of interest in Farm and Dairy to any one interested in dairy- and the farming industry.—James Moffatt, York Co., Ont.

WINDMILLS
Towers Girted every five feet apart and double braced
Grain Grinders
Pumps
Tanks
Gas and Gasoline Engines
Concrete Mixers
Write for Catalogue
GOOLD, SHAPLEY & MUIR CO., LIMITED
BRANTFORD, CANADA

BELTING For Sale,
also Shafting Hangers, Pulleys, Piping, All sizes. Good as new. Write for prices, stating requirements.
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THE UTILIZATION OF WOOD WASTE BY DISTILLATION
A general consideration of the NEW INDUSTRY, including a full description of the distilling apparatus, methods of the principles involved, alsoposal of wood waste, control and distribution of products. First edition, 1897. 156 pages. 10¢ per copy. Bound in cloth. Send for any address now. Receipt of \$3.00. Free alcohol distillation apparatus. Free denatured price \$38.50. A 100-gallon distilling apparatus costs \$76.00.
WOOD WASTE DISTILLERS CO.
213 to 217 St. Clair Ave., Cleveland, Ohio
Mention Farm and Dairy when writing.

HORTICULTURE

Points on Blackberry Culture

Extract from Bulletin of Oregon Experiment Station.

The proper pruning of the blackberry is very simple as well as important. The amount of pruning required will be governed by the variety, soil and climate. The large growing sorts will naturally require more pruning than the more moderate growers, although growing on poor soil will need less heading back than those grown on very fertile soil. The ease of pruning depends on whether it is done at the proper time or not. Where the soil is very fertile the canes will make growths of from 10 to 15 feet in height. Canes of this height are out of the question when it comes to picking the fruit.

This difficulty can be overcome by proper summer pruning. The field should be gone over as soon as the shoots are two or three feet in height and the tops pinched out. This will cause side branches to put out near the ground, producing stocky self-supporting canes. If the side branches show a tendency to grow too tall, they should be cut out. Never allow a cane to grow 10 feet high, then cut back to three or four feet. By doing this, you will remove the larger part of the next year's crop.

The removal of the old canes at the very correct time is very desirable. Very often they are allowed to remain until the winter pruning. However, this is a mistake, as they remove a large amount of plant food and moisture from the soil; and also are often diseased, offering a fertile source of infection for the new canes. Therefore, cut out the old canes as soon as the crop is picked, clean up the field and burn the trash.

Winter pruning should be done just before the sap starts, or after all danger of winter-killing is past. It consists of thinning out the canes and slightly heading back the long side branches. The amount of wood that will have to be removed depends on the vigor of the plant. If the variety has a tendency to produce a large number of weak canes the clump should be thinned out enough to insure good marketable berries.

PICKING AND MARKETING.
When picking for the home market be sure that the berry is ripe, as blackberries have a tendency to color up before they are fully ripened. Where long shipments are expected the berry will have to be picked as soon as well colored. Never leave the berries in the sun after picking, as a bitter flavor will be developed spoiling the fruit for use in the green state. When putting up the fruit for shipping, use the kind of crates and boxes that are used for the strawberry.

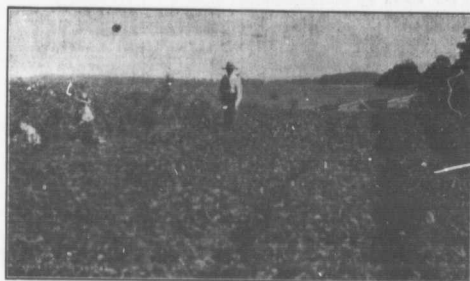
LIFE OF PLANTS.

The length of time a blackberry plant will produce good fruit depends on its care. As a rule they will be profitable longer than any other cane

fruits. As soon as they begin to fail the soil should be removed and the soil used for something else for a few years. To kill out the patch mow off and burn the bushes as soon as the crop is picked. Plow deeply and go over the ground with a spring-tooth harrow, removing as many of the roots as possible. Keep down the suckers by persistent cultivation, and it may require several years before they are entirely exterminated.

Pastime of a Retired Farmer

The illustration on this page shows part of a plot of land on Mr. E. Terrill's farm in Northumberland Co., Ont., on which his brother, Mr. A. Terrill, who is 78 years old, keeps himself in congenial employment. Mr. E. Terrill is one of the competitors in the Dairy Farms Competition. On this farm, a plot of five acres of land admirably suited for the purpose is devoted to growing small fruits under Mr. A. Terrill's management. Three acres of



There is Profit and Pleasure in Working a Berry Patch Like This

Instead of retiring from the farm and going to a town or city, Mr. A. Terrill finds profitable as well as congenial employment in managing and working the five-acre berry patch on his brother's farm. Mr. Terrill says great stress on having his work done properly. The clean culture and the vigor in caring for his charge. The girls in the left background are picking blackberries.

the patch are devoted to strawberries, blackberries, red raspberries, gooseberries and currants of several different varieties of each. The present season has been somewhat against the patch, though, notwithstanding the drought, it has given a fair account of itself. At the time of our visit, the strawberry patch had just finished fruiting. It has been well kept, not a weed being in sight.

Mr. Terrill announced his intention of cropping this patch the second time. His method of renewing the patch is as follows: After the crop is harvested the patch is gone over with the mower and clipped closely. The clippings are then taken into the patch and the soil between the rows turned over, the width of the rows being reduced to at least one-third their former size. The land is then cultivated down and about an inch deep is hoed over the rows. Covering the plants in this way puts them deeper into the ground where they seem to stand the drought and winter better. This practice would not prove beneficial in heavy soils, but gives good results in sandy soil.

The first meeting of the Canadian Forestry Association will be held in the prairie provinces will be at Regina and is called for September 3 and 4. Tree planting and tree growing in the prairies will be one of the chief topics for discussion. Other topics as well will have prominent places on the program. The railways have promised a single fare rate to delegates for the round trip. Programs and further information in regard to the meeting may be obtained from the secretary of the Association, Mr. Jas. Lawler, 11 Queens Park, Toronto, Ont.

The Raspberry Cane Girdler

"My raspberry stalks are mostly Cuthberts. On the canes, a few inches down from the top (perhaps from four to eight) there appear two circles, about an inch apart, as if girdled, and between these circles can be seen a tiny puncture, in which there is an egg. The plant above these girdles immediately withers and dies. The canes break very readily at these circles, and I have tried to pick and burn them, but after the top has been removed the operation is repeated a little lower down. The pests also work on the tender new branches."

The foregoing question was sent to the State entomologist for Pennsylvania. Should this pest be injuring the plantations of any raspberry growers in Canada, the remedial measures recommended by Professor Surface will be of interest to them. They are as follows:

"The damage is done by the Raspberry Girdler. You should at once clip off the canes just below where

ditions, will easily weigh on an average four ounces, when green. Twenty-five such roots will weigh when dry two and a quarter pounds, while the same number if grown under adverse conditions might not yield more than half of the above quantity. It all depends on the care and attention given. I believe that the size of the root can be increased. For instance, large vigorous plants indicate a large root beneath; by going through the garden early in summer and pinching off all the berries from the smaller plants and using no seeds for propagation but those from large vigorous plants, we can produce a larger strain of ginseng.—Wm. Gilgore, Peterboro, Ont.

One Million Packages for Fruit

L. A. Hamilton, Fruit Co., Ont., Pres. Clarkson's Fruit Growers' Association.

The Clarkson's Fruit Growers' Association, Clarkson's, Ont., bought this year over a million berry boxes and crates. It took 88 box cars to take the boxes to the G.T.R. from the factory to Clarkson's. The boxes were put end to end they would reach over 100 miles.

In view of what has been done to develop the fruit industry in this section within the last few years, it does seem a short sighted policy for the Grand Trunk Railway and the Canadian Express Company to have misunderstandings and disputes with the fruit growers as one can readily see what a business acreage to the express company in handling the fruit contained in these million packages. And this industry is yet in its infancy and will grow by leaps and bounds provided that it is fostered by the carriers whose interests in this matter ought to be identical with our own.

Care for the fruit trees and you will be rewarded.

The most satisfactory method of growing berry trees with Anthracnose is to select the seed beans from pods that show no signs of disease, and to spray with Bordeaux at intervals during the growing season.

The September issue of THE CANADIAN HORTICULTURIST, the companion paper of Farm and Dairy, will be the best number of the year. Mention of its leading articles will appear in these columns next week.

I like Farm and Dairy very much. Every up-to-date farmer ought to take it, and if a farmer is not up-to-date, it will soon give him the necessary qualifications. It is regrettable that many of our farmers "know it all," but when they see their friends outstripping them in matters of good stock and crops, they will probably get their eyes opened.—J. Moir, Echo Farm Dairy, Lanark Co., Ont.

Size of Ginseng Roots

How large will the roots of ginseng grow?—P. L. B. Lanark Co. Ont.

Roots six years old from the seed, if grown under the best possible con-

SOME EXCELLENT PREMIUMS

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Farm and Dairy has recently issued a new Premium Catalogue, in which illustrations and descriptions are given of a large number of useful premiums that will interest you. These premiums are not for sale but are being GIVEN AWAY. Full descriptions are given for securing any premium that may interest you. Write for a copy. Send us a post card, and one will be sent you by return mail. Address:

CIRCULATION DEPT., FARM AND DAIRY PETERBORO, ONT.

FALL TERM

AT

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This school is the oldest and best of its kind in Canada, and intending students will do well to write for catalogue before selecting a school.

T. M. WATSON - PRINCIPAL

PO
"White D

Prof. F. C.

Most potato haters have heard what was known as "chicks before" that has proved to be a very raiser. It was due operators of every way as to be free to come no high the ten many have back to the Social incubators hatched chicks the same way. Morse, in Diseases in Department ton, to come at or something practical. I written a but is locked up track by pro

Those who feel grateful glad to know rewarded by can call the likes so long He says: "It is not too broadening or wronged or white dirt the plagued with disease. Morse the cleanliness. I must remember prof yet as

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POULTRY YARD

"White Diarrhoea" is not White Diarrhoea

Prof. F. C. Elford, Macdonald College

Most poultry men who run incubators have had chicks affected with what was said to be "White Diarrhoea." It usually attacks young chicks before they are two weeks old and is probably the worst epidemic that has ever struck the modern poultry raiser. We have been told that it was due to faulty incubation, and operators of incubators have tried in every way to run the machine as close as to be free from it. But it seemed to come no matter how long or how high the temperature was kept, until many have allowed to be determined to go back to the old hen and leave artificial incubation alone. Recent experiments have shown that the hen sashed chick is also troubled in the same way, but it remains for Dr. Morse, in charge of Investigation of Diseases in Poultry, United States Department of Agriculture, Washington, to come out with something new or something that at least seems practical. Dr. Morse has already written a bulletin on the subject and is looked upon as being on the right track by practical poultry men.

