

Our Annual Poultry and Garden Number

FARM AND DAIRY & RURAL HOME



DEVOTED TO
BETTER FARMING
AND CANADIAN
COUNTRY LIFE



Toronto, Ont., February 7, 1918

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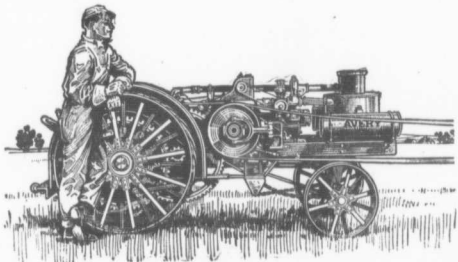
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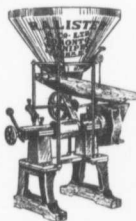


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On Smith's Garden

SMITH isn't naturally a gardener. He is a business man, well known in business circles. But he was raised on a farm—and there you are.

Early last spring Smith became fired with an enthusiasm to grow things. Everyone was going to have a garden. Men read the seed catalogues, street cars instead of the loquacious street car and the mania for gardening spread. It seemed to be infectious like measles or chicken pox. The Department of Agriculture helped much interesting literature on methods of gardening which it followed out would lead to the production (in the back yard, the window seat or under the bed) of apparently limitless quantities of baked beans and squash pie in the raw state. In fact enough literature was sent out if enough literature was sent out to reach quite a long distance and part way back again.

So when Smith called me up over our rural phone and asked me to bring him in a couple of sacks of seed potatoes, I wasn't much surprised.

The day I brought in Smith's potatoes I found him with pencil and straight-edge making plans. Smith said he gathered from the stack of bulletins that had come to hand, that if every resident of town or city in Canada were to grow one potato, or so, that the aggregate would knock the potato combine into a coked hat—and you will remember that last year was the "potato-combine-year."

Smith said he wanted my particular quarrel with the potato combine. He has no children and one fairly large tuber will do Mr. and Mrs. S. for dinner. But when it was pointed out that it was the country that had the last potato that would win the war, or words to that effect, Smith decided to raise that spud. As a peace-maker he would thereby make W. J. Bryan look like an Irish politician in comparison.

As spring advanced, however, Smith decided not to dig up his flower beds. He had a far better scheme. Why clutter up the croquet lawn with pumpkins and mushrooms when, a few miles out in the country, land was spoiling for lack of gardeners? Smith had a Dodge that would have to be exercised every evening anyway, so he hired an acre of my farm (out of the hired rent district—six miles from town) whereon to have a garden. Smith wasn't sure whether there up or not, "so" quoth he, smiling sweetly, "I'll combine business and pleasure thusly, for half a loaf is better than no holiday."

Smith's plans were far reaching. They included a little woods near the scene of activity where mores might be gathered in spring, a nearby lake where fishing and bathing might rest the weary gardeners after their strenuous exertions, and, chiefest of his plans, a number of young men from the office who would enjoy the ride on the country to work on a farm. Did he ever tell you he came back to the city to live? No. I don't blame him. Well, I'll tell you.

The second day he was on the farm he was called up before dawn and told to harness the mule to the sleigh. He was too tired to light a lantern, and in the dark he didn't notice that a cow was in the stable with the mule. The farmer, impatient at the long delay, shouted from the house:

"Jones, what are you doing out there?"
"I can't get the collar over the mule's head," Jones yelled back, "his ears are frozen."

rest was done with hoes and rakes. Needless to say the carefully worked-out "plan" was lost before the planting season arrived, so a system of catch-as-catch-can planting was followed. Mrs. S. said she had never had enough green peas, so a couple of quart-sized sows in rows 15 inches apart. Onions, carrots, and other small vegetables were painfully placed in rows varying from eight to 12 inches apart, and it takes a lot of such fine work to make much of an impression on an acre block. By the time all the small stuff had been hoed in, the weeds were ready for hoeing out. And most of the acre yet remained unseeded.

Early in the season Smith had an ingenious scheme whereby two crops of potatoes might be grown simultaneously. In each hole a late potato would be planted about nine inches deep, then after five inches of soil had been filled in, an early potato would be put in and the hole filled up. By this scheme the early potato crop would be dug in July and August without disturbing the growth of the late one. By the time Smith had planted half his acre once over to four dollar seed potatoes, however, he had decided not to overburden the soil.

Things looked good for the allies war ration during the spring, but presently the weeds got under way and the aspect of Smith's garden gradually changed. Summer came on. The Smiths left on a two weeks' vacation. The bugs didn't. Smith says he thinks the bugs made his garden a sort of rendezvous on account of the pleasant location. It was sheltered close enough to the lake that the bugs could have a drink whenever their throats got too dry from the starch of the potatoes.

"The other day I had a phone call from him. He wanted a couple of bags of potatoes. They are not for planting this spring, but for immediate consumption to take the place of the potatoes that the bugs got."

Smith says his garden last year was not a success as a commercial proposition, due to an overabundance of advice aimed from every quarter, and a lack of the real cooperation in the way of good hoers. Of course the quality of the vegetables was superb. The quality of any fruit except where Smith's is above the standard of excellence. But he isn't giving up gardening. He has been too strongly impressed with the needs of the Empire to do that. He is, however, reducing the size of his plot. His garden this year will have a good southern exposure overlooking his garage. The space at his disposal on the winter seat will be considerably smaller than he used last year and so will be unable to support as many weeds. But Smith says that the saving in garden and potato seed should about make up the small difference in the productive capacity of the two plots.

Sam Ray

Jim Jones was born in the city and while yet a young man went into the country to work on a farm. Did he ever tell you he came back to the city to live? No. I don't blame him. Well, I'll tell you.

The second day he was on the farm he was called up before dawn and told to harness the mule to the sleigh. He was too tired to light a lantern, and in the dark he didn't notice that a cow was in the stable with the mule. The farmer, impatient at the long delay, shouted from the house:

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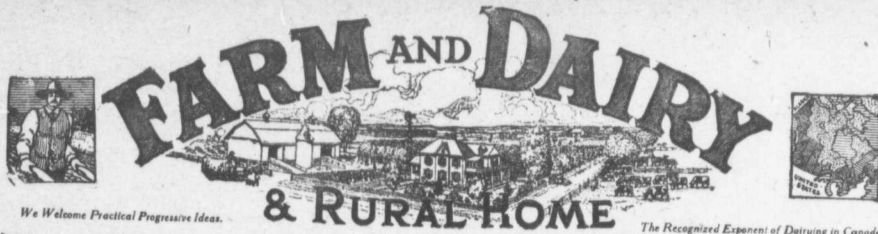
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We Welcome Practical Progressive Ideas. Trade increases the wealth and glory of a country; but its real strength and stamina are to be looked for among the cultivators of the land.—Lord Chatham

VOL. XXXVII

TORONTO, ONT., FEBRUARY 7, 1918

No. 6

Plan To Use Horse Labor in the Vegetable Garden

Vegetable Seeds Will Be Scarce This Year, So Order Early. Use Good Varieties

In earlier times when farmers were more isolated and independent, the vegetable garden was a recognized institution. The recent tendency to a wards specialization, however, has resulted in this part of the farm scheme not receiving the care that its importance warrants. In these years of high prices for every foodstuff, there is no way in which the high cost of living can be more easily withstood than by the growing of large quantities of vegetables at home and substituting them in the diet for the more expensive foods. Last year a campaign was carried out successfully for the cultivation of back yards and vacant lots in the various cities of Canada. The success that was achieved, in many cases under serious handicaps, should make us wish to emulate their example, especially as we on the farm are not crowded for space and have horse machinery at our disposal.

The most distinctive feature of the farm garden should be the reduction of hand labor to a minimum. The garden should therefore be laid out in long rows sufficiently far apart to permit the use of a horse and cultivator in handling the crop. Time and confusion will also be saved if the vegetables are grouped according to the cultural requirements, so that each group of crops may be planted and tended as one crop and the garden operations thus simplified.

The greatest success with the vegetable garden can only be obtained by the systematic following out of a good plan. The whole garden should be laid out in February on heavy paper, so that each crop will be given its proper place. If a garden is attempted without any effort at planning, you are likely to find that some vegetables are greatly in excess of the amount needed by the family, while others have been forgotten. By making a plan and giving each the space that its importance warrants, the work may be carried through much faster and you will know what seeds to order.

As soon as the garden plan has been prepared and the kind and amount of each variety of vegetable decided, the seeds should be purchased. This is especially important this year. Supplies of good vegetable seed will be scarce. The amount of each that must be bought can be determined approximately from the table which appears herewith. This table indicates the amount of the various seeds required for a given area.

Purchasing Seed.

Seed may be bought from seed firms by mail order, from local dealers or it may be saved from year to year by the gardener. As a general rule it is best to buy by mail, placing the order with a reliable firm in February. Most houses publish an annual illustrated catalogue in which the seeds and plants are listed, described and priced. With the garden plan and the catalogue before you the order may be made out and placed early enough to insure the seeds being on hand when needed.

The growing of seed is in general a special business and unless the grower has special skill and sufficient time, better seed can be bought than can be grown in the home garden. When buying seed, get only the best.

The viability of seed can be determined in advance by a germination test. This consists in counting out a certain number of seeds (25 to 100, depending on the size) and placing them under conditions favorable for germination. Two moist blotters

Beets—Crosby's Egyptian, Detroit Red, Brussels Sprouts—Long Island Improved, Carrots—Chantoney, Cabbage—Copenhagen Market, Danish Ball Head, Red Rock, Cauliflower—Early Snowball, Celery—Golden Self-Blanching, Winter Queen, Corp—Malakoff, Golden Bantam, Kendall's Early Giant, Stowell's Evergreen, Citron—Colorado Preserving, Cucumber—Nichol's Medium Green, Jersey Pride, Egg Plant—Black Beauty, Kohlrabi—White Vienna, Leaf Lettuce—Black Seeded Simpson, Grand Rapids, Head Lettuce—Way Ahead, Iceberg, Muskmelon—Golden Foliock, Osage, Honey Dew, Onions—Yellow Globe Danvers, Southport Yellow Globe, Extra Early Red, Parsnip—Hollow Crown, Peas—Alaska, Thomas Laxton, Gradus, Stratagen, Early Potatoes—Ohio Eureka, Pumpkin—Small Wonder, Radish—Red Globe, White Icicle, Rhubarb—Victoria, Salsify—Sandwich Island, Spinach—Victoria, Squash—Summer Crook Neck, Warded Hubbard, Golden Hubbard, Tomatoes—Earliana, Bonny Bess, Greater Baltimore, Table Turnip—Early Purple Top Milan, Snowball, Watermelon—Hungarian Honey.

Number of Seeds per Ounce and Amount of Space One Ounce of Seed Will Sow.

Vegetable	Amount of seed	Number seed per ounce	Space
Asparagus	1 oz.	1400	50 ft. drills
Bean (dwarf)	1 qt. (25 oz.)	200	50 ft. drills
Beet	1 oz.	1400	50 ft. drills
Cabbage	1 oz.	8500	1500 plants
Carrot	1 oz.	10000	100 ft. drills
Cauliflower	1 oz.	10000	1000 plants
Celery	1 oz.	7000	300 plants
Corn	1 qt. (23 oz.)	140	200 hills
Cucumber	1 oz.	1100	50 hills
Egg plant	1 oz.	8500	1000 plants
Eldrie	1 oz.	18000	100 ft. drills
Kale	1 oz.	2500	150 ft. drills
Kohlrabi	1 oz.	8500	300 plants
Lettuce	1 oz.	22000	150 ft. drills, 1000 plants
Onion	1 oz.	7000	100 ft. drills
Parsley	1 oz.	6600	150 ft. drills
Parsnip	1 oz.	6600	100 ft. drills
Pea	1 qt. (25 oz.)	60-140	100 plants
Parley	1 oz.	400	40 hills
Pumpkin	1 qt.	85	100 plants
Radish	1 oz.	7800	100 ft. drills
Salsify	1 oz.	2835	70 ft. drills
Spinach	1 oz.	2500	100 ft. drills
Squash	1 oz.	90-200	20 to 50 hills
Tomato	1 oz.	10000	1500 plants
Turnip	1 oz.	12700	150 ft. drills

between two plates makes a good germinator. Determine the promptness and the total per cent. of germination by a daily inspection. With most vegetable seeds 80 per cent. should germinate in four to eight days to be considered a good sample.

Varieties of Vegetables.

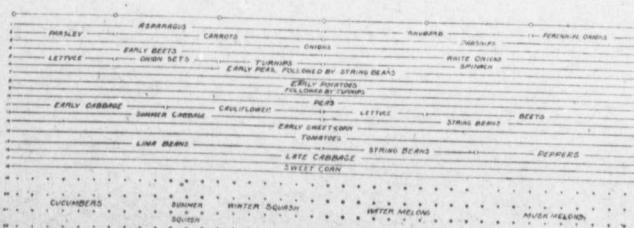
The varieties of the various vegetables which are most generally recommended for Ontario conditions are:—

Asparagus—Early Argenteuil, Reading Giant. Beans—Bountiful Green Pod, Golden Wax.

firming. The most rapid way of making the drills in a garden to be planted in long rows is to use a marker that makes three or four drills each time it is drawn across the area to be planted. With a medium weight marker, and the soil in proper condition for planting, the marks will be of the proper depth for planting seeds of any of the smaller vegetables usually sown in drills. For peas or beans a deeper drill may be made with the plow attachment of a wheel hoe. After the seed is dropped, it is covered with a rake, or in the case of deep planting, with a hoe, or a wheel hoe. The soil is firmed over the seed by the use of the feet, the back of a hoe, or a garden roller. Whatever the means employed, the firming must be thorough, especially in light soil or dry weather; for unless the soil is brought in close contact with the seeds, they will not germinate.

Tillage.

Much labor can be saved in the weeding if the ground is thoroughly cultivated just before the seeds are sown, so that no weed seeds have begun to germinate. By the use of



The Outstanding Feature of a Good Farm Garden Plan is Lengthy Rows, set Three Feet Apart.

(Continued on page 12.)



Which Method of Planting Shrubs is Most Effective?

In setting out shrubs and evergreens on the lawn, care should be taken to group them about the outside and in corners, leaving clear vistas as in the illustration on the right. Note the messy effect of planting specimens indiscriminately as shown on the left.