Those who read Dr. Morse's article in July issue of P. Journal, will feel grateful to the Doctor and will be glad to know that his efforts are being rewarded by something tangible. He can call the name a misnomer if he likes so long as he gives a remedy. He says: "It is not faulty incubation. It is not too high a temperature in the brooder, it is not too high a feed-ling or wrong diet, it is not unabsorbed yolk, it is not any one of these or all of them together that causes the white diarrhoea, associated with the plugged crop." According to Dr. Morse the only remedy is absolute cleanliness. He further says: "We must remember that, lacking full proof yet as to the infection of the

interior of the egg, the Coccidium reaches the chick through the mouth; it is taken in with the food and drink. That is why you wash the eggs or dip them in 95 per cent alcohol or a four per cent solution of a good coal tar disinfectant; so that no infection from the hen's intestines lurking on the eggshell shall contaminate the egg tray or nursery floor. That is why you do not dress the runs with lime and plow them up; that is why you go over the runs with some strong disinfectant like sulphuric acid, or if the houses will permit, sprinkle coal oil over the runs and set fire to them. Remember, fire is the best disinfectant but a terribly dangerous thing to fool with.

TREATMENT.
How shall we treat the sick chicks? As soon as any show signs of the disease remove them from the well chicks; give them a dose of Epsom salts in food, weighing, estimating 10 to 20 chicks to the pound, according to age and size. One trouble is that they are not much inclined to eat at this time. If you have but a few you can pick the food down their throats. Most of the large pharmaceutical houses put up a tablet triturate containing camol, one-fifth grain; ipecac one-tenth grain, and bicarbonate of soda, one grain. Find that one of these to a chick from three to six weeks of age acts very nicely; smaller doses for the younger.

Bichloride of mercury tablets containing, each, one hundredth of a grain, drug strength, recommended by Dr. Woods, I have tried with excellent results. Ten such tablets dissolved in one quart of drinking water, allowing no other drink, is a good way to give the corrective sublimate treatment.

Ten grains of iron sulphate to the gallon of drinking water appears to be the iron sulphate (corrective) treatment too long without a laxative. Epsom salts, for it is constipating. I have apparently often had good results simply by the injection into the vent of one or two medicine dropperfuls of a one per cent. solution of carbolic acid. I have no hesitation in saying that while you are thus treating this disease you will be repeating to yourself, "Prevention is better than cure." And if you try to carry this idea out, remember three things: Disinfect the intestinal tract of the adult stock; disinfect the premises; and, last, but not least, disinfect the eggs prior to incubation."

Dr. Cushing, of the Royal Victoria Hospital, Montreal, has been kind enough to examine scores of chicks from the Macdonald College this spring and the conclusions he came to several months ago are almost identical with those expressed by Dr. Morse. I shall endeavor to give Dr. Cushing to give us the benefit of his experiments in some future issue.

Hens that Eat Eggs

The Michigan "Poultry Breeder" says that at this period of the year some of the hens will be guilty of eating their eggs, and it is one of the most annoying vices that can exist in a flock. It is a habit that is acquired, one hen becoming addicted to it and teaching the others. Hens will never eat their eggs, however, unless induced to do so from fear. If fresh shells are given them or an egg becomes broken, they learn that they have a source of food, and take advantage of the opportunity.

The vice cannot be cured, but if the hens once begin to eat eggs they will always do so if they can. The best remedy, however, is to get rid of them; begin with a new flock. By arranging the nests conveniently they are sometimes prevented, but does not destroy the desire. Get a soap box with a top and compel the hen to go in to the box for a nest at the end, so as

to compel her to walk in. The box should be just large enough for her, sit in, and not stand up comfortably. Fix the nest ten inches from the floor, or so she cannot stand on the floor and eat the egg out of the box. If she cannot stand in the box she will not attempt to eat the egg when on the nest.

Poultrymen at Guelph

(Continued from page 6)

men who will doubtless spend the rest of their lives in the same work.

The questions discussed at this meeting are not especially for publication. No paper was presented at the meetings. The idea was for those interested in the instruction to meet and discuss the various phases among themselves, where they could express their own opinions, criticize where they saw fit and know they would not be made public. However, there were a good many valuable lessons brought out at the various meetings. There were present, as is known throughout the poultry world for the work that they have done. While we mention such men as Dr. Pearl of Main, Horace Atwood of West Virginia, A. G. Gilbert, Ottawa, D. J. Lambert, Rhode Island, Dr. Morris, Washington, Professor Rice of Cornell, R. R. Slocum of Washington, F. H. Stonebourn of Connecticut, Professor Graham of Guelph, L. H. Baldwin and J. H. Robinson and others, it will be seen how representative the meeting was.

QUESTIONS DISCUSSED.
Among the questions discussed at the meeting were modern methods of feeding, influence of age in determining the value of breeding stock, inheritance of color, the influence of fertility and hatching power of eggs, conditions affecting eggs for hatching, method in teaching of poultry husbandry to cooperative poultry associations and many other both of a theoretical and practical nature.

A very interesting demonstration of trussing was given by Miss Yates. Miss Yates is connected with the Ontario Department of the Farmer's Institute and does considerable lecturing throughout the Province. Her system of trussing and dressing fowl is very simple and she knows how to do it. She is a very interesting speaker and one cannot help but be interested in what she has to say.

According to Dr. Pearl's recent investigation some have come to the conclusion that the production of eggs is not hereditary. The Dr. proves most conclusively that it is and he is able to show the best method to obtain results. His work is very interesting and will be productive of very much good.

A complete report of all the questions discussed upon cannot be given in

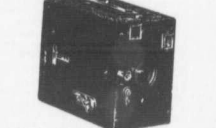
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one article but those present felt that the time was well spent and that they had received a great deal of practical use on return to their homes. Professor W. R. Graham, who has been the efficient President of this Association retired and Dr. Pearl of Main University, Orono was elected.

On Friday evening those present were entertained by Pres. Creelman and Professor Graham to a luncheon on the lawn, after which they inspected the poultry department.

For all farmers, a most profitable branch of the poultry business is the production of eggs in the winter.

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In the Manufacturers' Building we have a big exhibit of Metallic Roofing Materials—material that is taking the place of wood because it is more durable and more economical.

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FARM AND DAIRY

AND RURAL HOME

Published by The Rural Publishing Company, Limited.



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We want the readers of Farm and Dairy to feel that they can deal with our advertisers with our assurance of our advertisers' reliability. We try to admit to our columns only the most reliable advertisers. Should any subscriber have cause to be dissatisfied with the treatment he receives from any of our advertisers, we will investigate the circumstances, and if we find reason to believe that any of our advertisers are unscrupulous, even if we find reason to will discontinue immediately the publication of their advertisements. Should the circumstances be such as to expose them through the columns of the paper, this we will not only do, but our readers, but our reputable advertisers as well.

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FARM AND DAIRY

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INVESTIGATE HOME CONDITIONS OF BACON INDUSTRY

The Swine Commission, appointed by the Dominion Government to investigate the bacon industry in Europe will soon be home. They will be able to present, from a Canadian hog raiser's standpoint, the conditions that impressed them, as having placed such countries as Denmark and Ireland in the lead in bacon production. The commission's report on practical hog raisers, it may be necessary for them to inquire to any great length as to the system of breeding and feeding hogs in this country. It is necessary, however, that they shall investigate other conditions at home before they can make an intelligent application of the information they have gained. They should inspect our Canadian packing plants, find just why our co-operative plants failed, what influence the drovers and packers have in the manipulation of prices in Canada and give the packers a chance to bring forward any information they may care to. Unless the

members of the commission have an opportunity to investigate home conditions thoroughly their report will be discredited to a considerable extent before it is issued.

The Hon. Sydney Fisher, Dominion Minister of Agriculture, deserves credit for appointing the commission. He should now instruct the commissioners to make a full and complete investigation into the pork packing business of this country. It is in the best interest of all that a full and complete report be made. Nothing short of this will be satisfactory to the farmers of the country.

POULTRY FATTENING

To crate-fatten poultry is not a new thing. It has been advocated for years and is such an old story that it is generally admitted that it pays to fatten cockerels before putting them on the market. Such belief may be common, but is it put into practice? Only by the few. Much of the poultry that is marketed is a disgrace to the producer. Had it been properly fattened it would have commanded a much increased price, it would have been disposed of at a profit and would have given general satisfaction to all concerned.

The situation was aptly portrayed in the statement made by a Montreal produce dealer some years ago. He said that a farmer came to him in the fall and offered three or four hundred barred rock cockerels that weighed six pounds each. The produce man said, "These are just what I want. I suppose they are fat?" The farmer replied, "Yes, I think they are. I have fed them a shovel full of oats once or twice a week and I think they are fat enough all right. They are roosting in the trees and I want to get rid of them." At this the produce man told him that he did not want his cockerels at any price, but that if he would go home and feed those cockerels for three weeks according to the directions available on crate-feeding chickens, he would guarantee to give him from \$1.00 to \$1.25 a piece for them.

Many who make a practice of crate-fattening chickens claim that they can produce a pound of chicken flesh as cheaply as a pound of pork or beef. Experimental stations corroborate this statement. When beef and pork sells for from five to eight cents respectively, while well fattened poultry flesh commands 15 cents or over, no further argument is needed for fattening chickens. The experience of Mr. D. Burch of Norfolk County, given on page 3 of Farm and Dairy this week will bear careful reading in this particular. We would never think of selling pork or beef unfattened. Why should we sell unfattened poultry when we know that to fatten them is most profitable?

IN CAUSE OF GOOD ROADS

The subject of good roads has had its fair share of comment of late. Much is being said and less done to bring about good roads. The County system of road construction whereby it is sought, by means of Government

aid, to build macadam roads leading to important centres and markets and along the main lines of travel has done much to improve the roads of Ontario. The system, however, is not being taken advantage of to the extent that is desired. Macadam roads are costly and will for many years to come be denied to the great percentage of those who must use our country roads.

Some cheaper means of improving the roads than we already have is imperative. The Farmer's Advocate through their split log drag competition, and the agricultural press in general through their advocacy of the use of this implement, have demonstrated to many that ordinary country roads can be greatly improved at a minimum expense. The suggestion offered in Farm and Dairy this week by Mr. D. James, of York Co., Ont., whereby it is sought to create still more interest in the work of the split log drag is most commendable. Our Provincial Government may well set aside a sum of money to encourage the use of the split log drag in improving the common earth roads of this Province.

CO-OPERATIVE SILO FILLING

The co-operative ownership of the more expensive farm machinery has much to commend it. Many machines are used for but a few days each year, yet they are a necessary part of every farm and cannot well be dispensed with. These implements represent a considerable outlay and as they are used but for a very short period on the individual farms, many of them can be owned and operated co-operatively. Possibly no farm machinery that is widely used lends itself so advantageously to co-operative ownership as does the silo filling outfit. Silo filling, as commonly practised, demands more labor than is available on the average farm and hence interchange of labor with neighbors is necessary. While interchanging labor, machinery might just as well go with it as it cannot be used save where the labor is. Those who fill their silos on the co-operative plan—owning their own outfit and exchanging work among themselves—speak very highly of the success of this system.

Many are deterred from erecting silos owing to the difficulty of getting them filled. Where three or four are interested in silo filling, they may well give the matter of owning their own outfit serious consideration. Even where individuals can be secured to fill the silo, their work is not always the most satisfactory and it is at the same time, costly. Silo filling is, as a rule, done with a rush and the last man to get the service is liable to suffer much loss from frost or over-dried corn. Where three or four are interested in a co-operatively owned outfit, a silo filler and a corn binder, each member having his own work for the season, i.e., one man to manage the corn binder, another to run the engine, etc., and the system managed so that the first silo filled this year, will be the second next year and so on in rotation, the silos may

be filled in a most satisfactory manner and at a minimum of expense.

Durham Co., Ont., lost one of its best known agriculturists in Henry Cole Hoar, who died last week of anaemia. Mr. Hoar was of that class of which we have too few, he probably having done more in the last quarter of a century for the promotion of modern methods of farming than any other farmer in West Durham. He has been, from its inception, secretary-treasurer of the West Durham Farmers' Institute, has conducted a great many excursions to the Ontario Agricultural College, Guelph, was a regular visitor at, and promoter of, the Provincial Winter Stock Fair at Guelph, was manager of West Durham Agricultural Exhibition, secretary of the West Durham Sabbath School Association, for many years an active member of the Provincial Association, and filled many other responsible and useful positions in Darlington Township. Mr. Hoar was a member of the committee in charge of Farm and Dairy's Special Good Farms Competition for Durham Co. Members of the organizations that he served, his fellow-farmers, will deeply mourn their loss in the death of Mr. Hoar.

The efforts of Farm and Dairy in bringing the matter of the reforestation of waste lands in Ontario before the public are bearing fruit. Most favorable mention of the work accomplished to date and of the convention held in Cobourg on June 9th, where the subject of reforestation of waste lands was discussed, is given in the current issue of The Canadian Forestry Journal, which is the official organ of the Canadian Forestry Association. The latest move seeking to further the work that has already been launched is the publicity being given to this matter of reforestation by means of comment on the Cobourg convention in bulletin form, prepared under the direction of Mr. R. H. Campbell, Superintendent of Forestry for the Dominion, issued to the newspapers throughout Canada and which is reproduced elsewhere in this issue. The sentiment that will be created through this publicity should prove helpful in assisting those who are at the back of this forestry movement to attain the objects sought.

Evidence of the increasing importance of the live stock and agricultural interests of Canada is afforded by the fact that a new live stock and farming paper has been started recently in Toronto, under the name of the Canadian Farmer. The editor, Mr. J. H. S. Johnston, is well known among the leading live stock men, particularly among horse breeders. The new paper will devote special attention to the live stock interests, and will be Dominion in character. The first few issues have appeared and show good editorial management.

Thrillers of the type where human life is brought into jeopardy will not be a part of the Canadian National

Exhibition board of thrillers from commensurate that such work of the public will not add of the exhibition standpoint.

Cream

Butter Making is a very important matter relating to the health of the people. Let us see how to make it.

Butter at

Waddell & Dairy Producing June 30th 1909. The exhibition Press adian butter proving in quality and butter spots considerably temperatures it was shipped to the butter, the neatness and being delivered.

Regarding method adopted only it has kept quality flavor, which make milk care is exercised and-by be as simple. It is a very fine butter, has arrived this shows the richness, flavorance of any year.

Washing

Ed. Farm and Dairy: I am disgusted that in your article on "Trouble in dealing with the household" and Dairy, you mark of D. Hoar would come. I am sure you still prefer leading state of the industry of W. Hoar. I am sure you will not do this. I am sure you will not do this. I am sure you will not do this.

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Exhibition this year. The action of the board of management in excluding thrillers from their attractions is most commendable. They may rest assured that such will meet with the approval of the public generally and that it will not adversely affect the success of the exhibition from the material standpoint of dollars and cents.

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 your letters to the Creamery Department.

Butter and Cheese Improve

Waddell & Company, in the Colonial Dairy Produce Review of the year ending June 30, says a Canadian Association Press dispatch, say that Canadian butter on the whole is slowly improving in quality. The proportion of butter spotted with mould was very considerably reduced owing to lower temperatures being maintained before it was shipped, and also during the voyage to our markets. Fineshness is a very rare quality with Canadian butter, the main defect being an acidity and taint due to the cream not being delivered daily to the factories.

Regarding the cheese cooling-curing method adopted by Canada, undoubtedly it has done much to improve its keeping quality as well as benefit its taste, which tends more and more to make mildness, but unless very great care is exercised the cheese will by-and-by be apt to become quite insipid. It is pleasant to be able to report that the Canadian cheese which has arrived this season since May 1 shows the greatest improvement in appearance, flavor, texture and durability of any year on record.

Washing Separators

Ed. Farm and Dairy.—It was with disgust that I noted that part of the article "Trouble with Separators," in the household department of Farm and Dairy, July 29. From the remarks of Dairy Instructor Ward, one would conclude that all separator agents still persisted in making misleading statements in regard to the necessity of washing separators. Of course, Mr. Ward did not mean to incriminate all agents. As for this one, your humble servant who is drawing this matter to your attention, he spares no pains in pressing upon you the great necessity of washing the separator each and every time it is used. No more filthy practices in vogue about the farm than that of leaving the separator unwashed. Any one who has ever washed a separator cannot help but know the responsibility that is theirs in keeping it clean, after having once seen the filthy sediment that is left in the separator bowl after separating milk.

I trust Farm and Dairy will continue to keep before its readers the necessity of thoroughly washing their separators regularly, but please do not allow any one to make rash statements which would lead the ordinary reader to believe that all separator agents mislead those to whom they sell separators in regard to the matter of cleaning them. Last you might think that I was seeking free advertising I shall refrain from mentioning my name and the separator that I sell—"Hair Splitter."

Note.—While "Hair Splitter" is evidently educating his customers to properly wash their separators and to do it twice a day, evidence that is being taken at first hand right out where the separators are in use shows that countless people are being told

that it is only necessary to wash their separators once a day.—Editor.

Good Body in Butter

To be ideal in body butter should be firm, waxy, and show grain as a piece of steel when broken. It should also appear dry and be free from loose moisture. Some of the defects found in the Pennsylvania State College contest-butter were overlooked, loose, brittle, and slushy butter, say H. E. VanNorman and C. W. Larson in their bulletin, No. 23, "A Study of Pennsylvania Butter." Overworked butter does not have the grain mentioned above, and is usually weak and salty. Loose moisture in butter is usually caused by churning it to too large granules, thereby making pockets in which the water is held, or by cold wash water and insufficient working. A common cause of brittle butter is low temperature of wash water, while slushy butter, on the other hand, is caused by too high temperature, either in churning or washing or working. When the body was criticised as being weak, the fault was usually due to using wash water too warm or to overworking.

With good cream one washing is sufficient. If the butter "breaks" in good firm condition, wash water about the temperature of the buttermilk, as it is drawn, gives good results. During the winter, when the butter-fat is harder, and the butter comes in firm condition, wash water one or two degrees warmer than the buttermilk may be used without injury to the butter. Our method is to run the working butter is to run the buttermilk off when the granules are about the size of wheat kernels and the butter floats high in the buttermilk; add as much water as buttermilk and moved; run about 10 to 15 revolutions on fast gear, drain off wash water, add the salt and work the butter at once. With poor cream it is important that the buttermilk be thoroughly washed out. This may require more rinse water, or even a second washing.

The working of butter is the most difficult operation. With a combined churn, the revolutions should always be counted. If 18 revolutions give the desired results one day, they should do so next day under the same conditions. We find, from a study of the churn records of the contest-butter, that many work a few revolutions and then wait for the water to drain off and then work again. This is not necessary, and in some cases, is undesirable. Butter should be washed, salted, worked, and packed at once. The number of revolutions will vary with the make of the churn. The butter should be worked enough to dissolve the salt, prevent mottles, and to make a solid, firm texture, but not so much that the grain of the butter will be injured. A small amount of water left in the churn helps to dissolve the salt, and lessens the danger of injuring the body of the butter by overworking. A little more salt is required when the water is left in the churn during working.

The Ice Refrigerator Car Service for the carriage of butter to Montreal from the Guelph and Godwin Branch will, for the balance of the season, be operated fortnightly instead of weekly, as heretofore. The next car will leave Goderich on Friday, August 27th.

Color should not be ordered in such large quantities as to become stale or rancid before using, and the amount used should be accurately calculated, either on the butter-fat basis or the amount of milk. The former is the more accurate method.



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The DeLaval
Cream Separator

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EVERY GENUINE

DeLaval Cream Separator bears the
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WINNIPEG VANCOUVER

ATTENTION!
Cheese Manufacturers



Fig. 1



Fig. 2

We are placing on the market a new cheese box which eliminates all the undesirable features of the old-style package.