Let Us Beautify Our Farm Homes

A Few Flowers and Shrubs Will Return Big Dividends in Health and Pleasure for the Time and Trouble Spent

THEORETICALLY it is great to be raised on a farm. We hear often of the advantages enjoyed by the boy or girl who spends his or her youthful hours "among the birds and flowers in the farm's great out-of-doors." But in too many cases, the farm home is more nearly a desert than a flower garden. We imagine that we are too busy to bother with flowers—likewise fruits, or we haven't room on our 150-acre farm to allow a few hundred feet for shrubbery, flower beds or a bit of lawn about the house. And so we find the house standing out bleak and bare and poorly unappointed at that—the only ugly spot among the cultivated fields. By a little effort we might make the house and its surroundings look like a little oasis.

Most farm homes have a good natural setting. What is wanted is a few shrubs to make the house blend with the landscape. A few clumps of flowers in the garden to delight the eye with their varied tints, and plenty of blooms for cutting to brighten up the rooms and make the house more like a home. Instead of the upkeep of a flower garden being an onerous undertaking it will be found that the work necessary will be a break in other tasks. There the housewife may get away from the cares of sweeping and dusting, baking and the other monotonous duties of housekeeping.

Have a Lawn. Wherever possible a lawn should be laid out. Unlike city folks the farmers cannot plead lack of grounds. The only thing is to have the lawn moderate enough in size so that the work of keeping it in shape will be discouraging. Wherever possible the lawns should be laid out along generous lines to give a broadening effect to the front. A little lawn of the same or lesser width than the house laid out in several straight lines is better than nothing, but not best where land is plentiful. The beauty of any lawn is enhanced by keeping it mowed and green.

A well-trimmed hedge, whether of one of the evergreens or of leafing shrubs, adds much to the appearance of the grounds. Circumstances may differ, but in most cases a hedge presents the best appearance and allows a better view of the grounds, if it is not allowed to grow more than three and one-half feet high. In some cases two feet high is better than higher.

Shrubs Help a Lot.

Shrubs flowering at different seasons add much to the beauty of grounds, after they once get a root-hold in the ground. Circumstances may differ, but they should not be in the lawn nor in straight lines, but rather grouped in the corners or near the border.

Spiraea, honeysuckles, Siberian peas, syringa weigelas variegated, are all good, hardy shrubs. Group the taller growing shrubs behind the smaller ones, and if flower beds are to be planted, these should be in front of the smaller shrubs. The rising background gives a pleasing appearance from the lawn. The planting of hardy flowering shrubs, whether it be in large grounds or small gardens, involves a certain amount of artistic skill in the selection and arrangement of plants suitable for the purpose. In the case of shrubs, foliage as a rule plays a more important part than flowers. The plants should be short time at most. Good effects in grouping shrubs generally depend, therefore, upon harmony or pleasing contrast in foliage, and, to a smaller degree,

on the flowers or fruits. Again, the grouping of certain shrubs which in one instance would produce an artistic effect, would in another look quiet out of place; so, therefore, it is necessary to select and arrange the shrubs according to the general layout of the house and surroundings. The outlay of money in this connection should not be considered in any way as an expense, but rather as an investment, for, by the judicious planting of trees and shrubs, the property is beautified and made more attractive.

Preparation of the Soil.

The soil where shrubs are to be set should be thoroughly spaded and enriched with well rotted barnyard manure. The holes should be made of ample dimensions and deep enough so that the roots can spread out and so that the plant will stand in the same position as when growing in the nursery. More trees and shrubs are lost by deep planting than by shallow.

Now take the tree and place in position and sprinkle fine soil among the roots, shaking the tree a little from time to time so that the soil is worked well in. It is important to pack the soil firmly around the plant so that all the roots will come in contact with the fresh soil. When the roots are well covered, the earth should be tramped firmly. Put in more earth and tramp again. The last two or three inches of earth should not be tramped, leaving it loose for the rain to be taken in. Do not round up the earth about the tree lest the water run-off. Failures are often prevented by mulching the new planting with decayed leaves or well rotted manure so as to preserve the moisture in the soil during the dry, hot days and to prevent the alter-

nate freezing and thawing in the winter.

The Flower Garden.

There is no investment that will bring higher dividends of satisfaction than the time and money spent in getting a few flowers started about the farm home—a very little money spent in seeds will give a very big return in flowers.

Pansy seed may be sown in March or April indoors. These plants will give a quantity of bloom during late summer, even as late as November. If some of these garden rambles and dry leaves are thrown over the plants late in the autumn before severe frosts, they will also give some flowers early the following spring.

Pansies like a rich, light soil, and some shade in the middle of the day. A north border near to a fence or building—not under trees—suits them well. Black soil from the woods, and a liberal application of either cow or sheep manure dug into the soil before planting, together with plenty of water in hot weather, will produce fine large blooms and much better flowers late in the season than plants that were raised and kept in cold frames over winter.

Annals.

A few varieties of annuals such as asters, Chinese pinks, phlox drummondii, zinnias, balsams, marigold, coreopsis, scabiosa, scabianthus (butterfly flower) and other varieties if needed may be sown indoors early in April. A great many annuals, such as poppies, nasturtiums, mignonette, ten week stock, silene (catchfly), zygophylla, elegans, nigella (fox glove), annual larkspurs, and other similar annuals do not transplant or succeed as well when sown indoors. It is best to sow these last named out of doors in the border where they will be raised.

A good annual, especially for a hot, sunny position is portulacca. The seed is best sown broadcast on fine soil and raked in lightly. Thin the plants later on from four to six inches apart. If you have a dry, hot, sunny position where you wish to have a low grower, try some portulacca. A small patch of edging of portulacca will transform a barren, dry spot in the garden into a really beautiful spot, during the hottest days of summer, when many other plants are suffering badly from heat and drought.

If a few early nasturtium plants, or any climbing annuals, are wanted for window or veranda boxes, put two or three seeds in soil in a three-inch pot in April.

A little time and attention given to the flower garden and the beautifying of our farm home pays bigger dividends than those that are reckoned in mere dollars and cents. It is the place in which the poet tells us we get nearer to God's heart than in any other, and certain it is that flowers go a long way towards making home what it should be, "a thing of beauty and a joy for ever."

Fresh Strawberries for the Farmer's Table

Start a Plantation this Spring Anyone who can Grow Potatoes Successfully can Grow Strawberries

THE strawberry, unlike our tree fruits, is not limited to any narrow range of territory, but is found both growing wild and in the gardens pretty generally throughout Canada. The comparative ease with which the plant is cultivated, and the high quality of the fruit, both for canning and dessert, make it a general favorite. No kitchen garden is complete without its few rows. It is the first fruit to ripen in the spring, and just at a time when fresh fruit is most relished. The season opens about the middle of June, with the earliest varieties and continues from four to six weeks, depending on the weather, and especially the rainfall. The comparative ease with which the plant is cultivated, and the high quality of the fruit, both for canning and dessert, make it a general favorite. No kitchen garden is complete without its few rows. It is the first fruit to ripen in the spring, and just at a time when fresh fruit is most relished. The season opens about the middle of June, with the earliest varieties and continues from four to six weeks, depending on the weather, and especially the rainfall. The comparative ease with which the plant is cultivated, and the high quality of the fruit, both for canning and dessert, make it a general favorite. No kitchen garden is complete without its few rows. It is the first fruit to ripen in the spring, and just at a time when fresh fruit is most relished. The season opens about the middle of June, with the earliest varieties and continues from four to six weeks, depending on the weather, and especially the rainfall.

In growing berries, no especial farming knowledge is required. Anyone who can have a garden or can grow good crops of turnips or potatoes will experience no trouble raising strawberries. They will grow on any good tillable land. Land not naturally well drained, or with a clay subsoil which has not been tile-drained should be avoided. Such land is apt to heave badly in winter and cause winter killing of the plants.

Do not plant on ground that has been in sod some two or three years previously. The common May beetle or June bug lays its eggs in grass land, especially in old pastures or hay land that has been

down some time. The larva, or the white grub as it is commonly called, lives on the grass roots for some three years before coming forth as the grub and is fond of strawberry roots. This grub is seldom bothersome where a short rotation is practiced on the farm, nor is it found in light loams as often as on heavier land.

If the land has been in hood crops such as turnips, corn or potatoes for two or three years it is in admirable condition for planting strawberries. It is taken for granted that barn yard manure has been used liberally on these preceding crops and become well incorporated with the soil. It is not advisable to use straw manure the same way, as it is likely if one is looking for best results. Prepare the land in the spring either by plowing or, if it was plowed the fall before, by deep disking.

If the plants for setting out are obtained from a distance, they should be ordered to arrive as early in the spring as possible after the soil can be worked, and planted soon after their arrival. It is often, however, not convenient to plant at once; but in any case, the parcel containing the plants should be opened up when it arrives, otherwise they are liable to heat or dry out, either one of which con-

(Continued on page 118.)

IT is as a nurse taken various and mo buy town in ing the Every dom. E from o the larg and ne allowed with a on the the high extent of fruit fresh fr surplus A gra cared fo average to take) out over ly is thin practical horse m No fr sized at difficulty people a cally all to start ordinary soil to good loat ground oughly. The stra small fr than con ever, wid of Farm Gooseb the older cases the require of barnyard In star year-old secured Downing be set fir row An may hav do for ha and Geberests of If the ar they are back slight deapen or possible. gooseberr plications

The Farm Fruit Garden

Grow Your Own Berries. You Will Save Money and Get Them When You Want Them

It is a poor garden that has no small fruits, such as currants, gooseberries or raspberries. Yet nurserymen tell us that a noticeable decline has taken place within the last few years in the cultivation of these small fruits in farm gardens. More and more it is becoming the custom for farmers to buy their strawberries and other small fruits at town instead of going out to the garden and picking these fruits fresh in generous quantities.

Every farm home should have a small fruit garden. Home-grown fruit is usually better than that from commercial sources. Berries sent out from the larger fruit farms are almost always picked green and never have quite the flavor of those that are allowed to ripen naturally. The family is provided with a more liberal supply of fruit if this is grown on the farm than would otherwise be the case, for the high cost does not seem to enter into such an extent. And by planting a large number of varieties of fruit in the home garden, a continuous supply of fresh fruit throughout the summer is provided. The surplus can then be used for canning.

A fruit garden of one-half acre, if well planned and cared for, will produce all the fruit required by the average family. The small amount of time required to take proper care of a well-laid out garden is spread out over a long season and will not be felt. Especially is this the case when the garden is so planned that practically all of the cultivation can be done by horse machinery.

No fruit garden is complete without a liberal sized strawberry patch. Exaggerated ideas of the difficulty of maintaining such a patch often prevent people attempting this work. This applies in practically all garden work on the farm. People hesitate to start because of the imaginary difficulties. With ordinary care strawberries will grow on almost any soil to be found on the ordinary farm, although a good loam is best. Before setting out the plants, the ground should be well manured and worked thoroughly. The plants should be set out in the spring. The strawberry is probably the most important of the small fruits and deserves more explicit instructions than could be given here. This information, however, will be found in another article in this issue of Farm and Dairy.

Bush Fruits.

Gooseberries and currants are found in most of the older gardens throughout the province. In many cases they have been allowed to grow wild and will require considerable pruning and the application of barnyard manure to make them bear profitably.

In starting the gooseberries in the plantation two-year-old plants should be obtained. These can be secured from almost any nurseryman. Pearl and Downing are the most popular varieties. They should be set in rows six feet apart and four feet in the row. Any well drained, moderately rich soil that may have been picked out for the fruit garden will do for gooseberries. The location should be sunny and have a good circulation of air for the best interests of the plants.

If the roots of the new plants are very long when they arrive from the nursery, they should be trimmed back slightly, and the plants set in the soil slightly deeper than they were in the nursery, with the roots spread out. Firm the soil about them as much as possible.

Like most other small fruits the gooseberry will do best when it is given liberal applications of barnyard manure and kept well culti-

vated up until harvesting time.

A good bush should have a crotch about six bearing canes. The tops of each cane should be cut back slightly each year in the spring, and the young canes that are not needed to replace the old ones should be cut out. All wood over four years old must be removed.

Currants, both black and red, have a place in the farm fruit garden. They will do well on almost any soil.

They should be planted in early spring to make good growth. In setting out any small fruits the ground should be put in as mellow a condition as possible before the fruits are set. The best varieties to plant are: Black—Naples, Victoria; Red—Fay, Cherry; White—Grape.

Old Plantations.

On many farms there are already a number of good gooseberry and currant bushes that have been allowed to grow wild. Attention should first be given to these before one attempts buying new stock from the nursery. You will get good fruit from what is already at hand in a shorter space of time than from new stuff set out.

We do not know of any plant that responds so readily to proper treatment as the currant. The proper currant bush should have a distinct stem of at least six inches clear of the soil. The planter can make sure of this when he receives the new plants from the nursery by cutting out the eyes of the stem that part covered in the ground. By doing this you prevent the after suckering and have a neat, compact bush, like a miniature orchard tree. This applies to the gooseberry as well as the currant, as the same treatment serves for both in pruning and cultivation. They both require richly manured soil, as they are gross feeders, and require about the same skill in management.

First remove all weak shoots, cutting them off close to the stem, also all old bearing and decaying wood. This leaves the strongest two-year-old stem radiating equally from the centre stem or trunk, leaving the pruned bush well balanced. This will mean shortening last year's growth by a third of its length. Be careful not to cut too hard back, as that would have the effect of making a strong new wood growth at the expense of this year's crop of fruit.

Where bushes have been neglected in pruning they present a mass of woody growth in an almost hopeless tangle. Digging up the surrounding suckers and cutting out the old bearing wood and hollow stems will soon restore a semblance of order. Then by



Planting Potatoes with a Horse Machine.

More and more of the jobs about the farm that were formerly done by hand are now being done by machinery. Illustration shows a Western Ontario farmer sowing a large potato patch with a mechanical planter.

shortening the leading branches your bush should have a definite, neat shape.

The black currant bears its fruit on the young wood of last season, so that will require but little shortening, while the removal of the old bearing wood will result in producing a healthy growth of young bearing wood for the next year's crop. A little observation on the part of the grower will show the reason for proper trimming. An indiscriminate use of the knife will result in a strong growth of new wood with a shortage of fruit. Where bushes have become weakened from overbearing, a liberal cutting back after manuring, will rejuvenate plants.

Currant bushes, looked after carefully, will last from ten to twenty years. It is well, however, to grow young plants from cutting to renew the old worn plants. Currants of all kinds can be trained upon fences or trellises like grape vines in much the same manner, by laying out the laterals for fruiting, and by summer pinching to produce fruit and wood.