This box is made of three pieces of veneer, with the grain running from top to bottom. It also has the advantage of a hoop placed near the top as shown in fig. 2, thus making it very strong and durable. In fact it is impossible to break it with ordinary handling. Every box is guaranteed, and any breakages will be replaced.

This box can be shipped in crates in knock-down shape, thus affecting a large saving in transportation charges.

For full information regarding prices, deliveries, its advantages, etc., write

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A Camera for Four New Subscriptions

It is desirable to mention the name of this publication when writing to advertisers.

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 your letters to The Cheese Maker's Department.

Mr. Barr's System Works Well

Ed. Farm and Dairy.—For years I have had much trouble in keeping my milk so that it would be delivered at the factory in good condition. I have suffered big losses from milk rejected at the factory. I used to practise airing my milk with an aerator, our cheese maker at that time insisting on us airing our milk for a half an hour or more. This year, however, after having heard Mr. Barr's lecture at Warsaw last winter on "The Care of Milk for Cheese Making," I decided to try his system. I dug a well close to my milk yard and built a water trough 12 feet long and two feet wide. Into this trough we force our milk cans as soon as we are through milking and pump the trough full of water from the well. Before retiring for the night, I put the covers on the cans and let them sit there in the trough until morning.

We have had less bother and the best milk since adopting this system that we ever had. Our maker, Mr. Graham, says that our milk now is the best delivered at the factory.—G. Lonsberry, Peterboro, Co., Ont.

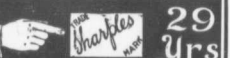
Young's Point Cheese Factory

The illustration on this page shows one of the patrons at Young's Point, Peterboro Co., unloading milk at the cheese factory. A representative of Farm and Dairy who recently called at the Young's Point factory, when the photo reproduced was secured, found the factory in a very neat and sanitary condition. Mr. Oliver, the enterprising cheesemaker, gladly accepted the agency for Farm and Dairy in his vicinity.

Cheese from the Pine Grove factory are held in the curing room and shipped every two weeks as sold on the Peterboro cheese board. An aver-



The word "DISKS," shown above, was formed of 52 disks taken from one common "bucket bowl" cream separator a disgusted farmer and his overworked wife discarded for a Sharples Dairy Tubular. The "disk man" misled them by calling this complicated machine simple and easy to clean. Fifty-two disks look simple, don't they?



Let disk and other "bucket bowl" cream separators alone. Get a light, simple, sanitary, easy-to-clean Sharples Dairy Tubular, with nothing inside the bowl but the thin piece on the thumb. Thousands are discarding "bucket bowls" for Tubulars. Made in the world's biggest separator factory, Benrich factories in Canada and Germany. Sales exceed most, if not all, others combined. Write for Catalog #33

The Sharples Separator Co.
West Chester, Ohio
Toronto, Can. San Francisco, Cal.
Winnipeg, Can. Portland, Ore.

age of six cheese a day are made, a double quantity being made on Mondays.

Preparation and Use of a Culture

A culture for cheesemaking is now looked upon as a necessity, therefore the need of full and exact knowledge of the proper method of preparing and using cultures. First provide suitable cans of good tin, which are well soldered and are about 20 inches deep and eight inches in diameter. It is better to have a duplicate set, as this gives a better opportunity for keeping them in good condition. When the milk is in small lots it can be more readily heated and cooled than if kept in larger quantities. For convenience in heating and cooling, a special box large enough to hold the cans containing the culture for one day's use should be provided. This should have cold water and steam connections. The cans may be left in this box so as not to be influenced by the outside temperature. In starting a culture it is advisable to use a commercial or pure culture. These may be obtained from the bacteriological department of the Ontario Agricultural College or from any of the dairy supply houses.

Special temperatures are required for the first propagation of these commercial cultures. Empty the mother culture into a quart of pasteurized milk cooled to a temperature of



Unloading at Young's Point Factory

75 to 80 deg. Fahrenheit and allow to stand until coagulation takes place. It is advisable to propagate commercial cultures at least two or three times before using them. Better results may be obtained by using the milk from the same source each day, as we are more likely to get a uniform flavor and acidity from day to day by so doing.

After selecting the milk for culture, heat to a temperature of 185 deg. Fahrenheit, then cool rapidly to a temperature of 90 deg. Fahrenheit. To this milk add enough of the culture already prepared to develop an acidity of not more than 7 at the time the culture is required for use. If the initial acid is not kept under 24 hours it is advisable to set accordingly by using a lower temperature and using less of the mother culture. Aim to produce the same acidity from day to day. Before using remove one or two inches of the milk from the surface of the can, as this is more liable to contamination from outside sources. Break up the remainder by stirring well in the can. At this time take out a small quantity to propagate the culture for the next day. A glass sealer should be provided for this purpose.

The indications of a good culture are as follows: The whole mass is firmly coagulated, no liquid is found on top, it has a mild acid flavor, pleasant to the taste and smell. A culture may be used to advantage when the milk is maturing slowly or when it is tainted or gassy; $\frac{1}{2}$ of 1 per cent. is the greatest quantity that should be used. The only when the milk is known to be in a sweet condition.

Milk should be set slightly sweeter when culture is used. With gassy milk its use is especially beneficial. Culture with bad flavor or with too high an acidity should not be used. A wire handled dipper is preferable for stirring milk for cultures.

All utensils must be thoroughly cleaned and sterilized after each time of using.—C. H. Ralph in American Cheesemaker.

T. B. Miller, who from 1891 to 1895 was inspector of cheese factories in Western Ontario and went west in the spring of 1906 is interested in the manufacture of fancy dairy products

at Burnt Lake, Alberta. He writes that he is building up the cheese industry and that he is meeting with fair success.

Cheese properly made should improve at least six months if kept at a temperature of 60 degrees. It will improve for a much longer period if kept at a lower temperature.—G. G. Fulbow, Chief Dairy Inspector for Eastern Ontario.

A club of seven new subscriptions will win you a pure bred pig. Write Circulation Dept., Farm and Dairy, Peterboro, Ont.

CANADIAN NATIONAL EXHIBITION

Under the Grand Stand At the Main Entrance

This is the spot where you will find us this year. We were obliged to vacate the Dairy Building. We are located in a more spacious building. Having been allotted 600 square feet of space enables us to make a

GRAND DISPLAY

of the Latest Inventions in

Dairy Machinery and Supplies

The newest in MILK BOTTLE FILLERS, WASHERS, PASTERIZERS, COOLERS, SEPARATORS, AUTOMATIC LABOR SAVING MACHINERY for the Dairy in all its Branches. Come and see us in our Booth and Warehouse your meeting place for your friends while at the Fair. Our travellers will be there to look after your comforts.

W. A. DRUMMOND & CO.

The Largest Dairy Supply House in Canada

173 KING STREET EAST, TORONTO, ONT.

(NEAR ST. LAWRENCE ARENA)

A Few Reasons Why Our Measurer Should Be Used in Every Factory

A PERFECT WHEY MEASURER

BEING THOROUGHLY TESTED AND HIGHLY RECOMMENDED PATENTED 1908



First.—It is simple and durable in construction, not even a valve used to go out of order.

Second.—The cheese maker can set it from his milk stand.

Third.—It measures the whey accurately.

Fourth.—The farmer wastes no time waiting for his whey.

Fifth.—He gets his whey every day therefore he is not disappointed.

Sixth.—Our measurer takes the whey from the surface, which does not allow any grease to gather in the tank.

Seventh.—With our card of instruction any cheese maker can install it in a few hours.

Eighth.—The price being only \$60, few factories can afford to be without it.

Ninth.—It should last in the ordinary factory from five to ten years.

Tenth.—Our measurer has been used in many factories all over the country without a single complaint.

This whey measurer is gaining in favor every day. We are now installing it all over the country and cheese makers are delighted with the results, as it overcomes the numerous complaints of farmers in the past over their whey supply.

For further information write for circular.

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Let us
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LET us not make heroic resolutions so far beyond our strength that the resolution becomes a dead memory within a week. Let us promise ourselves that each day will be the new beginning of a newer, better and truer life for ourselves, for those around us, and for the world.

Sowing Seeds in Danny

By Nellie L. McClung
ALL RIGHTS RESERVED.
(Continued from last week)

SYNOPSIS—The Watson family live in a small town in Manitoba. The family consists of Mr. Watson, a man of few words, who works on the "section," and nine children. Pearl Watson is an imaginative, clever little girl, 12 years old, and is the mainstay of the family. Mrs. Watson is often employed to wash and work for the idol of Pearl's eye, and is a favorite of Mrs. Francis, who tries some of her pet theories on Danny. Camilla Rose is a capable young woman who looks after Mrs. Francis' domestic affairs, and occasionally helps her to apply her theories. Mr. Barber, the old doctor of the village, clever in his profession, but intemperate. Mrs. McGuire, the next door neighbor, who does much good among the Watson family. Mr. Watson, Mr. Sam Motherwell and his son live on a farm near the Watson's. As of generosity, he donated the caboose of his threshing outfit to the Watson's in addition to their home. He afterwards regrets this move, and demands payment. After much discussion it is decided that Pearl Watson shall go and work with Motherwell, and thus "wipe out the stain." Young Tom Motherwell has been however, invited to a party at one of the neighbors, and as his parents object to such "foolishness," he steals away unobserved.

PEARL set the porridge on the back of the stove and ran out to where the poppies nodded gaily. Never before had they seemed so beautiful. Mrs. Motherwell watched her through the window bending over them. Something about the poppies appealed to her now. She had once wanted Tom to cut them down, and she thought of it now.

She tapped on the window, Pearl looked up, startled.

"Bring in some," she called. When the work was done for the morning, Mrs. Motherwell went up the narrow stairway to the little room over the kitchen to gather together Polly's things.

She sat on Polly's little straw bed and looked at the dismal little room. Pearl had done what she could to brighten it. The old bags and baskets had been neatly piled in one corner, and quilts had been spread over them to hide their ugliness from view. The wind blew gently in the window that the hail had broken. The floor had been scrubbed clean and white—the window, what was left of it, was shining.

She was reminded of Polly everywhere she looked. The mat under her feet was one that Polly had braided. A corduroy blouse hung at the foot of the bed. She remembered now that Polly had worn it the day she came. In a little in some, she called. When the work was done for the morning, Mrs. Motherwell went up the narrow stairway to the little room over the kitchen to gather together Polly's things.

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It was written in a straggling hand

that wandered uncertainly over the lines. It was a pitiful letter telling of poverty bitter and grinding, but redeemed from utter misery by a love and faith that shone from every line:

"My dearest Polly I am glad you



Animal Training on the Farm of Mr. T. S. Mastin, Prince Edward County, Ont.

The children of one of the editors of Farm and Dairy having a good time with Mr. Mastin's Jersey cow. The boy and girl in the centre are twins, Mr. Mastin, who may be seen in the illustration, enjoyed superintending their operations.

like your place and your misses is so kind as wot you si, yr letters are my kumfit di an mit. bill is a ard man and says hif the money dont cum i will ave to go to the workus, but i no you will send it der polly so hi can old my little place hi got to be the workus hoffer. bill as he told im to cum hif hi cant pi by septmbr but hi am trustin God der polly e. sant' forgot us. im hif glad the poppies grow. ere's a dia. hi am sendin you hi can mike the hif honden yet. hi do sum hevery di. for. purdy gave me fourpence one di. for sum i mide

for her hi ad a cup of tee that di. hi am appy thinkin of yu der polly.

"And Polly is dead?" burst from Mrs. Motherwell as something gathered in her throat. She laid the letter down and looked straight ahead of her.

The sloping walls of the little kitchen loft, with its cobwebbed beams faded away, and she was looking into a square little room where an old woman, bent and feeble, sat working buttonholes with trembling fingers. Her eyes were restless and expectant; she listened eagerly to every sound. A step at the door, a hand is on the latch. The old woman rises uncertainly, a great hope in her eyes—it is the letter—the letter at last. The door opens, and the old woman falls cowering and moaning, and wringing her hands before the man who enters. It is the officer.

Mrs. Motherwell buried her face in her hands. "Oh God be merciful, be merciful," she sobbed.

Sam Motherwell, knowing nothing of the storm that was passing through his wife's mind, was out in the machine house tightening up the screws and bolts in the binder, getting ready for the harvest. The barley was whitening already.

The nurse, Peter had disturbed him. He tried to laugh at himself—the idea of his boxing up those weeds to send to anybody. Still the nurse had said how pleased Polly was. By George, it is strange what will please him. He remembered when he went down to Indiana buying horses, how tired he got of the look of the corned fields, and how the sight of the first decent sized wheat field just went to his heart, when he was coming back. Somehow he could not laugh at anything that morning, for Polly was dead. And Polly was a willing thing for sure; he seemed to see her yet. How she ran after the colt the day it broke out of the pasture, and hitch up a horse for him as quick as anybody.

"I kind o' wish now that I had given her something—it would have

cried when she had finished the last one. "Polly's dead and the poor old mother will be looking, looking for that money and it will never come Sam, can't we save that poor old woman from the poor house. Do you remember what the girl said in the letter, 'Inasmuch as ye have done it unto the least of these my little ones, ye have done it unto Me.' We didn't deserve the praise the girl gave us. We didn't send the flowers, we body and we have plenty, plenty, and what is the good of it, Sam? It will die some day and leave it all behind us."

Mrs. Motherwell hid her face in her apron, trembling with excitement. Sam's face was immovable, but a mysterious Something, not of earth, was struggling with him. Was it the faith of that decrepit old woman in that bare little room across the sea, numbing herself that God had not forgotten? His arms were not shortened; His holy spirit moves mightily.

Sam Motherwell stood up and struck the table with his fist. "Ettie," he said, "I am a hard man, a danged hard man, and as you say I've never given away much but I am not so low down, so that I have to reach up to touch bottom, and the old woman will not go to the poor house if I have money enough to keep her out!"

Sam Motherwell was as good as his word. He went to Winnipeg the next day, but before he left he drew a check for one hundred dollars, payable to Polly's mother, which he gave to the Church of England clergyman to send for him. About two months afterwards he received a letter from the clergyman of the parish in which Polly's mother lived, saying that the money had reached the old lady in time to save her from the workhouse; a heart-broken letter from Polly's mother herself accompanied it, calling on God to reward them for their kindness to her and her dear dead girl.

CHAPTER XXII.

Shadows.

One morning when Tom came into the kitchen Pearl looked up with a worried look on her usually bright little face.

"What's up, kid?" he asked kindly. He did not like to see Pearl looking troubled.

"Arthur's sick," she said gravely.

"Go on!" he answered. "He's not sick. I know he's been feeling kind of sick up for about a week, but he worked as well as ever yesterday."

"I went out last night to see him."

"I had shut the henhouse door, and I heard him groanin', and I said knockin' on the door, 'What's wrong Arthur?' and he said 'Oh, I beg your pardon, Pearl, did I frighten you?' and I said, 'No, but what's wrong?' and he said, 'Nothing at all, Pearl, thank you,' but I know there is—wouldn't trouble anybody. Would you like to slip 'im on the back if he asks you?"

"I went out two or three times and once I brought him every some liniment, and I brought him every time he would be 'well directly.' I don't believe him. If Arthur groans there's something to groan for, you bet."

"Maybe he's in love," Tom said sheepishly.

"But you don't groan, Tom, do you?" she asked seriously.

"Maybe I ain't in love, though, Pearl. Ask Jim Russell, he can tell you."

"Jim ain't in love, is he?" Pearl asked anxiously. Her responsibilities were growing too fast. One love affair and a sick man she felt was all she could attend to.

"Well, why do you suppose Jim

comes over here every second day to ask you to write a note to that friend of yours?"

"Camilla?" Pearl asked open-mouthed.

Tom nodded.

"Camilla can't leave Mrs. Francis," Pearl declares with conviction.

"Jim's a dandy, shed it fellow. He only stays on the farm in the summer. In the winter he book-keeps for three or four stores in Millford and earns lots of money." Tom said admiringly.

After a pause Pearl said thoughtfully, "I love Camilla!"

"That's just the way Jim feels, too, I guess," Tom said laughing as he went out to the stable.

When Tom went out to the granary he found Arthur dressing, but flushed and looking rather unsteady.

"What's gone wrong with you old man?" he asked kindly.

"I feel a bit queer," Arthur replied. "That's all. I shall be well directly. Got a bit of a cold, I think."

"Sleep in the field with the gate open like as not," Tom laughed.

Arthur looked at him inquiringly.

"You'll feel better when you get your breakfast," Tom went on. "I don't wonder you're sick—you haven't been eating enough to keep a canary bird alive. Go on right into the house now. I'll feed your team."

"It beats all what happens to our help," Mrs. Motherwell complained to Pearl, as they washed the breakfast dishes. "It looks very much as if Arthur is going to go up, too, and the busy time just on us."

Pearl was troubled. Why should Arthur be sick? He had plenty of fresh air; he tubbed himself regularly.

He never drank "alcoholic beverages that act directly on the liver and stomach, drying up the blood, and rendering every organ unfit for work."

Pearl remembered the Band of Hope motto, "No, no, no, was not a cold. Colds do not make people groan in the night—it was something else."

Pearl wished her friend Dr. Clay would come to-morrow. He would soon spot the trouble.

After dinner, of which Arthur ate scarcely a mouthful, as Pearl was cleaning the knives, Mrs. Motherwell came into the kitchen with a hard look on her face. She had just missed a two-dollar bill from her satchel.

"Pearl," she said in a strained voice, "did you see a two-dollar bill any place?"

"Yes, ma'am," Pearl answered quickly. "Mrs. Francis paid me with one one for the washing, but I don't now where it might be now."

Mrs. Motherwell looked at Pearl keenly. It was not easy to believe that that little girl would steal. Her heart was still so tender over Pearl's death, she did not want to be hard on Pearl, but the money must be some place.

"Pearl, I have lost a two-dollar bill. If you know anything about it want you to tell me," she said firmly.

"I don't know anything about it; no more'n I say ye had it and now ye've lost it," answered Pearl calmly. "Go up to your room and think about it," she said avoiding Pearl's gaze.

Pearl went up the narrow little steps with a heart that swelled with indignation.

"Does she think I stole her dirty money, me that has money o' me own—a thief is it she takes me for? Oh, werra werra and takin' an' me wuz gettin' on the toes, and like as not this'll start the nougaze and the cancer on her again."

Pearl threw herself on the hot little bed, and again she heard indignation and her homesickness. She could not put it off this time. Catching sight of her grief-stricken face in the cracked looking glass that hung at the head of the bed, she started up suddenly.

"What am I blasting for?" she said

to herself, wiping her eyes on her little patched apron. "Ye'd think to look at me that I'd been caught stealin' Lowan's milk?—she laughed through her tears—"I haven't stole anything and what for need I cry? The dear Lord will get me out of this just as nate as He bruk the windy for me."

She took her knitting out of the bird-cage and began to knit at full speed.

"Danny, me man, it is a good thing for ye that the shaddah of suspicion is on yer sister Pearlie this day, for it gives her a good chance to turn yer heel. 'Sowin' in the sunshine, sowin' in the shaddah, only it's knaitin' for me. I am instead of sewing, but it's all wan, I guess. I mind how Paul and Silas were singin' in the prison at midnight. I know how they felt. 'Do what Ye like, Lord,' they wur thinkin'." If it's in jail Ye want us to stay, we're Yer men."

Pearl knit a few minutes in silence. Then she knelt beside the bed.

"Dear Lowan, I'm prayed, claspin' her work-worn hands, 'help her find her money, but if anyone did steal it, give him the strength to confess it, dear Lord. Amen."

"Dear Lowan, downstairs, was having a worse time than Pearl. She could not make herself believe that Pearl had stolen the money, and yet no one had a chance to take it except Pearl, or Tom, and that of course, was absurd. She went again to have a look in every drawer in her room, and as she passed through she

hall she detected a strange odor. She traced it to Tom's light overcoat which hung there. What was the smell? It was tobacco, and something more. It was the smell of a bar-room.

She sat down upon the step with a nameless dread in her heart. Tom had gone to Millford several times since his father had gone to Winnipeg, and he had stayed longer than was necessary, too; but no, no, Tom would not spend good money that way. The habit of years was on her.

It was the money she thought of first. Then she thought of Pearl.