It takes a little patience to keep the gooseberry bushes, especially our native varieties, Houghtons or Downing. The tendency in these varieties to throw out young shoots and bottom shoots is so great that frequent thinning is necessary to keep the bushes in any order.

Raspberries.

The fruit garden should also have a few rows of both the red raspberry and the black cap raspberry. These grow in practically all sections of old Ontario. A few rows of some of the better varieties will save a lot of scrambling through the woods in the attempt to gather the wild fruit. A little bit of care given to these fruits will be repaid many times over in the quantities of fresh fruit which may be had during the summer, and the excellent preserves for winter use.

The soil where raspberries are to be set should be put in good tilth and manure. Plantations are started from the young shoots that come up from the roots. Only the strongest and best growing should be planted, and the varieties recommended for Ontario are the Marlboro, Herbert and Cuthbert. Raspberries are most often grown in the row system with rows of six to eight feet apart.

The black cap raspberry is propagated from the rooting of the tips and stems. Plants for both black cap and red raspberry may be obtained from any good nursery. As with all other nursery stock, these should be ordered early so you may have some choice at the nursery and so that you may get your plants in time for setting out before the ground dries out in the spring. These of the best varieties of black cap raspberries are the Hibben, Older, and Gregg. After a raspberry plantation has once been started the grower can enlarge it by propagating from the roots. (Continued on p. 12.)



A Small Patch of Raspberries if Looked After Properly will Save a Lot of Scrambling for Fruit.

The illustration shows raspberries picked on one of the fruit farms in the Niagara Peninsula. This patch is larger than that required for ordinary family use, but any berries over the family's requirements will find ready sale on any of our markets.

War Time Poultry Problems as Seen by Prof. W. R. Graham

The Place of Poultry Products in the National Menu. War Time Rations for the Fowl and Some Pointers on Culling Out the Boarders

YES, I know that Dr. Creelman is not in favor of another poultry production campaign. But Prof. Harcourt, who has given his verdict that poultry and eggs are not an economical part of the human diet. And yet I believe that poultry and eggs can be of material assistance in winning the war if used as a substitute for such meats as pork and beef which are so much in demand for export. Last season we had a considerable number of eggs for export and there was not the usual demand for dressed poultry. I take it that it is our duty to conserve meat for export and as an egg never increases in food value from the time it is laid, we cannot do better than eat them at home. It would seem desirable that each and everyone of us eat as many eggs and as much poultry as we can. To some this may not appear to be correct as eggs and poultry are high priced. There appears to be a feeling that both eggs and poultry are luxuries and that during war-time they should be avoided. No doubt by so doing we will assist in winning the war—but not by us. As compared with meats the average householder will find the money spent on a dozen eggs to go about as far and prove to cost people more appetizing than the same amount of money spent on meat."

We had asked Prof. W. R. Graham for his opinion of the position of the poultryman in relation to national needs. His reply we have just quoted. As we then seated ourselves on opposite sides of his desk in the new Poultry Building at Guelph, he continued:

"Poultry and eggs are good food. At the same time they are somewhat perishable. This is why I believe they should be consumed in large numbers at home. Again, if you will take the percentage increase in the price of eggs, poultry, pork, mutton, beef, cheese and butter since the beginning of the war, either week by week or year by year, you will find that poultry products are as cheap or cheaper to-day relatively than they were at the beginning of the war. Consumers were eating eggs and poultry then, and if their position was sound before the war, then there is no reason why it should not be sound yet; in fact, more so."

Eggs versus Chemistry.
"But is it not true?" we asked, "that eggs make one of the most expensive ingredients of a correctly balanced ration?"

"Prof. Harcourt's idea in that connection is probably correct," admitted Prof. Graham. "If we were to be fed chemically, however, we could be fed most cheaply on rolled oats and skim-milk. But few of us are willing to be fed chemically. We prefer to have more of the things we like, and I doubt if even from a dietitian's standpoint, the chemically balanced ration would always be a success. Eggs and beef are in demand because people like them and need them. Eight eggs will weigh as much as a pound of beefsteak. They will cost about the same. There are individuals who will eat a pound of beefsteak at one sitting, but they are going some if they will eat eight eggs. The real economy of the egg is based on this—as a people we are inclined to over eat. The egg is put up to us in a definite 'dosage' which we accept. There is no such limit on the consumption of meat."

"Even our chemists are not a unit in rating eggs low as a human food product. Jordan at Cornell is credited with being a pretty fair chemist. He tells us that egg production is the most efficient human food with the exception of the production of milk, pork or veal fed on milk. It requires five and

one-half pounds of digestible or organic matter in the ration fed according to Jordan to produce one pound of edible solids in milk; $\frac{1}{4}$ pounds to produce pork; 13 pounds for veal (fed on milk); 19 $\frac{1}{2}$ lbs. for eggs; 23 $\frac{1}{2}$ lbs. for poultry meat; 36 lbs. for beef and 38 lbs. for mutton. To go to another field for information, home economic experts tell us that an egg per day per person, of a per capita ration, is desirable, and that children up to seven years of age should substitute eggs for meat entirely, as is also the necessity for many cases of illness or convalescence.

Eggs for Athletes and Soldiers.
"Eggs are an important part of the training diet for our athletes and also for our fighters. I mention this to show that they have a peculiar food value of their own, and I can give an instance from our experience right here at the college. A few of the eggs that he could put into those boys in hand which they were exceedingly anxious to win. The trainer said if they won at all it must be on fitness. The poultry department here gave them all the eggs that he could put into those boys in their raw state. He fed them on eggs for either one or two weeks, I am not sure which. The final analysis is that the boys won the game and that they won it on fitness."

"Then you would not advise a reduction in poultry flocks, Prof. Graham?"
"No, I would say to producers of poultry that there is every reason why they should carry on and at least maintain production and in some cases increase production. It is true we may have to change our methods a little. We shall have to look after our supplies of wheat substitutes and not feed as much good wheat. The two most palatable grains for poultry are wheat and corn. In



The Rhode Island Reds Have an Envious Reputation as Winter Layers.

The illustration presents a view of the poultry plant on the farm of Mr. H. J. Glenning, Ontario Co. and some Rhode Island Red fowls. The fronts of his houses have a glass and a cotton screen, the latter ensuring good ventilation, a dry interior and freedom from draughts.

—Photo by an editor of Farm and Dairy.

Canada the standard is wheat, in the United States it is corn. I think we can feed 75 per cent. of the scratch feed of corn—if corn is given to us at a competitive price. Hens will lay well, too, on a mixture of corn, barley and oats. I believe that there are enough cars of mixed grain—oats, wheat and barley—to make this grain an important part of the scratch ration. Ground feeds are cheaper than whole feeds and when under normal consumption one-third of the ration is gro. I grain, I believe that under present conditions we might feed 50 per cent. to 60 per cent. of ground grain.

Oats Have Been Cheapest Feed.
"Oats have been the cheapest feed on the market. We have fed oats whole, rolled and sprouted to get them into the chickens and as long as they stay under \$60 a ton, I will stay with oats. Then if oats get too high we will feed rolled barley. I know that this will work as they were feeding it in California when I was there. It should always be remembered, however, that we cannot make a change in the ration without a drop in the egg production and any changes attempted should be made very gradually."

"And how about terminal elevator screenings?"
(Continued on page 22.)

Economy in Poultry Feeding for the Year 1918

Some Suggestions by Prof. M. A. Jull, of MacDonald College, Que.

THE proposed elimination of all grades of milling wheat from the poultry rations affects the scratch rations in particular. It is apparent that the proposed action on the part of the Food Controller is quite justified in view of the great need of wheat among the allied countries. For poultry keepers in this country the feeding problem has become a perplexing one, particularly inasmuch as we have relied to a great extent upon wheat as the basic part of all poultry rations. Canada is in quite a different situation relative to poultry rations than the United States where corn has long been the principal grain used. If we could be assured of a reasonable supply of corn at a reasonable price, our feeding problem would be greatly simplified. Up to the present, however, we are not sure of an adequate supply of corn. At the same time, economy in feeding the laying stock is essential and farmers and poultrymen are only too glad to do whatever is in the best interests of the great cause. One of the important features in war-time poultry feeding is the gradual elimination of non-producers. Farmers and poultrymen for the past two or three years have been selecting their fowls more rigidly and have been culling out the profitless birds. This is one good feature of our poultry industry.

Since it is desirable that we eliminate milling wheat from our poultry rations at least to the extent of 25 per cent. of the scratch ration, we must use suitable substitutes. Substitutes for milling wheat include:—Feed wheat, oats, barley, buck-

wheat and corn. Feed wheat is available but poultry producers must use judgment in the purchase of same as certain grades of feed wheat are apt to run low in feeding value. Good plump oats make an excellent poultry feed, whereas poor oats having a high percentage of hulls should be used very sparingly. Barley is also a good feed and can be used with moderation, particularly if it is boiled. Buckwheat could be used to a limited extent, but buckwheat and barley alone cannot be expected to produce eggs, contrary to the common practice among many farmers.

The Corn Question.
Corn is one of the best substitutes for milling wheat and it is to be hoped that every effort will be made on the part of the Government to move the needed supplies from the United States market. We have been assured by the Food Controller's interests in the United States that there is plenty of corn for us, providing the transportation problem can be so arranged as to effect its movement. On the other hand, we learn that much of the corn crop is still in the fields, unharvested, and that a great majority of the corn which has been harvested is running high in moisture content. It is to be feared from the information we have at hand that much of the corn crop will be wasted since samples of corn have run as high as 37 per cent. moisture. The transportation problem in Canada is very complicated and it would seem as though it would require considerable time before we can reasonably expect a reasonable supply of corn on the Canadian market.

The need for adequate supplies of eggs and poultry meat is so great that it is very urgent that farmers and poultrymen use every economy in feeding. It is better to keep no birds at all than to feed them poorly. Under a good method of feeding, however, good egg production can be obtained and the scratch ration feed which was held along with oats should constitute the principal part of the ration. Boiled barley and buckwheat may be added occasionally to

(Continued on page 22.)

Summer Colony Houses Arranged as Quarters for Winter Layers. Notice how the spans between the houses is sheltered by matched boarding at the north. A scene in the Poultry Department at MacDonald College.

Artificial Incubation and Brooding

Make Poultry a Worth While Side-line

J. R. D., Wellington Co., Ont.

OUR idea of a profitable dairy farm is one on which the cream and cream receipts are liberally supplemented by the income from good side-lines. Last year our dairy herd netted us over 45 per cent of our total income. We were fortunate in having good crops of both potatoes and wheat and we did our best on our hoes. When it comes to getting satisfaction out of a sideline, however, our poultry are our most valued asset. They represent a comparatively small investment and give the greatest returns on their investment of anything on the farm. We have now been in poultry on a worth while scale for three years and are becoming more enthusiastic all the time. As we have been asked more often about our methods of incubating and brooding than anything else, it may be a timely subject to write about in Farm and Dairy.

We follow artificial methods altogether in both incubating and brooding. Our great trouble has always been scarcity of labor and our poultry plant is designed to reduce labor requirements to a minimum.

We have found that there is infinitely less labor in rearing chickens with the incubator and brooder than with setting and brooding hens. To make the poultry sideline a worth while size, to us artificial methods seem necessary, although we have heard of farmers hatching out several hundred chickens by the natural method. Our idea when we really started into poultry was to carry a flock of 200 pullets and 100 year-old hens as brooders. This meant the rearing up of a flock of 200 new pullets each year. After enquiring around among our neighbors, we decided that we would have to set three to four eggs to be sure of one pullet in the fall. We found that the earlier hatched pullets were, the earlier they would start to lay in the fall. But the poultryman from whom we bought our first hatching eggs warned us that if the breed of our choice, the Leghorns, were out before the 10th or 15th of April, they would moult in the fall "sur, as fate" and not start to lay again until the new year. He also told us that chickens out later than the first week in May were not overly profitable. This meant that we would have to hatch out all of our chickens in two runs of the incubator with 600 to 800 eggs. Accordingly, we purchased a 300-egg incubator and one of the best and best-priced machines on the market was purchased.

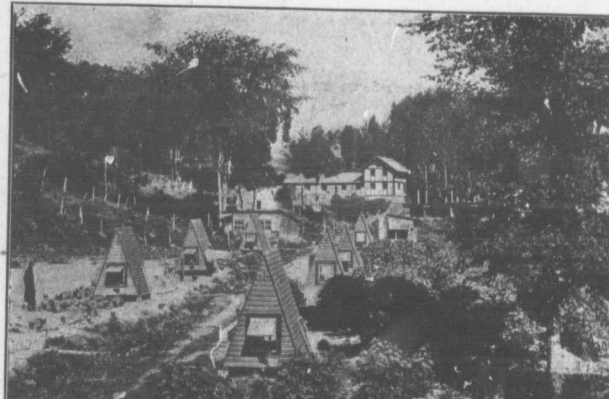
Three Years' Experience.

We have now been running our machine for three years. The first two years, as we did not have a breeding pen of our own, we purchased all of our hatching eggs. We got them from a reliable poultry man, paid him a premium for eggs from his best pens, and had hatches of over 80 per cent. We had had no previous experience in running an incubator and so were well pleased with our first results. Our success we attribute to following implicitly the directions of the manufacturer and also to buying a good machine. A poor machine, particularly for early hatches, is dear at any price.

Next to keeping an even temperature it is important that the eggs be turned. The first week we turn the eggs twice with the tip of the finger and the second and third trays right back in the machine. Then again on the 18th day we allow the eggs to remain out in the morning until they are cool in the 12th day. And perhaps I should mention that, more important even than the work of incubation, are good strong germs in the eggs themselves. We insist on eggs from breeding pens of year-old hens. If pullets are of the brood-lay birds, they will overcome themselves during the winter and the germs would lack in vigor in the spring.

We leave the chickens in the incubator for 26

hours after the hatch is complete, opening the door slightly for ventilation. If the chicks crowd to the front with their mouths open, it is an indication that they are not getting enough air. If they crowd to the back of the machine, they are getting too much. At the end of 36 hours they are removed to the brooder house. Our two brooder houses are really nothing more than 8 x 3 colony houses with glass and muslin fronts and a small brooder stove in the centre. These coal burning brooders are a splendid invention for folks who, like ourselves, are busy with other farm work. One coal burning brooder will hover 300 to 500 chickens, and it is a lot less labor to look after one large flock than a half a dozen small ones. The investment in an expensive brooder house, too, is avoided. We have two of these stoves, one for each hatch. We regulate the temperature in the house by watching the chickens. If they crowd up under the hover, it means that more heat is needed. If they keep too far back from the hover, it is a sure indication that they are uncomfortably warm. When settled for the night, we like to see them grouped around just under the edge of the hover. They want artificial heat for six or seven weeks at which time the cockerels are separated from the pullets and placed in small enclosures to be finished for broilers. The stoves



The Colony House System of Rearing Chicks is now in General Favor.

This illustration, showing a part of the chicken ranges at the Oka Agricultural Institute, La Trappe, Que., is representative of the free range system of chicken rearing now in general practice on large poultry farms. Chickens grow best and are less subject to disease when given the range of new ground each season. Small houses such as the ones seen in the illustration can be drawn to any part of the farm. Each one accommodates 10 to 100 growing pullets. Farmers with 150 to 200 laying hens can afford to own a couple of these houses and rear their chicks in the corn field.

are removed from the colony houses and the pullets are reared in the same houses. At first we had some trouble with our stoves through attempting to use nut coal. Since changing to pea coal our troubles in that direction have ended.

These Chicks Are Healthy.

There is a very general belief that artificially hatched and brooded chickens are more subject to disease than those hatched under a hen. In our first year we had heavy losses ourselves, but now we know how to avoid them. It is a case of thorough disinfection and proper feeding. Before placing the eggs in the incubator, we thoroughly scrub every square inch of the interior with a solution of zeno-leum. This scrubbing is given before every run of the incubator. Before the chickens are moved into a brooder house, the floors are moved into thoroughly and then scrubbed out with a solution of zeno-leum. The walls are sprayed with zeno-leum. And even the base of the brooder stove gets a bath. The chaff on the floor must be of the cleanest and we prefer bald shavings for the small chicks. Any dust or duff may be a cause of disease.

Only those who "have gone through the mill" know how easy it is to overfeed young chicks. During the first three weeks, our chicks are fed five times a day and for the first week they get only one ounce at a feeding of 60 chicks. In order to make no mistake, we weigh every particle of feed that the chickens get during their first three weeks. The ration which we feed was one suggested to us by Prof. W. R. Graham, and we suppose he would be just as glad to tell other folks about it as he was to tell us.

All through this article I have said "we" and "our" rather than "I" and "my." This was done

advisedly. While Mr. J. R. D. does all of the heavy work, Mrs. J. R. D. plays a more important part when it comes to turning the eggs and looking after the five-days feeding. Even then, however, it is Mrs. J. R. D. who does a small part of the day's work for either of us.

In conclusion let me say that from our experience of three years, we are prepared to heartily recommend the incubator of standard make and the coal-burning brooder to anyone who contemplates going into poultry on a worth-while scale.

The Cooperative Egg Circle

Ontario and Prince Edward Island Experience

THE Lynden Valley Farmers' Club in Victoria Co., Ont., differs from other clubs in that fully one-half of its executive are women. During its first year it had the distinction of being the only club in the province with a woman for its secretary and manager. The reason for the large part far to seek. The women were the first cooperators in the community. For the three years previous to the formation of the club, they had been running a successful egg circle and they brought to the club the advantage of their cooperative experience. When visiting this club recently an editor of Farm and Dairy and Mrs. Frank Webster, one of its leading spirits, for information about the Cambridge egg circle.

"Our egg circle does a wider business than its name would indicate," said Mrs. Webster. "We sell not only eggs, but dressed poultry and dairy butter. Our best customer is a branch of the Housewives' League in Toronto. We have private customers as well, but the balance goes to a huckster in Toronto, who sells direct to the consumers. The general storekeeper at Cambridge is our manager and does the shipping. We pay him a commission of one cent a pound on dressed poultry and butter, and one cent a dozen on eggs. The exception is in the case of heavy fowl where the commission is one-half cent a pound. All orders and cash payments come to the secretary, she turning the orders over to the manager."

"How do you get in touch with the Housewives' League?" we asked Mrs. Webster.

"I saw the name of the secretary in a Toronto paper," was the reply. "I wrote to her in June but did not receive a reply until September as the secretary had been away during the holiday season. She then wrote asking for a trial shipment of two chickens, six pounds of butter and a case of eggs. We sent them. The next week she wanted 12 chickens and 20 lbs. of butter, and the next week she increased her order by five pounds of butter. From then on the business steadily increased and there has never been a week since, except on holidays, when we have not received an order."

When City and Country Meet.

"It took a great deal of explaining to get that secretary to understand farm conditions," remarked Mrs. Webster, smiling as she recollected the lengthy letters that had been exchanged. "Finally, we met by appointment during a meeting of the Women's Institute in Toronto and invited her to come and visit us in the following summer. She came and stayed for a week. Altogether we visited 20 homes, she cleaned eggs and stamped the learned end of the business and there has been no trouble since."

"The disposal of the surplus was at first a difficult problem. At first we shipped to a commission firm in Lindsay. They insisted on cutting us for quality. All our eggs were standard and we asked for the numbers of the culled eggs in order to see for the proper members should bear the loss. When they had to supply numbers they stopped complaining of quality. Then they culled our eggs for size. Our manager threatened to send a representative to see whether or not the complaints had been honest ones and from then on we heard no

(Continued on page 12.)

Why Europe Makes Bigger Crops Than the United States

Average Production of European Crops is as Follows:

Wheat 33 bushels per acre
Oats 45 " "
Potatoes 139.84 " "
Cotton in Egypt, 400 pounds "

Europe uses a Home-Mixed Nitrate Fertilizer containing 8 per cent of Phosphoric Acid and 4 1/2 per cent of Nitrate Nitrogen.

The difference in yields is largely due to larger amount of Nitrate Nitrogen used in Europe per acre as Nitrate of Soda. Our small American acre yields are due to failure to appreciate this necessity.

Write for "What Nitrate Has Done in the Farmer's Own Hands"

Dr. W. M. S. MYERS, Chairman, 25 Madison Ave., New York

Average Production of American Crops is as Follows:

Wheat 14 bushels per acre
Potatoes 97.15 " "
Cotton 185 pounds "

America uses a Fertilizer containing 8 per cent of Phosphoric Acid and 2 per cent of Nitrogen which is mostly unavailable.

FEEDERS CORNER

Feed for Hogs

HAVE a chance to buy a sow and 12 small pigs. Her smooth middlings will they eat per hundred pounds of grain? How much grain, oats and barley, will be required in the finishing? How much grain does it take to maintain a brood sow per month? I would be able to lecture on the possible gain by buying that sow and pigs.—"Esquire," Walsall Co., Ont.

For weaning pigs three weeks old a little middlings alone, with skim milk, is excellent, increasing the meal gradually. When two to three months old introduce barley oats or cornmeal—two parts middlings and one part barley. Beyond three parts, shorts three parts, linseed oil meal one part, is another good growing ration.

A pig will consume in the first six months approximately 350 to 500 pounds of meal, 300 pounds of milk by-product with pasture and roughage. From four to six pounds meal daily might be required from then until the hogs are finished.

An adult pregnant sow from service to farrowing consumes about 400 to 500 pounds of meal (bran and shorts), 700 to 800 pounds roots, and 60 to 75 pounds clover or alfalfa hay. From farrowing to weaning 350 pounds meal (shorts, oats, middlings), 200 pounds skim milk. Good pasture or refuse material would alter these figures.—G. B. R.

Feeding a Holstein Heifer

HAVE a two-year-old heifer, registered, weighing 1,200 lbs. She is on a day's ration feeding in one day 12 lbs. of bran, one-third part barley, 2 1/2 lbs. of shorts, one-third part hay, 20 lbs. of about 100 pounds of oats and 30 lbs. of hay. All the timothy hay she will eat, and I have no clover this year nor balanced ration of a probable ration? Will open the silo this week to start feeding.—W. M. Smith Co., Ont.

The ration outlined is a fairly well-balanced one, but could hardly be considered a profitable one, as the high-priced grains are out of proportion to the good succulent home-grown roughage. Unfortunately, clover hay is not obtainable, but corn ensilage should certainly be used at the rate of from 35 to 55 pounds per day. This should enable you to decrease the grain fed without decreasing the milk flow. The grain mixture could be improved by using some cottonseed meal, gluten feed or brewers grains in place of part of the oats and barley. One pound of grain mixture for every three pounds of milk produced is considered sufficient for economical feeding with a roughage ration such as above outlined.—G. W. M.

Feed For Jersey Heifers

WE have a bunch of 20 Jersey heifers running loose in the basement of our hay barn. They are feeding their mixed hay and corn silage. They vary from 12 to 18 months old. We have some oat and barley chops and would buy other grains if you thought that would you suggest a ration and would you suggest some way of feeding the grain so that the older ones won't get the most of it? We prefer to feed in one bunch as it saves labor.—"Waterloo."

If the heifers are in good condition they should not require very much grain feeding when receiving such a good roughage ration. However, as most cattle were stabled in poor condition this winter, feeding grain is probably advisable. A mixture of two parts oats and barley chop and one part bran with the addition of a little oilcake meal, if obtainable, fed at the rate of two to three pounds daily, would give good results as anything. The only method the writer could suggest to assure each animal getting a fair share of the

meal when fed under conditions mentioned, would be to feed the grain on the ensilage and mix the two together thoroughly with a fork.—G. W. M.

Should Heifer be Retained?

HAVE a heifer calf from a cow milking 60 lbs. of milk a day. The calf is nearly marketable. Has she value the risk are that might you could not get a load again between them. Would you advise to keep her?—W. W. Smith Co., Ont.

It is rather hard to advise in this case without seeing the heifer. The quality of the sire and dam should be a fairly good guarantee as to the value of the heifer, and it is just possible that the condition you mention in the animal is due to unwhiftness for the time being. Would advise fairly early of a little oilcake meal into the ration to see what effect this will have on the animal before discarding her.—G. W. M.

New Plan for Cow Testing

THE time has come when a change of plan for the cow-testing work seems to be imperative. The Dairy Record Committee have served their purpose, but a more comprehensive scheme, whereby the whole country will be covered instead of limited areas, now seems to be necessary. This is all the more important in view of the desirability of increasing production as much as possible, and there is no simpler or easier way of increasing dairy production than to improve the yield of the dairy herds.

The Dairy Record Centres will cease to exist and the position of Dairy Recorder will be abolished after May 1, 1918. In place of such organization the Department will enlist the services of cheesemakers, butter-makers and other qualified persons to send samples of milk, pay-6c a client to make it worth while for anyone to give some attention to it.

By transferring the work of the Dairy Recorder to a larger number of persons who are already employed, some 30 men will be released for other work.

The average yield of milk per cow has increased fully 50 per cent. In recent years, but there is still room for improvement.

By this new plan we hope to reach a large number of milk producers who have not so far been keeping records, and thus give a further impetus to herd improvement.—J. A. Ruddle, Dominion Dairy Commissioner.

What Mr. Ruddle Said

EDITOR, Farm and Dairy: In your report of my address at the convention of the Dairywomen's Association of Western Ontario in Stratford last week, you say, "Mr. Ruddle stated emphatically that no number of delegations would influence the price one iota." Please permit me to say that I never made any such statement. What you probably refer to is the remark I made to the effect that no delegation could impress the Cheese Commission more fully than that they were now impressed with the desirability of securing as high a price as possible.

I heard it stated that members of the Cheese Commission had expressed themselves to the effect that no higher price could be hoped for. The Cheese Commission take no such position, either collectively or individually.

I trust that you will give this statement space in your next issue.—J. A. Ruddle, Dairy Commissioner.

"Excuse me," said the waiter, "but this quarter you gave me for a tip is poorer."

"Well, the butter you brought me was oleomargarine."—Life.



PEERLESS PERFECTION

No matter how fast it comes, the most unruly animal can't break through a Peerless Perfection Farm Fence—it springs back into shape.

Made of heavy Open Hearth steel galvanized wire with all the impurities taken out and all the strength and toughness left in. Every wire is crimped making the fence into one continuous spring. Top and bottom wires are extra heavy. Will not sag. Requires less posts than ordinary fence. Absolutely guaranteed.

Don't buy a rod of fencing until you get our illustrated Catalog. Describes our big line of farm, poultry and ornamental fencing. Also Peerless farm gates.

Attention almost everywhere. Agents wanted in all unassisted territory.

The Banwell-Hoxie Wire Fence Company, Ltd., Winnipeg, Man. Hamilton, Ont.

THE WONDERFUL GILSON

SIMPLY CAN'T BE CLOGGED. The simple, scientific, carefully worked-out construction of the Light Running Gilson Silo Filler makes it absolutely impossible to clog the throat of the blower. The Gilson is the lightest running blower cutter made. It has broken all records for high elevation and rapid work with light power. A 4 h.p. operates the small size speedily. Made in three sizes to suit any power. The Gilson is rightly called the

KING OF SILO FILLERS

because of its remarkable elevating powers, absolute safety, durability, strength and simplicity—it stands up. It has convenient and quick knife adjustment; solid steel-bound rollers which prevent safety reverse—and is guaranteed to cut and elevate HOME ensilage with the GILSON power the ANY other ensilage cutter IN THE WORLD. Write today for catalogue and proof. Manufactured and guaranteed by—

GILSON MANUFACTURING CO. LTD. 507 York St., GUELPH, Ont.



MORE WORK FROM YOUR HORSES

The use of collar pads is humane. Again, your horses will do more work if properly protected by the right kind of pad. TAPATCO is the right kind.


A NEW AND BETTER HOOK ATTACHMENT

Consisting of wire staple, reinforced with felt washer (note where arrow points). This gives the hooks a better hold and prevents pulling off. The weakest point is made strong and life of pad greatly lengthened.

Look For The Felt Washer.

SOLD BY DEALERS EVERYWHERE

The American Pad & Textile Company
Chatham, Ontario, Canada



REGISTERED TRADE MARK
HORSER-COLLAR PADS
TAPATCO
BRAND
MADE IN CANADA

Pat. No. 1,346,114
Pat. in Can. Apr. 6, 1913.

New Flour Regulations

"The food situation in Great Britain, France and Italy is exceedingly grave," declares the Canadian Food Controller. In all the European neutral countries it is desperate. In the presence of this serious condition of affairs, the Controller is exerting every effort to improve the situation and to regulate manufacture so that home consumption will be under more effective control.