Going to the foot of the stairway she called:

"Pearl, you may come down now."

"Did ye find it?" Pearl asked, eagerly.

"No."

"Do ye still think I took it?"

"No, I don't Pearl," she answered. "All right then, I'll come right down," Pearl said gladly.

(To be continued next week.)

Jelly Making

Conditions which puzzled the housekeeper of long ago and caused her to pay more or less superstitious attention to the phases of the moon are perfectly understood to-day by her up-to-date descendant. She may not

have better success than her ancestor, her success may not be as great, but she is saved the wear and tear of nerves that comes from uncertainty. She knows what to expect under certain conditions. If there is a deluge of rain on Monday, she does not wish to make jelly on Tuesday because she knows the fruit will have absorbed water and the means extra boiling to evaporate the water; the long boiling will darken the jelly or coarsen the flavor. She also prefers to make jelly on a bright day. When she cannot possibly get fair weather for her family at once she buys, instead of a tired and overworked one.

The best fruit for jelly is either a little under ripe or just ripe. The reason is that green fruit contains two elements which unite into a different element called pectin, as the fruit nears ripeness. It is this new element which gives the juice to form into jelly when sweetened sufficiently and heated. After fruit ripens this pectin disappears. Even when it is present in quantity to make jelly, the fruit that is too ripe cooks to pieces too easily and gives a cloudy jelly. When one has reason to suppose that fruit is too ripe to make jelly it is a good plan to add a small amount of lemon juice or an acid fruit. One of the best fruits to use as a base for jelly is the apple. It always jellies, and a very little will be sufficient to influence a large amount of other fruit. Its flavor is not discernible when used with another fruit.

There is one general mode of procedure in this work. Examine the fruit, reject decayed pieces, wash well and drain. Perhaps the finest fruit will be culled out for canning. Juicy fruit is not cooked with water. It is enough to mash it and heat gently, thus drawing out the juice. Apples, peaches, plums, or "meaty" fruit are put on to cook in just enough water to cover or even less.

If the pulp is to be used for marmalade the fruit must be pared and cored, otherwise it is not necessary. Cores and skins from the apples could be cooked separately and the juice poured with that from the pulp. As soon as the juice is extracted turn all into a flannel or stout linen bag and let it drip without squeezing. This makes the clearest jelly, and a second grade can be made from what is squeezed out.

Have two cups of exactly the same size and keep one for the sugar and the other for juice. Measure equal parts of sugar and juice for each

boiling and do not try to make more than two glasses at once. There must be two kettles on at once, but one should be started a little before the other. No metal except silver should be used in any of the work. The utensils should be granite or earthen. Some prefer to heat the sugar and add it to the juice when it heats. At any rate, stir till the sugar is dissolved, then boil steadily but not hard. After ten minutes it must be watched closely for it changes rapidly and if cooked too long the jelly will be too thick or fail to form. When the jelly is ready to use it will be skimmed and the juice to set off it must be cleared entirely. If this scum is stirred it will break and scatter through the jelly and cannot be removed.

The glasses should be heating in water, and when being tilted should stand in hot water out of a draft.

After the jelly in the glass while pouring in the spoon and it will be less danger of breaking the glass. The jelly is done when it hangs in a drop from the spoon and coats the spoon.

After the jelly is cool, pour melted paraffin over to the depth of a quarter of an inch. When the glass is opened the wax can be washed and used to use again. It is a good thing to use the wax even with the tin covers. Nothing but tin withstands the ravages of house mice. Glasses may be covered with paper dipped in white of an egg. Stagnant air will cause a small paper dipped in brandy over the jelly and then cover.

CURRENT JELLY.—Make as directed for all jelly or use this way. Heat the fruit to boiling and take an equal amount of hot sugar. Stand near the glasses and stir till the sugar is dissolved. The jelly forms at once and everything must be ready.

Use the following general directions, using half as much water as fruit.

GRAPE JELLY.—Two jellies can be made, differing in color and taste, by pulping the berries and making the skins into one jelly and the pulp into the other. A teaspoonful of lemon juice to a pint of grape juice will assure jelly which will not candy.

A mere trace of vegetable-pink color will give as pretty a color as crab apples. Indeed the jelly from the pulp can scarcely be told from crab apple jelly.

GOOSEBERRIES.—Use before they turn.

RHUBARB JELLY.—Wash but do not pare. Use half a cup of water to start cooking and cut in thin pieces. Put a few apples with the rhubarb. If the jelly is not pink enough add red skins or one apple. Eat as skins or crab apples. Indeed the jelly from the pulp can scarcely be told from crab apple jelly.

BLACKBERRY JELLY.—At the first of the season they will make jelly but it is best to use a few apples when very ripe.

CHERRIES AND CURRANTS.—Use one-fourth currants.

RASPBERRIES AND CURRANTS.—Use one-third red raspberries with red currants.

GOOSEBERRIES.—One-half water to cook berries.

TOMATO JELLY.—Use the yellow varieties and put the juice of one lemon to every pint of tomato juice.

ORANGE JELLY.—Use any proportion of apples and quinces. Equal parts give satisfaction. Pare and core the quinces and also the apples and use the pulp for marmalade.

PEACHES.—Very uncertain because as sold in cities they are over ripe or fermentation has set in. Lemons juice is recommended.

PLUMS.—Use them under ripe. Clouds of red color are obtained from the fruit syrins. The process is the same as for jelly except that half as much sugar is used. They are fine for flavoring ices and puddings.

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Home

Following canning vegetables to these sterilization boxes, fruit

Select your jars by string the long ends of the cover with the spoon of a rubber

hour on each side as directed. A pod of red tom of the flavor to the

Pare the es, and dr or 20 min and pack with water under a Co plant ar from the p and into

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it is advisable hour and a h hour, on each heat penetra it is absolute interior of the

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Home Canning of Vegetables

Following are given directions for canning some of the more common vegetables, but the housewife can add to these at will. The principle of sterilization is the same for all meats, fruits and vegetables.

STRING BEANS.

Select young and tender beans, string them, and break them into short lengths. Pack firmly in the jar cover with cold water, and add a teaspoon of salt to each quart. Put on the rubber and top and boil for one hour on each of three successive days, as directed under "Corn." A small pod of red pepper placed in the bottom of the jar will give a delightful flavor to this vegetable.

EGGPLANT.

Parse the eggplant, cut in thin slices, and drop in boiling water for 15 or 20 minutes. Drain off the water and pack the slices in the jar. Cover with water and sterilize as directed under "Corn." Thin slices of eggplant are pliable and can be taken from the jar without being broken and either fried in bread crumbs or made into pudding and baked.

BEETS.

Although beets will keep in the cellar over winter, it is very desirable to can them while they are young and tender, as the mature beet is apt to be stringy and lacking in flavor. Wash the young beets, cut off the tops and put them in boiling water for about an hour and a half, or until they are thoroughly cooked. Take off the skins, cut in thin slices and pack in to the jars. Cover with water and sterilize in the manner previously described. If a mild pickle is desired, make a mixture of equal parts of water and good vinegar, sweeten to taste and instead of water cover the beets with this mixture.

OKRA OR GUMBO.

This is a vegetable worthy of more extended culture. Although extensively grown in the south, it is comparatively unknown in the north. It is easily kept and makes a delicious vegetable for the winter. Cut the young and tender pods, cut them in short lengths, pack in the jars, cover with water, and sterilize. Okra is used for soups or stews.

SUMMER CUCUMBER.

Cut the vegetable into small slices, pack in the jars, and cover with water. Add a teaspoon of salt to each quart and sterilize. It is sometimes preferable with this vegetable, however, to pare off the skin, boil or steam until thoroughly done, mash them, and then pack in the jars and sterilize. If canned in the latter way it is advisable to steam them for an hour and a half, instead of for an hour, on each of three days, as the heat penetrates the jar very slowly. It is absolutely necessary that the interior of the jar should reach the

temperature of boiling water. A jar will usually hold about twice as much of the cooked vegetable as it will of the uncooked.

SUCCOBATH.

The writer has found that a mixture of corn and lima beans, or succobath, is one of the most difficult things to keep. This furnishes one of the very best mediums of bacterial growth; so extreme care must be taken in the process of canning. It is advisable to gather the corn and beans early in the morning and prepare and sterilize them in the manner already described. As with summer squash, it is best to boil for an hour and a half, instead of for an hour.

VEGETABLE SOUP.

A rather unusual dish for the winter may be made by canning a mixture of vegetables. Prepare corn, lima beans, tomatoes, string beans, okra and eggplant as you would for canning separately. Mix these in varying proportions, letting the corn two or three medium-size volume of each quart of this mixture and run all through a food chopper in order to mix it thoroughly. Pack into jars table mix with an equal volume of bread crumbs, a piece of butter the size of a walnut, and one egg; season to taste with pepper and salt, and bake in a rosin baking dish until brown. Cut into slices as you would a cake and serve hot with a drawn butter sauce.

Corn, okra, and tomatoes, mixed in equal proportions, may be canned in this way as a soup stock.

HOW TO OPEN A JAR.

Jars of vegetables are sometimes hard to open, unless it is done in just the right way. Run a thin knife under the rubber, next to the jar, and press against it firmly. This will usually let in enough air to release the seal, place the jar in a deep saucepan of cold water, bring to a boil, and keep it boiling for a few minutes. The jar will then open easily.

The Upward Look

A Promise of Victory

For sin shall not have dominion over you; for ye are not under the law but under grace.—Romans, 6: 14.

The promise contained in our text is one of the most glorious contained in the Scriptures. It is a promise of victory over our sins. They are not to have dominion over us. When, in spite of our best endeavor, or wicked pride has led us to plume ourselves in our own imaginations or before others; when our ugly tempers are unkind, unsympathetic or cross words; when our shameful lack of faith has led us to become discouraged and hopeless and to forget that God can do for us what we cannot do for ourselves; when our love of self has led us to over-ride and ignore the rights or desires of others in order

that we might gratify our own selfish motives; when these or any other of the sins that so easily beset us have gained the mastery, and we feel in despair of ever overcoming the defects that we feel are ruining our characters and cutting us off from God, then we should remember this verse, this promise and others like it, and be glad.