The Food Controller has adopted regulations providing for changes in the manufacture of flour. Heretofore, the wheat of each class has been milled into several grades of flour for the purpose of filling different requirements of the public. That is, the modern system of milling has enabled the manufacturer to divide into four grades or classes the stream of flour milled from any given quantity of wheat, and the different grades have been sold at home, or exported, according to the demands of the market to be served.

The new regulations require that from each class of wheat shall be milled only one grade of flour. The different streams of flour will now have to be turned into one, and the manufacture of high-class patent flours will, therefore, cease.

The Campbell Flour Mills Company, Limited, desires to announce that, in compliance with the regulations, it will mill from each kind of wheat one grade of flour only under the following names:

Cream of the West Flour (War Quality)

Western Hard Wheat Flour For Bread

Monarch Flour (War Quality)

Ontario Soft Wheat Flour For Pastry

Queen City Flour (War Quality)

A Blend of Hard and Soft Wheat Flours For All Purposes

The effect of the regulations is to provide for a minimum percentage of 74% instead of the present maximum of 74% of the wheat to be retained in the flour. In other words, the policy of milling one stream of flour only, from a given quantity of wheat, will restore conditions that existed half a century ago, or less, when only one grade of flour could be produced from the wheat.

The bread or other baked products made from the flour will still be palatable and nourishing, and will be fully adequate to sustain the people, and we trust the necessity for the change will be recognized as arising from the time of stress through which the world is passing. The new flour must still be distinguished from what is commonly known as whole wheat flour.

It must not be inferred that the war flour is of an inferior or unusable character. On the contrary it is, as you will find, a good, clear, white flour suitable for all practical purposes and as such we guarantee it. The Food Controller of Canada realizing the serious shortage of food-

stuffs not only in Canada and the United States, but all over the World, has ordered the war grade flour. It is for us, as millers, to give you the best we can under the Food Controller's regulations. It is for you, as consumers, to adapt yourselves to the new conditions and make the best of a situation that might conceivably be much worse than it is. Bear in mind that every bag or barrel which bears the name of this Company and a reproduction of "Ye Olde Miller" means the utmost in value that we are permitted to give for the money you pay.



Under the new regulations The Campbell Flour Mills Company, Limited, will continue to maintain a high standard of uniformly excellent quality, and will furnish the public with the best class of flour that the regulations will permit. Samples of all shipments of wheat used in Campbell's Flour are first tested by experts in our own Chemical Laboratory. Knowing exactly what is in the wheat, we are able to maintain the excellence of the flour.

Do Not Hoard Flour

In hearty co-operation with the Food Controller in his efforts to aid the Allies to the utmost of which Canada's resources are capable, The Campbell Flour Mills Company, Limited, desires to join in an appeal to the public to refrain from hoarding flour. There is no necessity for hoarding. Such abnormal withdrawals from the available supply will only serve to increase the difficulties of the Allies, and hinder the patriotic efforts of the Controller, without benefiting anyone. Do not hoard flour.

Cannot Give Books Hereafter

The new regulations come into effect on Jan. 8th. After that date all flour must be milled according to the Food Controller's rules. The Food Controller has also decided that no premiums of any kind can be given with food products. This means that the Campbell Flour Mills Co., Limited, cannot place any more library cards in the flour bags. Many of our patrons have been saving library cards

and exchanging them for books to which they were entitled.

The Food Controller's regulations mean that this must end. Customers may continue to save the cards as long as they find them in the bags or barrels and we will keep faith with the public, supplying the books as long as the cards keep coming in. But no more cards will be placed in the bags.

The Campbell Flour Mills Co., Limited, West Toronto, Ontario



A FORTUNE IN POULTRY

Increase your egg yield by purchasing a Choice Cock or Cockerel of our high record...

ELMGROVE FARM - Bronze Turkeys, Embden Geese, and a few good Roman Ducks for sale.

A. C. W. LEGHORNS - Until 15th Feb., I will sell my Ton Barron Egg bred W. Leghorns 750 eggs...

Poultry Leg Bands, Ear Tags and Buttons FOR STOCK - Challenge adjustable Leg Bands 15c per doz.

30 CENTS FOR CHICKENS - 25 CENTS for Old Hens - Above prices paid by W. A. L. L. 'S

FEED YOUR FOWL - STEVENS' GREEN GROUND BONE - Geo. Stevens, 361 Mark St., Petersburg, Ont.

THREE CENTS A WORD, CASH WITH ORDER

CHEESE FACTORY FOR SALE, at Oxford Mills, capacity 370,000 lbs. Apply J. W. Pratwell, Oxford Mills, Ont.

If you are in need of a CREAM SEPARATOR Let us ship you a "Sanitary King" Six sizes - 125-200-350-375-600 and 800 lbs. capacities.



Pointers From Graham

WE may have an egg famine on this continent. It is only fat hens that start to lay. Thin ones never start.

Hens that continue to put on an excessive amount of fat are usually poor layers.

We have been feeding sprouted oats for green feed. Each bushel of sprouted oats eaten from the hoppers by one bushel.

In 1918, we must breed, feed and weed—but don't feed any wheat.

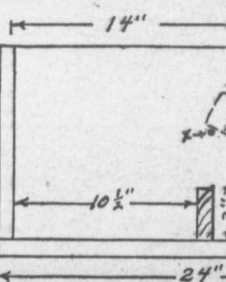
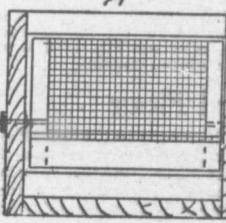
A Home-Made Trap Nest

THE complicated, factory-made trap nests of earlier days have given place to simple home-made contrivances.

"The accompanying sketches show a simple trap nest which was designed by the Missouri Experiment Station. It is easy to make and positive in its operation.

As the hen enters the rear of the nest she will push the door over its centre of balance, causing it to close, as shown by the solid line in Figure C.

The door is then securely closed so



that the hen cannot get out until released by the attendant, and others cannot enter the door. The dotted lines in the same figures show the position of the door when open.

Layers in Colony Houses

I AM having my best success in winter egg production this winter in colony houses in 6 x 8 colony houses." Mr. W. S. Shearer, of Bright, Ont., told an editor of Farm and Dairy during the recent W.O.D.A. convention at Stratford.

Old readers of Farm and Dairy will remember that Mr. Shearer was a competitor in our Good Farms Competition some years ago, and that he was one of the few competitors who made quite a specialty of poultry. He is known to a still wider circle of farmers as an enthusiastic institute lecturer on the same subject.

When the Wings Droop

EACH spring there are more or less complaints that the wing feathers of chicks of the Mediterranean class grow so fast that the wings droop and the chick loses vitality.

Don't expect a lazy, shiftless, unnaturally-fed hen to produce strong, vigorous chicks.

Poultry Pointers

To fatten broilers is by no means an easy task, as the tendency at their age is towards growth rather than flesh, and any attempt to hasten is apt to result in disease of some kind.

Either scalding or the dip-picking method can be used for fowls intended for market, but for broilers only the dip-picking method is advisable.

them might injure the socket where the feather grows. Howell says he makes it a practice to clip off the ends of the flight feathers on all chicks when they are ten days old.

Compare a drooping chick with one that carries the wings folded close to the body. That is it your brand. Notice the difference in weight, feel how sharp and bony is the breast of one, and how plump the other.

Notice the difference in weight, feel how sharp and bony is the breast of one, and how plump the other. Look at the legs—it will be both of the one to equal in size the strong, thick shank of the other.

Poultry Breeding "Don'ts"

DON'T breed from all the hens you have, unless you have all Select the best you give for breeders.

Don't breed from any male or female that has ever been seriously sick.

Don't breed from immature pullets or pullets that have been laying only a few months.

Don't breed from hens or pullets that have been forced for egg production in winter.

Don't breed from pullets at all if you can use hens instead.

Don't use a general-purpose cockerel that is immature or less than about ten months old, or a Mediterranean-class male less than nine months old.

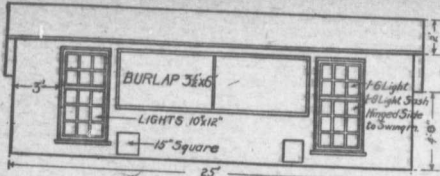
Don't force the hens before or during breeding season.

Don't neglect to feed green food and sprouted oats.

Don't forget that the male is more than half the flock.

From a grower's standpoint, the most important thing in our concern is the welfare of the farm system. We are interested only in lives. All from home, although the mother's care.

Neither scalding or the dip-picking method can be used for fowls intended for market, but for broilers only the dip-picking method is advisable. A chick only a few weeks old is a very tender bird, but if scalded it will be found impossible to pick it without occasionally rubbing a little of the skin off.



Front Elevation of a House, 16 x 25 feet, to Accommodate 100 Fens.

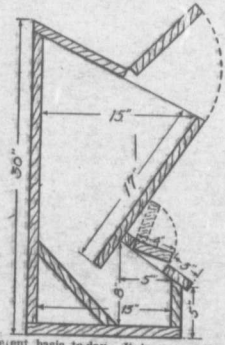
Feeding With Hoppers

Robt. McKenzie, Glenary Co., Ont.
 We have had poultry on this farm ever since I can remember. One of my earliest recollections is mother's poultry pot simmering away on the back of the stove. Into it went all the small potatoes, potato peelings and other vegetable scraps. Twice a day the contents of the pot were mixed with varying amounts of chop, the quantity of the latter depending on the particular time of the poultry business. Grain, mostly oats, was fed in the litter once a day. The system of feeding represented a great deal of labor, but it was mother's labor, so the men folk didn't worry about it.
 Our poultry business is run on a dif-

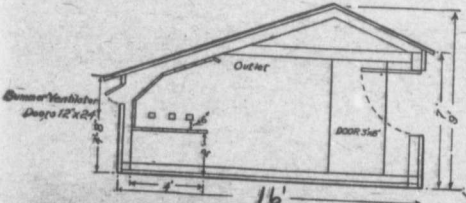
ferent method. The 17-inch board at the front of the hopper should be made 18 inches long and the length of the corner board at the back of the hopper correspondingly reduced. As the hopper is at present, the bottom of the 17-inch board is about on the same level as the lower edge of the feeding opening, and we have found that with this arrangement much feed is wasted.
 For our winter layers we have two hoppers. In one we have a mixture of cornmeal, feeding flour, wheat middlings and bran. In another we have rolled or crushed oats. The hens can take whichever they like, and so far they have always eaten about five times as much oats as of the other mixtures. This is a very desirable way to feed oats, as the pullets eat only the meat of the oat and can reject the hull. Last summer we practically reared our chickens on rolled oats, and they never grew better when we were feeding them on a more varied mixture or wet mash. Charcoal, oyster shell and grit are all fed in small hoppers made for the purpose. We had to keep down labor, and the hopper system of feeding has done it.

An Incubator

Harry McPhee, Dufferin Co., Ont.
IF I were asked to define the greatest source of weakness in the poultry business in this locality, where there are no commercial flocks and all the eggs and dressed poultry come from the farms, I would say that it is the old hens and late hatched pullets. It has been our experience that laying fowl are most profitable in their first year or pullet year, that they are only moderately profitable in their second year, and a decided loss from then on. Late hatched pullets are open to the same objections as old hens. They do not begin to lay until well on in the winter, and they produce the greater portion of their eggs when eggs are low in price. The real money makers are the pullets hatched out in the month of April or the first week in May. These pullets will begin to lay in October and November, and produce 50 per cent of their eggs during the period of high prices.
 It is in the production of these pullets that we find the incubator a necessity. For years we "fooded around" with broody hens, but found that to have any success with this method of incubation we would have to be content with May chickens almost altogether. They were a nuisance at any time. Then we purchased a little 140-egg incubator. It was always ready to go to work, and we began to get



feet basis to-day. It is one of the important side lines on the farm. It brings in approximately 25 per cent of our income, and the women folk don't do the work. As a result of the transference of the labor on to the men of the farm, we have changed our whole system of feeding. Wet mashes are fed only to the first six weeks of their lives. All of the other poultry are fed from hoppers, getting dry mashes altogether, and we get more eggs than mother ever thought about.
 The diagram herewith, taken from a government bulletin, shows a hopper similar to the one that we use for feeding dry mashes. From our experience there is one improvement



Cross section of House, 16 x 25 feet, to Accommodate 100 Hens. Notice particularly the provision for summer ventilation. These traps will be closed close in winter, but in summer they permit of free circulation of air through the house but yet with no direct draft on the roosts.

Bred-To-Lay Single Comb White Leghorns

400 Single Comb White Leghorn Pullets, \$7.50 each; ten or more \$2.25 each. These birds are May hatch, have been laying some time, and will make good brooders.
 40 E. C. White Leghorn Cockerels from O. A. C. Bred-to-Lay Stock.
 Four 800-egg Buckeye incubators, at a bargain. These machines are as good as new, with the advantage of having been tested one season. Price \$65 each—freight paid.
 Four Standard Colony Brooders at bargain prices.

ROSEHEATH POULTRY FARM, F. E. Oliver Prop. RICHMOND HILL, ONT.

Sleep on an advertising proposition if you want to, but don't fail to wake up before Farm and Dairy goes to press.

130-Egg Incubator and Brooder for \$15.75

If ordered together we send both machines for only \$15.75 and we pay all freight and duty charges to any R. R. station in Canada. We have branch warehouses in Winnipeg, Man. and Toronto, Ont. Orders shipped from nearest warehouse to your R. R. station. Hot water, double walls, dead-air space between, double glass doors, copper tanks and boilers, anti-regulating. Nursery under year experience. Superior, simple, egg detector—removes chills. Freshly hatched broiler and fryer. Instantaneous finished in natural colors when you get them. You can purchase with others, we will be pleased to cover the high grade California variety in laying to before you buy. Remember other egg incubators and brooders are never freight and duty free. Send for FREE catalog now. Write on today. No money back. **WISCONSIN INCUBATOR CO., Box 232, Racine, Wis., U. S. A.**

He turns pretty slow—but he gets all the cream!

—owing to the wonderful Suction-feed, which insures just as clean a skim when you turn the Sharples Separator slow, as when you turn it fast! The boy might turn the crank only 35 to 40 turns per minute, but he would get just as clean a skim as if his dad were speeding the crank around at 50 turns per minute.



SHARPLES SUCTION-FEED CREAM SEPARATOR

- the only separator that will skim clean at widely-varying speeds
- the only separator that gives cream of unchanging thickness—all speeds
- the only separator that will skim your milk quicker when you turn faster
- the only separator with just one piece in bowl—no discs, easiest to clean
- the only separator with knee-low supply tank and once-a-month oiling

The hired man, especially at the end of a hard day's work, will but seldom turn a separator up to regulation speed. And you, yourself, are often "dead-tired" and slacken down unconsciously. All fixed-feed separators when turned below speed lose cream—from 7 to 13 lbs. per cow per year. This loss totals 80 million lbs. of butter yearly in the North America alone—Sharples can save it all!
 Discard your old fixed-feed separator. Get a new Sharples Suction-feed—the only separator that feeds the milk into the bowl in direct proportion to the separating force, thus getting cream now wasted by all other separators. Write for catalog today, addressing Dept. 77, and see your dealer as well.

Toronto, Ont. The Sharples Separator Co. Regina, Sask. The Mitchell & McCaughey Hardware Co., Brandon, Man.

chickens when we wanted them. The small machine did not last long, however. We got a 400-egg size, and now plan to hatch all of our chickens at once, bringing them out from the 15th of April, and having them laying in October. The extra eggs secured the first year, we have found, will pay the full price of the incubator.

In our very first run with our big machine, we took off 65 per cent. of strong, healthy chickens. The next year we had 81 per cent. and we have never had a real failure, although 81 per cent. is the best we have done yet. We consider the incubator as the key to profitable poultry keeping. It means early pullets.

The Farm Garden, etc.

(Continued from page 5.)

ing from his own rows. Raspberries should be cultivated thoroughly every spring in early summer. Moderate quantities of barnyard manure will increase the yield. There is a danger if too much manure is used that the plants will go too largely to canes.

Usually the fruit bearing canes of the raspberry are cut out after the fruiting season is past, and the young canes for the following season's crop are pinched back when breast high. This pinching has the beneficial effect of increasing the sturdiness of the canes, and at the same time induces a growth of lateral shoots that add materially to the crop next year. Where neither of the foregoing operations have been done, it should be attended to some fine day in March. First cut out all old dead stocks or canes, then cut back fruiting canes to be breast high. If the frost is out sufficiently to permit of it dig out all canes in the way of cultivating. These can be used in enlarging the patch.

Black-cap raspberry canes and blackberry canes will require cutting back. The leaders should be cut back to four feet and the branches or laterals to within a foot or two of the main stock. Varieties that are tall growing, like the Columbian, should be trimmed to firm, live wood and tied to proper uprights to support them.

Cooperative Egg Circles

(Continued from page 7.)

more about small eggs. It is our desire, however, to get away from the commission men altogether, as they wanted five to ten cents a dozen on eggs, while we were paying our manager only one cent a dozen. We have now succeeded in this and the commission men get none of our eggs.

"At first we had a lot of trouble to get some of our members to take a few enough price to create any demand," answered Mrs. Webster in reply to a question. "When they stamped and cleaned their eggs, the members thought they should get at least five cents a dozen more all of the time. Our idea was to create a demand so we could raise the price. We have now created that demand. Our customers tell us that they can never get as good eggs as they get from us."

P. E. Island Circles.

Mr. J. C. Stuart, of the Dominion Department of Agriculture, was instrumental in the formation of the Cambridge Egg Circle. This district also keeps a friendly eye on several other egg circles in Ontario, in the formation of which he took an active part. These circles are practically all successful, but thus far Ontario circles have been working as units only. Perhaps the best Canadian demonstration of co-operative egg marketing on a big scale is found in Prince Edward Island, where the world's first was developed under the auspices of the Live Stock Branch of the Dominion Department of Agriculture. Over half a hundred local egg circles have been organized, and the eggs from all these are marketed through one central agency. To-day

Island eggs are the best obtainable in car lot quantities on the Canadian markets. This condition is reflected in the price. Interest in poultry keeping has been greatly stimulated, and profits from farm flocks have almost doubled. During 1916 the 3,000 members of the various circles sold nearly 1,000,000 dozen eggs, and 25 tons of poultry, a gross turn over of \$250,000. The president of this association is a Catholic priest, Rev. Father Arsenault, a man who has taken a leading part in cooperative agricultural organization in Prince Edward Island for many years.

A similar movement is now in progress in Alberta. Local egg circles are found in almost every province of Canada. A good start has been made toward cooperative selling on a big scale.

HORTICULTURE

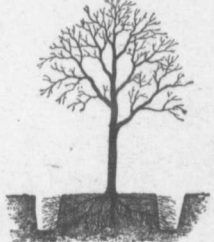
Varieties of Rhubarb

WILL you kindly send information about the best varieties of rhubarb for clay soil, method of cultivation, etc. T-35, J.

The two common varieties in use at the present time are Victoria and Linnæus, although these are being replaced to some extent by Sutton's Seedless. However, it is almost impossible to get plants of this variety, as very few of the seedsmen list it. Rhubarb is best transplanted in the spring. The old roots are dug up, split into sections, in most cases one bud to a section. These are planted in trenches, putting the buds one inch under the soil, and are then allowed to grow for two years before any of the crop is pulled.

When Transplanting a Tree

SOME time before transplanting a tree it is a good plan to dig a trench at a little distance from the trunk. This will cut off the long



roots, and with the shorter, more numerous roots which will result, the tree will stand a better chance when transplanted.

Small Fruit Queries

WE have recently purchased a farm and I would like some information regarding small fruits. There are raspberries, currants and gooseberries on the place and they have not received proper care. It is the proper time to give attention to gooseberries and currants? The red raspberries came on fine last spring and the bushes were loaded with green berries and the foliage was good. Later a blight seemed to affect them as the leaves turned dark and died and there was very little fruit. When is the proper time to trim raspberries and take out the dead stalks? I also want to know some strawberries and would like to know something about growing and care of this fruit.—Mrs. J. H. B., Oxford Co., Ont.

First, to deal with the currants and gooseberries, which are much the same in their habits of growth, there is nothing more important in bringing old bushes into shape than pruning. The fruiting buds of red currants and black currants differs slight-

ly, so that the pruning of one is not quite the same as the other. Red currants bear their fruit on spurs from wood two or more years old, so that young wood should always be kept coming along. It is a safe plan to cut out all the wood over three years old in red currant bushes. In pruning any bush, open it up pretty well to the light and air. With black currants the fruit is produced on one-year-old wood. Pruning is therefore rather severe. All old growth must be kept cut out. The best time for pruning is in the late winter or just before growth starts in the spring.

With gooseberries the fruit is borne on year-old wood and on spurs from older wood. All wood more than three years old should be cut out. The best time to prune is in the autumn or winter. With any of these bush fruits the young shoots should be headed back to keep the bush from becoming too straggly.

To bring the plants into good bearing the ground should be plowed in the spring if this was not done last fall. Plowing must, however, be shallow, as these plants feed near the surface. Cultivate thoroughly, as early as possible in the spring, and keep this up until about the time of harvesting the crop. Give both currants and gooseberries liberal applications of barnyard manure.

The blight you mention on your raspberry bushes was probably (from the description given) Anthracnose, which causes the drying up of the leaves and the withering of the tips of the canes. Control measures have not been effective for this disease. It can, however, be prevented from spreading by cutting out and burning any affected canes. Better rake up the dead leaves in the spring and burn, or you will probably have a re-infection of this disease. The best time to cut out the stocks that are not wanted is in the late winter while the buds are still dormant. This work should be done sufficiently early to remove all insect pests that have wintered in the old canes, and these begin to move with the first growing weather. The old canes should be burned.

In regard to your enquiry for information on growing strawberries, we would refer you to Bulletin 210 of the Fruit Branch, Ontario Department of Agriculture, Toronto. This takes up the subject more fully than we could in the space at our disposal.

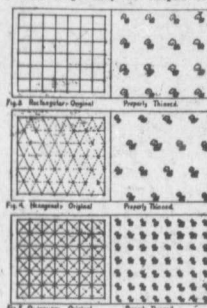
Pruning Cherry Trees

I WOULD be glad to receive information regarding pruning cherry trees. I have two cherry trees about ten or twelve years old, which were practically barren of fruit last season except on the lower branches. The trees are being removed. I removed the interfering and interfering branches, leaving the centre of the trees and opening the top by reducing the height, working on the assumption that access of air and light was necessary before the tree could be expected to bear fruit. Would you kindly inform me whether the trees would benefit or suffer as a result of my action, and should I happen to have any reduction what symptoms should I be prepared to find. The soundings of course have been pointed over.—W. H. Kenety, Ont.

You do not state whether the cherry trees are sweet or sour. Sweet cherry trees seldom need much pruning, as they grow naturally quite open to sunlight, although with age they tend to get tall, sometimes necessitating the removal of the central leader. Sour cherries seldom require heading back of branches, but do often require thinning out of small branches. I do not consider the removal of these small ones which are thicker than other is in any way detrimental, although it should not be carried too far. Your trees should not suffer permanently from the treatment they have received, as they have thrown out numerous crowded shoots, which result usually follows too much pruning, all that can be done is to thin out somewhat and allow the balance to remain without treatment.

Systems of Planting

IN setting out plantations of apple trees it is usual to plant some quick-bearing apple or plum trees between the permanent trees, so that crops may be reaped from



this source before the slower growing trees have come to bearing. After the permanent trees begin bearing, and before they begin to be crowded, the "fillers" should be removed. The plans given here show where the fillers should be placed.

When Planting Evergreens

EVERGREENS cannot stand the rough usage that hardwood trees can. This is partly because they do not possess and cannot sprout lateral buds which will produce new roots as willows do. In case their roots are dried out or injured.

If the roots of evergreens are dried out, the tree is beyond hope of recovery. In transplanting or planting evergreens, therefore, prevent the roots from getting dry. Be sure that the trees are well packed if bought from a nursery. Examine them before accepting the shipment, and if the roots are dry and poorly packed, reject them. Wet the roots when they are received, and keep them wet until they are planted. Carry them in a pall with enough water to keep the roots covered and take them out of the pall only when a hole is made and everything is ready to put them in the ground. Have the hole in which the tree is to be planted large enough to accommodate the roots without doubling them up. Plant the tree as deep as the mark on the bark shows the tree was in the ground before it was dug up. Put the best dirt in around the roots. Pack it quite firmly and cover with the poorer dirt. Keep the trees greatly increased growth.—W. H. Kenety, Ont.

Plan to Use Horse Lal or

(Continued from Page 3.)

a narrow tooth cultivator and a steady horse, it is possible to work fairly close to the rows of vegetables, but for setting very close there is nothing to equal the wheel hoe. A wheel hoe is a good investment where any number of vegetables are being grown. By running a wheel hoe close to the rows between intervals, the task of weeding will be greatly reduced. The weeds in the row proper may be removed at the time of thinning.

As a general rule it can be found more economical to buy plants of tomatoes, peppers and early cabbage from a grower in town who has a hot-house, rather than attempting to raise them on the farm. If a considerable quantity were needed, a hot bed would certainly furnish them cheaper than they could be bought, but as a general rule the number of the vegetables required in the farm garden is small, and the trouble of looking after the hot bed would be more than the amount saved would warrant.

Fresh Strawberries for the Farmer's Table

(Continued from page 4.)

ditions should be avoided if possible. The plants should now be heeled in in some place where the soil is well drained. Open a trench sufficiently deep to cover the strawberries well, and so that the crown will be just above the ground. Now place the plants close together, but in a single row in the trench. Another trench is now opened parallel with the first and about six inches from it, using the soil to cover the roots of the plants in the first trench. The soil should be firmly packed or tramped against the roots so that the moisture will come into close contact with them. If loosely heeled in, they are very likely to dry out and the plants die. Other trenches should be dug parallel with the first two, if needed. By the time the field is ready for planting these heeled-in plants will have made new roots, and be in better condition for planting than if they had been set out at once.

The plants may be set in rows three or four feet apart, with plants from 30 inches to three feet apart in the rows. If five the rows parallel, so that as much of the cultivation as possible may be done with a machine.

It does not make much difference how the plants are set. If the root is exposed, however, disastrous results will take place from drying out. Some use a hand dibble or trowel to make the holes for the plants, others use a shovel or spade, one man making the holes for two or three planters that follow.

Cultivate between the rows, as soon as convenient after plants are set, to conserve moisture. Also cultivate about the plants with the hand hoe, and continue this cultivation as it seems needed, right through the growing season. By stirring the ground early and often, all the weed seeds near the surface will be sprouted and killed. This is important, as it is a hard and expensive job to kill weeds that sprout late in the season, after the runners have made a good growth.

At the end of the growing season a shallow trench or furrow should be left between the rows, that water may not stand on the plants at any time during the winter and they become covered in ice. Plants will always die when frozen over with ice in the winter.

As soon as the ground is frozen hard in December, mulch the plants with straw. Put this mulch on as lightly as possible. As long as the plants are shaded they will do all right. The mulch is merely a protection against alternate freezing and thawing during the winter and early spring. As soon as growth starts in the spring draw this mulch between the rows to keep the berries clean and the ground damp about the plants.

Strawberries are divided into two classes according to their blossoms, perfect and imperfect. The perfect flower has both pistil and stamens and is able to fertilize its own blossoms, but with the imperfect flower the stamens are wanting and hence cannot be fertilized unless a perfect variety is planted beside it to fertilize its imperfect flowers. Care must therefore be used in selecting varieties to be sure you do not plant imperfect varieties without some other perfect variety to supply the pollen for these imperfect blossoms. Do not plant your perfect variety on one side the other. If planting imperfect varieties, plant one row of perfect to every three rows of imperfect.

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

The Poultry Outlook

PROFESSIONAL poultrymen are admitting frankly that they are "up against it." Farmers who make poultry an important sideline are beginning to ask if what was once a profitable venture for them is now really worth while. The following tabulated statement, giving wholesale prices on the Toronto market last week for new laid eggs, wheat and oats, compared with wholesale prices on the same market in the corresponding week of 1914, explains the poultrymen's difficulties:

Table with 3 columns: Item, 1914, 1918. Rows: Eggs, Wheat, Oats.

Oats and wheat have always been the principal poultry feeds in Canada, and they represent an average increase in price of 119 per cent in four years. Corn, which might be used as a substitute for wheat, has advanced even more radically. Mill feeds have not advanced proportionately with wheat or oats, but they form a comparatively small portion of the ration. New laid eggs, on the other hand have advanced only 65 2/3 per cent, or a little more than half as much as grain feeds. The advance in feeds, as compared with the advance in eggs, plainly places the poultryman in an almost impossible position. From present indications, it will cost approximately \$3 to feed a pullet for the laying period of 1917-18, as compared with a cost for the corresponding period of 1913-14, of \$1.36. Allowing an average price for eggs this season of 40 cents, and an average price in 1913-14 of 26 cents, the profits per fowl over cost of feed would be as follows:

Table with 2 columns: Item, Profit. Rows: Egg yield per bird, Present profits, Average hen comes in the eight-dozen class.