When we have sinned and feel the fault is ours. God is more willing to give us the victory over our sins than we are to gain it. He requires, however, that we recognize how that we really do want the victory. The only way we can do this is by asking for it—by praying. The intensity of our prayer will be shown by the earnestness of our prayers. Spasmodic, half-hearted prayers will bring temporary, partial victories. Persistent, earnest prayers will bring definite, sure results. Paul has said: "I can do all things through Christ which strengtheneth me."—(Philippians 4: 13.) So can we. But we must ask Christ to strengthen us, we must ask Him with our whole hearts, we must ask Him often, and we must have faith that He will keep his promises and give us His help.

"To him that overcometh, God giveth a crown."
"Through faith we shall conquer, though often cast down;
"He who is our Saviour our strength will overcome."
"Look over to Jesus—He will carry you through."

Will not some of the readers of the Upward Look send for publication a verso each that has helped them, stating briefly the circumstances? Your help in making this department interesting and helpful is desired.—I. H. N.



System vs. Drudgery

System is indispensable in house-keeping, but one's point of view is almost as important. When house-keeping means only an endless succession of meals to prepare, floors to sweep, and clothes to iron it is pretty sure to become drudgery. Pride in the home, and joy in the homemaking, lighten the labor and the satisfaction of doing one's work well makes house-keeping a pleasure. When one's everyday duties are done only because they must be done, life becomes a grind. The woman who feels that her housework rightfully hers will dread her daily ers home and pleasure in her life-work. But the woman who considers work will find pleasure in the duties she present. She will not allow herself to become a drudge because by doing she is not doing her best by her family. She will make her home a clean, bright, cheerful place, but she will not count the care of her mind, less than the care of her home. She will remember that it is well to keep shirk wisely. By making a householding her aim, she will lose its pleasure by making it a means to an end she will find in its great satisfaction.

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SLEEVELESS COAT 6380



The coat is made with fronts and back. The bodice can be cut with or without a seam at the centre, and the fronts can be cut to give the pointed ed outaway effect illustrated or straight with the edges meeting.

Material required for the medium size is 4 1/2 yds 16, 3 1/2 yds 24, or 2 1/2 yds 44 in width with 9 yds of banding.

The pattern 6380 is cut in three sizes, small 34, medium 36 or 38, large 40 or 42 in bust measure, and will be mailed to you on receipt of 10 cts.

PINAFORE BODICE WITH FITTED GUMPIE 6337



The pinafore bodice is one of the latest developments of fashion and is exceedingly attractive. In the illustration it is made of white linen with threads of blue and is worn tucked into a pair of pants and poogees are so treated quite as well as blouses and the simpler washable fabrics also are appropriate.

Material required for the medium size for the pinafore is 2 1/2 yds 21, 2 1/2 yds 32 or 1 1/2 yds 44 in width, 3 1/2 yds of banding, 3 1/2 yds of gumpie, 1 yd of material 36, with 1 1/2 yds 18 for the yoke and sleeves.

The pattern 6337 in sizes for a 32, 34, 36, 38, and 40 in bust measure and will be mailed to any address on receipt of 10 cts.

MISSES' STRAIGHT PLAITED SKIRT WITH POINTED YOKE 6408



The skirt is made with the two full panels, the yoke portions and the straight plaited portions. The yoke portions are fitted by means of darts and the plaited portions are attached to their lower edges. The panels are turned under at their outer edges and arranged over the sides of the skirt, so as to give a box plaited effect.

The quantity of material required for the 16 year size is 7 yds 27, 6 yds 44 or 2 1/2 yds 52 in wide with 1 yd 27 in wide for bands.

The pattern 6408 is cut in sizes for girls 14 and 16 yrs of age and will be mailed to any address on receipt of 10 cts.

INFANT'S DRESS 6388



The dress is made with front and back portions, which are tucked and joined to the shapely yoke, and the seam is concealed by the trimming. The skirt is gathered into bands, and a little flit finishes the neck edge.

Material required for the 3 1/2 yds 24, 2 1/2 yds 32 or 3 1/2 yds 44 in width, 3 1/2 yds of banding, 3 1/2 yds of narrow edging.

The pattern 6388 is cut in one size only and will be mailed to any address on receipt of 10 cts.

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MARKET REVIEW AND FORECAST

INCORPORATED 1885

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Toronto, Monday, August 23, 1909.—Trade shows signs of considerable expansion. Custom house receipts at 1907 level. A very good indication of a revival in trade. For several months past the duty paid on goods coming into Canada shows considerable increase over the corresponding months of 1908. Receipts at the port of Toronto for the past month show an increase over the same month of 1907. Money is in greater demand. Call loans rule at 4 to 4½ per cent, and discounts on commercial paper at 1½ to 7 per cent. Loans on real estate continue at about 6 per cent.

WHEAT

What is to be the price of wheat two months, four months, or six months hence, is what is puzzling every wheat holder just now. Last week the farmers of Ontario received much gratuitous advice as to whether or to hold their wheat or not. One representative of a big milling concern which handles largely in wheat, recently advised the Ontario farmer to hold. Another miller, who claimed to represent the Ontario millers' interests, strongly advised that other way. As to whether advice is best for the farmer to follow we are not prepared definitely to say. His best plan is to prepare himself of all information he can get regarding the supply and demand and form his own conclusions as to whether he should hold or sell. A general survey of the situation leads one to the conclusion that market conditions are very little different from what they were when last year's crop was harvested. Prices has more wheat than last year while the demand in all countries has less. A summary of the situation in the Chicago Evening Post based upon conditions on August 1st, states that the world's stocks of wheat on that date were the smallest for seven years since, being 79,385,000 bushels on August 1, 1909, as against 82,000,000 bushels on the same date of 1908. Last week the speculative market was on a higher level of prices, September wheat at 95¢ on Friday at 99¢ as against 95¢ at the end of the week previous. On Friday at Winnipeg, October wheat closed at 95¢ and December at 94¢. The Ontario wheat farmers being either too busy to market their wheat or are inclined to hold for higher prices. The Ontario wheat on Ontario fall wheat at 52¢ to 56¢ outside. On Toronto farmers' market fall wheat sells at \$1 to \$1.02 and goose at a 9¢ bushel.

COARSE GRAINS

The oat market continues on the easy side. While the Ontario crop is on the light side, the United States, and the Canadian west, will have a big crop to market. Dealers of the higher priced oats of a couple of months ago are getting nervous. There has been a drop of 15c to 16¢ a bushel in the price of western oats within the past month or two. Dealers here quote Ontario oats at 48¢ on track Toronto and 45¢ to 46¢ outside. New Ontario oats are quoted for first shipment at 30¢ to 32¢ outside and new barley at 50¢ outside. On Toronto farmers' market oats sell at 50¢ to 52¢, barley at 60¢ and peas at 90¢ to 95¢ a bushel.

FEEDS

The demand for mill feeds keeps up and there is a firmer feeling though prices show no change. Dealers here quote Ontario bran at 52¢ in price. In the Manitoba bran at \$21 to \$21.50 and shorts at \$23 to \$24 a ton in car lots on track Toronto. Corn values keep up notwithstanding values of big American crop. American No. 2 yellow is quoted here at 78¢ to 79¢ and Canadian at 75¢ to 76¢ a bushel in car lots on track Toronto.

HAY AND STRAW

Owing to the Quebec crop turning out better than expected hay is lower in Montreal. New baled hay is quoted there at \$12.50 to \$13 for No. 1 and \$11 to \$11.50 for No. 2. In price of hay for sale here for baled hay keep up well here. Quotations are \$14 to \$14.50 for No. 1 timothy; \$13 to \$13.50 for redgraders, and 89 to 95.50 a ton for baled red grass hay on track Toronto. On Toronto farmers' market hay offerings rule light. Old hay is quoted at \$13 to \$20 a ton; \$10 to \$12 straw in bundles at \$14 to \$14.50 and loose straw at 87 to 89 a ton.

POTATOES AND BEANS

Supplies of new potatoes on the market here have fallen off somewhat the past

few days and the market is firmer at 85¢ to 90¢ a bushel for Ontario.

Beans and lentils are the only ones on the market now. The market continues firm at old quotations.

EGGS AND POULTRY

Egg receipts have fallen off considerably the past week and the market is firmer and higher. Dealers find it hard to get eggs and have advanced prices. At Montreal No. 1 stock sells at 22¢ to 22½¢ and selects at 23¢ to 24¢ a wholesale way. Dealers here quote eggs at 22¢ to 23¢ in case. On Toronto farmers' market eggs sell at 22¢ to 27¢ a dozen; dressed chickens at 18¢ to 20¢; young fowl at 13¢ to 15¢; spring ducks at 14¢ to 17¢; old fowl at 10¢ to 12¢ and turkeys at 18¢ to 20¢ a lb.

FRUIT

Owing to light receipts all fruit rules steady at quotations. On Toronto fruit market on Friday tomatoes were if anything lower than they have been for the past couple of weeks, which was low at 84 to 85¢; melons at \$1 to \$1.25; apples as follows: Blueberries, 70¢ to 81¢; plums, 20¢ to 35¢; gooseberries, 75¢ to 81¢; plums, 30¢ to 35¢; Canadian peaches, 40¢ to 41¢; and tomatoes, 10¢ to 12¢. On Toronto farmers' market, green corn, 40¢ to 8¢ a dozen.

DAIRY PRODUCTS

Though the cheese market has ruled on the quiet side during the week prices are firmer and higher than a week ago. On Thursday at Brockville cheese sold at 12¢ and 12½¢. The ruling price at most of the local boards at 11½¢ to 12¢. Quebec cheese sold at the Victoriaville board on Friday at 11½¢ a lb. Dealers here quote cheese at 12¢ for large and 12½¢ a lb for twins.

During the week the butter market was firmer with a decidedly better undertone. There is more cable inquiry for Canadian butter but prices have advanced on the local market. On Thursday at the quietest Huntingdon local board on Friday creamery sold at 22½¢. Dealers here reported the local market at a little easier at the end of the week with quotations as follows: Choice creamery prints 23¢ to 24¢; choice dairy prints 18¢ to 20¢; ordinary 16½¢ to 18¢ and choice at 18¢ to 19¢. On Toronto farmers' market choice 1 lb. sells at 23¢ to 25¢ and ordinary at 19¢ to 20¢ a lb.