This hen is now returning approximately 20 cents to cover such items as labor, investment and risk, charges which were barely covered by her 78 cents profit before the war, when all of these items were

proportionately less than they are now. The average hen continues to exist to-day because she is found in small flocks that pick a large part of their living and with which no accounts are kept. The 10-dozen hen represents the average producer in larger flocks where poultry is really depended on as an income maker. The profit over feed in this class is less by 24 cents than it was before the war; and whereas before the war a hen that would lay 10 dozen eggs was a profit-maker, she is now just about paying her way, all things considered. Flocks that will average 12 dozen eggs per hen per year have always been considered extra good producers, and where the poultryman has birds of this quality, there is still a good profit in the poultry business, and he has no cause to be discouraged. Occasionally we find poultry keepers with large flocks that average 13 to 14 dozen eggs per hen, and with birds of this calibre the poultryman has now an opportunity to make more money than ever before.

This review of the poultry situation may not be absolutely correct to the last figure. In fact, we know that it is not. The general deductions, however, are correct, and if they teach anything, it is this, — that profits nowadays are possible only to the efficient poultryman, and that it is poor business policy to work with anything but early hatched pullets of the best laying strains. The farmer, whose small flock picks its living around the barnyard, will stay in the business with a small profit to himself. The farmer who aims to keep even 100 or 200 hens, must plan for greater efficiency than has been general in the past, if the balance is to be on the right side of the ledger. Intelligent application, however, will be as well rewarded now as at any time previously in the history of the poultry business in Canada. "Efficiency" must be our watchword.

New Implements and Parts

THE labor shortage extends far beyond the farm. Every industry is feeling it and, even as many farmers are short of feed, so are factories short of their raw material—iron and steel. The agricultural implement concerns are among those so limited. They cannot, therefore, emphasize too strongly the importance of going over the implements carefully, deciding on what new ones are needed, what parts should be replaced, and ordering immediately.

In normal years manufacturers keep ample stocks of renewal parts in the hands of their local agents. These could always be had on short notice, and farmers generally have been accustomed to depend on the dealers' stock rather than their own foresight. This year, producing under difficulties, the stocks carried at local points will probably be reduced to a minimum and someone is bound to be disappointed before the season is over. The disappointed ones, however, will not be those who go over their implements now and place their orders early.

The Garden of 1918

A SHORTAGE of food, a scarcity of labor—these are the problems facing the farmer as he plans his 1918 operations. What bearing have they on orchard and garden work? Simply this, that the labor available for this department, as well as of the other departments on the farm, must this year be utilized where it will give the greatest returns in food. And this place would seem to be in the vegetable garden, rather than in the apple orchard.

To make anything of apple growing, the trees must be properly looked after. Year by year new orchard posts are making their appearances and more expensive equipment is necessary for the proper care of the trees. They require pruning, spraying and cultivation at a time when other farm tasks demand attention. It would not seem, therefore, to be the wisest course to spend too much time this year on the small farm orchard. Better let it rest over until after the war and spend the time on crops of more vital importance. The apples needed for home consumption can be bought from those who specialize in fruit growing at less than it would cost the general farmer to produce them.

But the vegetable garden is important this year. The food situation is much more critical than most of us realize and a good cellar full of vegetables next winter will mean a great deal. Every farm should have a generous vegetable garden this year. It should be planned for horse cultivation and planned early so that seeds may be ordered right away. There is going to be a scarcity of vegetable seed this year, and early orders will have the preference.

Vegetables can largely replace more expensive foods in our rations and they will help keep us in good health and thus make us more efficient for the tasks at hand.

Cows After the War

MILLIONS of dairy cows good and poor alike, have been slaughtered in Europe to provide beef for the soldiers. So great has been the demand for beef that recent estimates place the shortage of dairy cattle in Europe at approximately thirty million head, or more than ten times the total number of dairy cows in Canada, and more than one and one-half times the total cow population of the United States. The war is still going on and the number of dairy cattle is being steadily depleted.

What will this mean for America when the war is over? In a recent address before the American Food Dealers' Association, G. A. Chapman reported that the French Government alone is contemplating the purchase of one million head of cows in America as soon as peace is declared. Other European powers will be under the same necessity of replacing the slaughtered herds of their countries. We anticipate that the demand for dairy cattle and dairy products will be almost as keen after the war as it is now, with the additional feature added of an export demand for dairy live stock.

And how are we preparing to meet this great demand? The statement has been frequently made in high quarters that dairy cows in America had been slaughtered by the thousands in the last two years. To what extent this slaughter has been a thinning out of scrubs and culls, we do not know. But have the slaughtered animals been replaced with more promising heifer calves? We doubt it. The temptation to sell has been strong. Grains everywhere are proportionately higher than dairy products. Over large sections of America, good roughage is almost unobtainable this winter. In the matter of roughage, however, Canada is particularly blessed, and we will do well to utilize it in holding on to all the dairy stock possible. The rewards after the war will go to the men with live stock products to sell. Let us never forget that!

Why Double Profits?

THE farmer is entitled to a profit on his production of wheat, coarse grains, hay and other field crops. If he be a dairy farmer he is then entitled to another profit in the feeding of his coarse grains and roughage to the dairy cows. The problem is more frequently put in question form: Should the dairy farmer charge up the products of his farm to his herd at market prices, less cost of delivery, or should he merely charge cost of production?

We believe that the dairy herd should pay for all products consumed at their market price. Why not? The dairy farmer is both a farmer and a manufacturer. As a farmer he produces field crops. As a manufacturer he turns these crops into the finished products of milk, cream or butter. In his capacity as a farmer the chances are he works the full union eight-hour day. If he chooses to add the extra investment and the extra hours of labor that are involved in dairying, then he is surely entitled to interest on his extra investment, wages for extra labor, and any business man would insist on extra profits to compensate for extra risk and labor of superintendence. Every union man would insist on pay and a half for the extra labor.

Every business should be self-sustaining. Farm crops would not be long fed on the farm if there were not a profit in the feeding of them. The dairy farmer is not only justified in charging full market prices for the grains and the fodders that he feeds, but he would be showing little business acumen did he charge less.

M of C Ford with Stock Agri shor the west governa Mord with Stock Agri shor the west governa Mr. Why Have Live Stock? These are in a great success. Your ad more, it doing things solved inquiries may have This answers without rather for what sell. Farm and of the selling sales you ad not still con What satisfied present sales you ad? quires? not-purch them in weeks you ad-mended pondent Does it one moment man's appetite, in future. If he waits a the same without an ext future. So much tive stand of the ad-pendence, can best I had rec advertiser's sale of a fe I called or said, "I ad-times as m-ventures I said, "I better to with no reas- every one a carefully a brought im- splendid th- which cost- write that letters in- stock later buy here in answering an opportunity to give little herd which "No," he said rather than to answer way to buy stock. This breed- every If a la- looked upon Viewpoint, it- ladder for your ad. to correspond- new. The grower creates new C. Live Stock I.

In Union There is Strength

United Farmers Active
MORE activity is being shown this winter in extending the work of the United Farmers of Ontario.
 President Burnaby, Secretary J. J. Morrison, Col. J. Z. Fraser, of Burford, and W. A. Amos, of Palmerston, with Roderick McKenzie, of Winipeg, Secretary of the Canadian Council of Agriculturists, went to Ottawa, a short time ago, and formed part of the great delegation, mainly from western Canada, that protested to the government against the proposed increase in freight rates. The delegation succeeded in securing a postponement of the date when the advanced rates are to go into effect of a month and a half. In the mean-

time further evidence will be submitted to the government. This postponement, it is estimated, alone will save the public about \$4,000,000. There seems to be good prospect that the increase will not be approved by the government.
 Mr. Burnaby spoke to the members of Maple and Downview Clubs in York county, Zephyr Club in Victoria county, and Thornton Club, Simcoe county.
 Mr. Burnaby, Col. J. Z. Fraser, of Burford, and R. J. McMillan, of Seaforth, addressed meetings of the Thanesford and Ingersoll Clubs in Oxford county.
 Vice-President A. A. Powers, of Orono, has formed a new club at Goodwood in Ontario county, also addressing meetings at Woodbridge Club and Welcome Club in Durham county. This week Mr. Powers is speaking in the Listowel district.

Ad Talk

Mr. Live Stock Advertiser!
 What about that correspondence? Have you answered it yet? Are you answering it at all? How are you answering it?
 These are pertinent questions. They are important questions. Upon them, to a great extent, hinges the success or non success of your sales of surplus stock. Your ad, got you the inquiries, it may do it doing for you, it is up to you through the proper handling of the enquiries received to make sales as far as your offer-ings last and to leave the disappointed enquirers with an expectation of what you may have to sell later on.
 This talk relates so much to the enquirers you write to the inquiries for which you have been able to supply, but rather to your answers to their inquiries for which you have nothing at present to sell. You have an ad, running in Farm and Dairy for a few issues in view many inquiries, you have made all the sales you wish to make and have stopped your ad, yet there are inquirers who are not supplied. Furthermore, enquiries are still coming in.
 What do you do about it? Are you satisfied to have sold what you have at hand and think nothing about enquirers? Do you answer those apparently non-productive enquiries, or do you throw your wife put them in the stove? Or do you let them sit unanswered for days or weeks until you forget them or are ashamed to figure them out. Look the correspondence the writer writes? Don't imagine for one moment that he is a busy business man he is putting you down as a failure, and as not worth bothering with in future.
 If he is not a business man he merely waits a while and says nothing, but at the same time your discourtesy is not without effect. Neither type is likely to be an extensive buyer from your ad in future.
 To touch on the question from a negative standpoint. The positive advantage of the careful consideration of all correspondence, which no one makes, can best be illustrated by a conversation I had recently with one of our newest advertisers.
 He had given a small trial ad. for the sale of a few head of surplus stock. Later I called on him to ascertain results. He said, "I sold three cows. I received several times as many enquiries as we had anticipated for sale and am still spending the evenings answering our correspondence." I said, "I suppose you consider it quite a success to have written so many letters with no results in view?" His answer was somewhat as follows: "I am answering every one of them, writing it just as carefully as I answered the one that brought immediate sales. I consider it a splendid opportunity to do advertising which costs only the time necessary to write the letters. By answering all these letters in a businesslike way I consider that when the men who wrote them want stock later on they will think and buy here in preference to elsewhere. The answering of these letters gives a splendid opportunity to enlarge our future business to give little bits of information about our herd which could be of no other value than a privilege. It may take a long time to answer them, but they are only way to build up a business on a solid foundation."
 This breeder's viewpoint is the proper one. If a larger proportion of advertisers looked upon the matter from the same viewpoint, there would be greater activity in the market. If you wish your correspondence in a businesslike manner. Property answered correspondence creates new business.
 C. G. McKILLICAN
 Live Stock Dept. Farm and Dairy, view.

President Halbert two weeks ago addressed meetings in Perth county. Last week he spoke in Middlesex county. He also is meeting with success.
 Secretary J. J. Morrison, Jos. A. Snider, of Downsview, and H. V. Hoover, of Harold, are addressing meetings in Simcoe county.
 Mr. J. N. Kernaghan has been appointed as delegate to the U.F.O. to attend the meeting of the Canadian Council of Agriculture in Winipeg in March.
 The Farmers' Company is experiencing great difficulty securing feed.

Farmers' Platform and the Government

THE various resolutions passed at the recent convention of the United Farmers of Ontario for submission to the Dominion Government were laid before Hon. T. A. Crear, Minister of Agriculture, at a conference held in Toronto on January 26. Members of the directorate of both the U.F.O. and of the Co-operative Company were present, as well as a number of representative farmers from different parts of the province, who had been advised of the meeting. The conference, with but a slight intermission, lasted practically all day.
 The views of the organized farmers were laid before Hon. Mr. Crear at length and in detail, including the any plans for a greater production campaign, a higher price for cheese, a better freight rate for fertilizers, and other matters of the same character. Hon. Mr. Crear explained some of the problems that are facing him and the government. He was most friendly and offhand in his position. The speaker at the meeting asked that he had not become accustomed to a yet. At the conclusion of the conference the members present passed a resolution unanimously expressing their confidence in Hon. Mr. Crear, and the willingness of the United Farmers, as an organization, to give him their full pleasure was expressed over the belief that the farmers now have at Ottawa a minister who fully understands their problems and views, and who is sympathetic with them.
 Those present included President R. W. E. Burnaby, of Jefferson; Secretary J. J. Morrison; M. Doherty; Secretaries: E. Leck, of Oshawa; D. A. Ross, of Martinow; Jas. Donaldson, at Wood; E. C. Gurney, of Peter Port; and Col. C. J. Fraser, of Burford; H. V. Hoover, Harold; R. L. Blatchford, Toronto; E. C. Drury, Barrie; Mr. Gilles, Georgetown; R. J. McMillan, Seaforth; T. J. Lammiman, Woodstock; W. S. Shearer, Listowel; Mr. Munro, Uxbridge, and J. A. Snider, Downs-



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HERE never was any heart truly great and gracious that was not also tender and compassionate.—*Souh.*

The Heart of the Desert

(Continued from last week.)

"YONDER is good water and I have tortillas and frijoles." Unshaven and dirty, gaunt from lack of sleep, the three men dismounted wearily and gladly turned their coffee and bacon over to the herder to whom the mere odor of either was worth any amount of service. As they ate, Jack and Billy quizzed the Mexican as to the topography of the surrounding country. The little herder was a canny chap.

"He will not try to cov' 's trail carefully now," he said, swallowing huge slabs of bacon. "He has a good start: You will have to fool him. He sleeps by day and travels by night, you will see. You are working too hard and your horses will be dead. You should have slept last night. Now you will lose to-day because you must rest your horses."

Porter looked at his two companions. Jack was doing fairly well, but the calm that DeWitt had found with Rhoda's scarf had deserted him. He was eating scarcely anything and stared impatiently at the fire, waiting for the start.

"I'm a blamed double-action jackass, with a peanut for a mind!" exclaimed Porter. "Talking on myself to lead this hunt when I don't sabbé frijoles!" We take a sleep now."

DeWitt jumped to his feet, exclaiming, but Jack and Billy laid a hand on either of his shoulders and forced him to lie down on his blanket. There nature claimed her own and in a short time the poor fellow was in the slumber of exhaustion.