WOOL

The wool market rules steady. At Montreal Canadian tub washed fleece is quoted at 22¢ to 23½¢ and unwashed at 15¢ a lb. At Ontario county points quotations are: Washed, 23¢ to 24¢; unwashed, 15½¢ to 16½¢, and rejects at 17¢ a lb.

HORSE MARKET

The business doing in horses is very light. There are some western buyers looking for one or two carload loadings. On Listowel for Neepawa, one early in the week. Outside of this there is no activity and quotations show no change from a week ago. Receipts at the Horse Exchange, West Toronto, continue light, and no much change is expected in the market situation till after the exhibition.

LIVE STOCK

Prices for live stock were on a slightly firmer level last week than the week previous. The poor quality of the majority of the butchers' cattle offering was responsible to some extent. On the whole the market is quiet about Toronto. The run of cattle keeps up for this season of the year.

The export cattle trade was not quite so active though everything is holding enough at slightly lower values than a week ago. At the Union Stock Yards on Tuesday there was the usual big run of export cattle. This trade can be said to be altogether centred at this market, for the number of exporters that find their way to the city market is decreasing each week. The top price was \$5.20 paid for three loads of fancy exporters, but there was a city market at \$2.50 to \$2.75 a cwt, the bulk of the sales. Export hogs, 85.50 and 86¢ a cwt. Export hogs of choice quality sold at \$5.25 to \$5.65; fair to good steers, 4.00 to 4.25; and hogs, 4.00 to \$5 to \$5.25; export cows at \$2.25 to \$4.50, and bulls at \$3.50 to \$4 a cwt. On Thurs-

day ton loads of exporters sold at \$5.50 to \$5.6 a cwt.

The butchers' trade weakened considerably during the week, especially for inferior cattle, of which there were a number on the market. American buyers are buying up fancy butchers' cattle for shipment to the United States. Some choice ones sold early in the week for this purpose at \$5.65 a cwt, but the ruling top price was not over \$5.50, choice steers and heifers selling at \$4.75 to \$5.50; fair to good at \$4 to \$4.5; medium at \$3 to \$4; good to choice butchers' cows at \$3 to \$4; fair to good at \$3.25 to \$3.75; butchers' bulls at \$2.50 to \$3.50; hogsina bulks at \$2.25 to \$2.50 and canners at \$1.25 to \$1.50.

There is still no activity in the feeder and stocker trade. Any heavy feeders, with considerable flesh on them are bought for killing purposes. Good 600 to 1000 lb steers are scarce and firm. Quotations are steers, 600 to 1000 lbs each, \$3.25 to \$3.90; calves, 600 to 800 lbs each, \$2.90 to \$3.25; medium light stockers, \$2.50 to \$2.75, and common stockers, \$2.10 to \$2.40 a cwt.

The supply of milkers and springers was more liberal yet all met a fair market. Forward springers are selling the best just now. Thursday's price ranged from \$30 to \$60 each with the bulk of the best selling at \$40 to \$50 each. Local milk suppliers who have contracts to fill, are looking for cows, now that pastures are getting short.

Under a moderate supply veal calves rule steady at \$3 to \$6 a cwt. There was a big run of lambs last week and prices fell off considerably from a week ago. On Thursday the highest quotations for lambs were 85¢ to 95¢ a cwt, a drop of 25¢ sold from Tuesday's prices. Export ewes sold at \$3.50 to \$3.75 and bucks at \$2 to \$2.50 a cwt.

The hog market shows little change and last week's quotations hold good. At the city market on Thursday buyers quoted at 75¢ for a big run of lambs last week and 87.65 f.o.b. at country points. Some selected lots, however, sold at 88¢ fed and watered and it was reported that 87.70 and 87.75 had been paid at country points for hogs.

The Trade Bulletin's London cable of August 19 quotes bacon as follows: "The market is weak and lower prices. Liberal receipts from Denmark. Canadian bacon 66¢ to 69¢."

MONTEAL HOG MARKET

Montreal, Saturday, August 21.—There has been a fair demand for the offerings of live hogs on the market this morning, prices ranging all the way up to \$8.75 a cwt. for selected lots weighed off cars, mixed lots selling down to 85 and 82.25 a cwt. Receipts were fairly heavy. "The demand for dressed hogs is well maintained and prices are unchanged and steady. Quotations range from \$12 to \$12.25 a cwt for fresh killed abattoir stock."

EXPORT BUTTER AND CHEESE

Montreal, Saturday, August 21, 1909.—There was a very active demand for cheese from Great Britain this week and prices have advanced by leaps and bounds as a result of the keen competition among the Montreal exporters to secure the offerings in the country this week, which consisted of the first heavy consignment made. The week opened with the market steady, and a fair demand for cheese, but there

was no sign of any special activity until Thursday when cables from the other side flooded the market here, many of them with orders to buy cheese on the local terms. As a consequence the buyers in the country were given a free hand and a great variety of prices were shown in the markets selling all the way from 11½¢ to 12½¢ a lb. The latter price was obtained at Brockville where the demand was so keen that the quotations were raised in a few minutes from 11¢ to 12½¢. Even at this price some of the factory men refused to trade in the hope of getting, which was to money. This price, however, marked the top notch for the week, and is the highest price paid since June for cheese. The markets on Friday closed strong with prices ranging from 11½¢ to 12¢ a lb, the latter price having been paid at Brantford, Perth and other points in the province of Ontario.

The advance in prices, is evidently due to the anxiety on the part of the British dealers on August cheese, which are considered of much better quality than the Julys, and as the stocks of cheese on hand in the province of the Atlantic are comparatively small, and the market in Ontario very little larger than last year the statistical position is strong and seems to warrant an advance in prices at this time of the year. It remains to be seen whether or not the demand from Great Britain will be stopped by the sharp advance that has taken place this week. The market of cheese is steadily increasing as compared with last year and there is every prospect of the present increasing output being maintained throughout the remainder of the season. The favorable weather and comparatively high prices have aided considerably in bringing this about and now that there is no chance of a serious drought we can look for a heavy fall make of cheese.

The market for butter is strong and active with a good demand from all sources, especially from the local trade. The demand for butter is comparatively small, but it is so large as to encourage dealers here, and prices in the country are well maintained, with every prospect of a further advance during the next few days. Finest Eastern Townships' creamery is quoted today at 23½¢ a lb, with ordinary firm at 22½¢. Dairy butter is fairly plentiful and is selling at 15¢ to 15¢ according to quality.

DAIRY FARM FOR SALE AT A BARGAIN

Lovigne Station, Graham, Que., Post Office, 112 acres, fine clay, new home, furnace, hot and cold water, silos, barns (stabling 40 cows, calves, bulls and 10 horses), milk house and complete outbuildings, running water, railway station on the farm, also market boat wharf and post office. A rare opportunity for a live dairyman to get a money making property. MR goes into Montreal. One hour by train. Winter price, \$2,200 100 lbs.

JAS. J. RILEY, JR.

COOPER
Gentlemen—
Oil for several
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BUTTER WRAPP

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FOR SALE—Four

farm and home

Fruitvale, B.C.

WANTED—Married

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required.—J. E.

WANTED—One or

two young boys

coming in from

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WANTED—THREE

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Wanted—200 lbs

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and Dairy, Pet

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"For more than five years I have been experimenting with our experts to find the BEST culvert for all-round uses. We



sought the markets of the world for one that was just right; and we didn't find it. If we had, we'd have bought the patent rights for Canada. Finally, last spring we struck the idea. Then we put in some expensive months

in making that idea better—and NOW we've got a culvert that is so far ahead of any other there's no comparison."

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G. A. Pedlar

Frost-Proof, Rust-Proof, and Water-Proof

This triple-rib flange-lock principle, found only in Pedlar Culverts, not only adds greatly to the strength of the piping and makes a perfect joint—practically as good as if welded—but it also allows for expansion and contraction under cold or heat. Though a Pedlar Culvert, of any length, be frozen solid full of ice, it will not split nor spring a leak.

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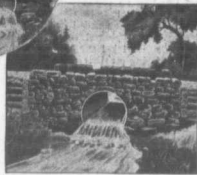
Learn about the strongest, most practical, most durable and easiest-laid culvert ever made—that's

PEDLAR Perfect Corrugated Galvanized CULVERT

A few hours' work and a few dollars will put a modern and permanent culvert in place of a ramshackle bridge. Easily laid by anybody.



A structure like this, with Pedlar Culvert, won't wash out nor need repairs.



Made of Special Billet Iron, Extra Heavy

In very size of Pedlar Culvert, which comes in all standard diameters from 8 inches to 6 feet, we use nothing but the best grade of Billet Iron, specially made for us, of extra-heavy gauge (14 to 20 gauge, according to the diameter. This Billet Iron curved into semi-cylinders—curved COLD, so there will never be any variation from exact dimensions; and it is then deeply and smoothly corrugated on a special press that puts a pressure of SIXTY TONS on every square inch of the metal. The corrugations, therefore, are uniform and very deep.

Galvanized After Being Pressed Up

When the corrugating process is done, the sections are galvanized by our exclusive process that covers the entire surface with a thick coating of zinc spelter. Every edge, every crevice is heavily coated with this rust-proof, corrosion-proof galvanizing, not a spot is left unprotected. This is the only culvert galvanized after being shaped. Is absolutely Rust-Proof.

Will Stand Incredible Strains

The heavy-gauge Pedlar Billet Iron sections, deeply corrugated and locked together without bolts or rivets (but not corrugated), make a culvert that will stand enormous crushing strains, and neither give nor spring. A thin cushion of soil on top is all the protection such a culvert needs against traffic; and no special precautions need be observed in laying it,—it will stand what no other culvert can.

Compact—Portable Easily Laid



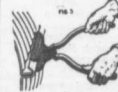
Half-sections nested for shipment.

Note that the ribs are flat, and the curved part of the cylinder deeply corrugated. These ribs add vastly to the culvert's strength.

Pedlar Culverts are shipped in half-sections nested—see Fig. 1. Saving freight charges and making carriage easy in rougher country. Quickly and easily transported anywhere.



Sections in course of assembling.



Clamping the flange lock—no bolts, no rivets, no makeshifts.

Unskilled labor, with a single tool, quickly clamps the flanges together, making a triple-fold joint that is tighter and better than any riveted or bolted joint can be.

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