A Handsome Fern.

The Boston fern is one of the best known and most popular evergreens for indoor decoration. A healthy fern in an attractive jardiniere such as the one shown here will add much to the living room in the winter days, especially when practically everything out-of-doors is covered with a mantle of snow.

"Poor old chap!" said Jack as he spread his own blanket. "I can't help thinking all the time 'What if it were Katherine!' Dear Rhoda! Why, Billy, we used to play together as kids! She's slapped my face, many a time!"

"Probably you deserved it!" answered Billy in an uncertain voice. "By the limping plow, I'm glad I ain't her financier. I'm most zrazy, as it is!"

The sheep herder woke the sleepers at noon. After a bath at the spring, and dinner, the trio felt as if reborn. They left the herder with minute directions as to what he was to do in case he heard of Rhoda. Then they rode out of the canon into the burning desert.

And now for several days they lost all touch. They beat up and down the ranges like tired hunting-dogs, at their efforts fruitless. Little by little, panic and excitement increased. Rhoda, DeWitt realized that the hunt was to be a long and serious one as Porter told of the fearful chases the Apaches had led the whites, time and again. He began to realize that to keep alive in the terrible region through which the hunt was set, he must help the others to conserve their own and his energies. To this end they ate and slept as regularly as they could.

Occasionally they met other parties of searchers, but this was only when they beat to the eastward toward the ranch, far most of the searchers were now convinced.

Kutle had made for Mexico and they were paralleling the border. But Billy insisted that Kutle was making for someerie that he knew and would esconce himself there for months, if need be, till the search was given up. Then and then only would he make for Mexico. And John DeWitt and Jack had come to agree with Billy.

"He'll keep her up in some haunt of his," said Jack, again and again, "until he's worn her into consenting to marry him. And before that happens, if I know old Rhoda, we'll find them."

"He's mine when we do find him, remember that," John DeWitt always said through his teeth at this point in the discussion.

It was on the twelfth day of the hunt that the sheep-herder found them. They were clenching up the packs after the noon rest when he rode up on a burro. He was dust-covered

and both he and the burro were panting.

"I've seen her! I've seen the senorita!" he shouted as he clambered stiffly from the burro.

The three Americans stood rigid. "Where? How? When?" Came from three heat-cracked mouths.

The Mexican started to answer, but his throat was raw with alkali dust and his voice was scarcely audible. DeWitt impatiently thrust a canteen into the little fellow's hands.

"Hurry, for heaven's sake!" he urged.

The Mexican took a deep draught. "The night after you left I moved up into the peaks, intending to cross the range to lower pastures next day.

A big storm came up and I made camp. Then an Indian in a blanket rode up to me and asked me if I was alone. I asked him at once. 'But yes, senor,' I answered, 'except for the sheep!'"

"But Miss Tuttle! The senorita!" shouted DeWitt.

The Mexican glanced at the tired blue eyes, the strained face, plyingly.

"She was well," he answered. "De patient, senor. Then there rode up another Indian, two squaws and what looked to be a young boy. The Indian lifted the boy from the saddle so ten-



The Calceolaria.

A beautiful plant such as the one here shown will do much to add beauty and a "homey" appearance to the living room. Its bloom will last from three to five weeks. A few points on the care of the calceolaria is given on page 17 of this issue.

is tender to the senorita." DeWitt turned to Porter and Nov-

"Friends, perhaps she is being taken care of!" he said. "Perhaps that devil is trying to keep her health, at least, God! If nothing worse has befallen her!"

He stopped and drew his wrist across his forehead. Something like tears shone in Jack's eyes, and Porter coughed. John turned to the Mexican and grasped the little fellow's hand.

"My boy," he said, "you'll never regret this day's work. If you have a senorita you know what you have done for me!"

The Mexican looked up into DeWitt's face seriously.

"I have one. She has a dimple in her chin."

John turned abruptly and stood staring into the desert while tears seared his eyes. Billy hastily unpacked and gave Carlos and his burro the best that the outfit afforded.

"Can the sail-boy stay on with the sheep while you come with us?" asked John DeWitt. "I'll pay your boss for the whole flock if anything goes wrong." He wanted the keen wit of the herder on the hunt.

The Mexican nodded eagerly. "I'll stay!"

Shortly the four were riding northward across the desert. They were in fairly good shape for a hard ride. Two days before, they had stopped at Saguav Spring ranch and re-outfitted. With proper care of the horses they were good for three weeks away from supplies. And for two weeks now they scoured the desert, meeting scarcely a human, finding none of the traces that Rhoda was so patiently dropping along her course. The hugeness, the cruelty of the region drove the hopelessness of their mission more and more deeply into DeWitt's brain. It seemed impossible except by the merest chance to find trace of another human in a waste so vast. It seemed to him that it was not only the gambler's instinct for luck that guided Carlos and Billy.

They rode through open desert country one afternoon, the only mountains discernible being a far purple haze along the horizon. For hours the little cavalcade had moved without speech. Then to the north, Porter discerned a dot moving toward them. Gradually under their eager eyes the dot grew into a man who staggered as he walked. When he observed the horsemen coming toward him he sat down and waited.

"Jim Frowner!" By the limping Piper! cried Billy. "Thought you was in Silver City."

Jim was beyond useless speech. He caught the canteen which Jack swung to him and drank deeply. Then he said hoarsely:

"I almost got away with the Tuttle girl last week!"

Every man left his saddle as if at a word of command. Jim took another drink.

(Continued on page 20.)



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The Upward Look

When Duty Calls

LOOK at the generations of old and see: did ever any trust in the Lord, and was confounded? or did any abide in His fear, and was forsaken?—Eccles. 1: 5.

I will never forget the sight of those two as they sat there close together; the father, strong, vigorous, successful, with a face that at times might be hard, but as he looked at the other, was very tender, very pitiful, not very proud, lo, though there were marks of the tragedy in his life. The other, his only son, was blind, rendered so by a sudden, terrible accident. The matter was under discussion as to what he was going to be. With a look of determination on his pale, sensitive face, and the ring of life in his clear, firm tone, he had just announced he intended to be an osteopath. He added, with a little catch in his voice, that he would have the advantage of having a touch that would be more sensitive than most.

To the many objections that were raised, he was certain he could overcome all, as he did not mind how long nor how hard the course might be. He wished from the bottom of my heart that many of God's shirkers could have seen and heard him.

How many of them are afraid to undertake a certain piece of work for fear of the known and the unknown difficulties they will have to meet? How many again are unwilling to give the necessary time that so much of the Master's work requires? There are others who hesitate and finally refuse, because they will not deny themselves certain pleasures and amusements. Others again refuse, for fear of not succeeding, lest they have not the necessary qualifications.

But if they knew the God-strength that is theirs, as they require it to most difficulties! If they knew the joy of service that will far more than compensate for sacrifice of time and pleasure! They surely in His strength and power they would answer His call to work when it comes to them.—L.H.N.

Companionship in House Plants

THE majority of us are fond of house plants, but we do not always find time to bring many in from the garden in the fall, and therefore our supply in winter is sometimes rather scarce. Some people claim that they haven't time to bother with plants at all, but it pays add so much to the appearance of the home, and it is of benefit to any woman to care for plants and watch them grow.

It is considered extravagant by some to purchase plants in the winter time, but there are several ways of looking at this expenditure. In the first place, the florists can grow specimens of plants which we in all probability would not be successful with, and it does us good to buy such a plant occasionally and enjoy it throughout its blooming season. The calceolaria is a beautiful plant, and a bloom will last for three to five weeks. It resembles the Ladies' Slipper Orchid. An illustration of a calceolaria appears on page 16 of this issue. Water calceolarias very sparingly. If moisture can be detected when the soil is touched by the finger, do not apply water. Tap the pot, and only when a distinct ring is heard is water necessary. Take care, however, to anticipate. Water the flowering foliage, and water in time to prevent it. A room with a temperature of 55 to 60 degrees is suitable for calceolarias. If they will remain in perfect condition longer than in a warmer atmosphere. Their flowering period is from February until June. The well-known cineraria (Senecio),

both the large-flowered dwarf kinds and the tall strelita varieties, are to be desired as winter and spring flowering subjects. They are cheap, and for this reason are within the reach of everyone. A cool room, where the temperature does not fall below 50 or there beyond 65, is the most satisfactory for these plants. Ordinary care, both in watering and other cultural details, will suffice for the cineraria.

Cyclamens

These beautiful plants, in so many shades of color, are as desirable, perhaps, as any plants for home flower-omen. They may be purchased in flower from Christy's Plant Dealer. In a room which is free from draughts with a temperature of 55 to 65 degrees, they will remain in flower a long time. If, however, they are chilled, the flowering stops, and they become sickly at once.

Getting Rid of House Plant Pests

HOUSE plants are often troubled by pests, the most common being house flies and mealy bugs. Before one knows it, the stalks and under surface of the leaves are covered with plant lice. These little lice suck the juices of the plant. Oftentimes it is sufficient to give the plant a good watering with a solution of soap and water. Use any good white soap for this work. A special preparation for plant lice (or aphids) is sold by seed merchants, and it is simply mixed with water. Another remedy is to soak tobacco stems in water and dilute this liquid until it becomes the color of weak tea; then with a soft rag, moistened in the tobacco water, wipe off the lice. It may be necessary to repeat this treatment.

Perhaps some day you will see cottony masses on the under surface of a plant's leaves. These masses are not cotton but mealy bugs, and must be immediately removed. Sometimes a spray of clear water will wash them off, but if not, try kerosene emulsion. This is made in the following way: Shake up one quart of white soap, to which add two quarts of boiling water. Add four quarts of kerosene and shake the solution well. When you need to use this, add eight cups of water to one cupful of this oily solution. It is now ready to use on the plant lice or mealy bugs, and should be applied with a rag.

Another common house-plant pest is the scale. Some species are on the under surface of plant leaves. Under the hard outer shell or scale is the insect. It is well protected by its shell beneath which it does its harmful work. Take a cup kerosene emulsion, add four cups of water, and spray the infested plant.

Sending Up House Work

"Aunt Fanny," Peterboro Co., Ont. There one woman who reads this department of Farm and Dairy who writes: "If there is such a wonderful woman in this circle of my friends, I would like to meet her, as I would certainly like to 'take off my hat to her.' Yes, it occasionally is rather disheartened occasionally, but it is also characteristic to 'take fresh courage and with renewed determination start off again to cope with the problems which confront us in our various walks of life."

How many women are looking forward to the coming spring with a certain amount of dread when they think of the multitudinous duties which are going to fall to the lot of the women on the farms? We are continually reading about making the work on the farm easier for the women, but unless I miss my guess, we are going to have more work than ever to do next spring and summer. For one thing, from now on we will have to pay more attention to eliminating waste in the kitchen—and in trying out new methods of

cooking, whereby we can save all the food possible. This will have a tendency to take up more of our time. A neighbor was telling me the other day that she is going to start making her own soap again, and the price of soap is going up, and then, too, there will be no fat wasted around her home. I believe I will follow her example, and no doubt there are many others with the same intention. If we want to save as much expense as possible also in connection with our wearing apparel, and this will mean making over what we wear during winter and summer. And re-modeling garments often takes more time than making new ones. Then, on account of the great scarcity of labor, there will be much outside work which will not be done unless we turn in and help. Added to all these things, we are anxious to do our share of knitting and other Red Cross work. Where, then, are we to find time for rest and recreation?

I was feeling rather downhearted at a busy few days ago while pondering over these things, and I chanced to pick up a magazine, and I read an article which seemed to suit my case very well. One paragraph in particular was worthy of repetition, and I am going to jot it down here for the benefit of my readers. It read:

"I've been married 26 years and I've never had what you would call a sure-enough vacation. I never get 10 weeks for a vacation, so I just take 10-minute vacations. I mean that at least three times a day, just when I'm apt to get most worked up about all there is to be done, I simply sit down in my rocking chair or lie down, or if it's nice weather, go outdoors, for at least ten minutes. It's a wonderful help. Then I always wear rubber heels, keep my voice low, because there's nothing so wearing as talking in a high voice, and I try to sit and think in the most restful way. When things go wrong, and I'm getting mad, hold up my head, and practice a grin. It's the best tired-and-cross tonic I know of."

I figured out that there was some pretty good advice in that paragraph. I believe that the big mistake many of us make in dealing with our household war-time problems is that we rush headlong into the day's work with the one idea in mind of getting as much as possible done, but we pay little attention to planning how that work might be accomplished to the best advantage and in the shortest possible way. Would it not add zest to our work if we would spend a short time early in the day jotting down the tasks we want to accomplish and in some cases planning how we can do certain tasks with the least amount of labor. It is surprising how many steps we might save ourselves if we would plan out our day's work instead of rushing at it haphazardly, and probably while we are doing one task we are worrying about all the other things we simply must" do that day. The first of the year is a good time to make new resolutions. I therefore have resolved to try and put more thought on the planning of my work. Then, too, I am going to endeavor to "practice a grin" while everything starts to go dead wrong.

Another Bean Soup

BEAN soups seem to be favorites among Our Women Folks. Mrs. Walter Edmund, of Hampton Co., Que., writes us: "Noting a request for soup recipes, I am sending one I have tested, which is prepared as follows: 'One cup beans, one cup chopped carrot; one small onion or three or four slices of fat pork (either fresh or salt pork); pepper and salt. Soak beans over night and pour off the water. Put bean in three plate and boil three hours, then press all through a colander. This to the proper consistency with milk, or water, may be substituted, season, bring to the boil and serve at once. This should serve five persons."

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An Enthusiastic Lover of the Country Visited

Housework, Gardening, Church and Women's Institute Duties Go to Make Up the Busy Life of Miss Alice A. Ferguson—R. M. McKee

SELDOM have I enjoyed a trip more than the recent one to Toronto to King, at the time of my visit to the home of Miss Alice A. Ferguson last June. The trip on the radial is very interesting as one passes through a number of small towns and villages on the way. The main point of interest noted in passing along this route was the splendid gardens which were very much in evidence. The only unusual part of the journey occurred when I got off at Bond Lake instead of Schomberg Junction, thinking I had reached my destination. After the car sped on, I found that my stop should have been the next one. Fortunately, it was only a five or ten-minute walk, so I started off and met Miss Ferguson's mother driving to meet me. Mrs. Ferguson is getting up in years, but still does her share around the home and is quite an expert with the reins.

After my arrival at the Ferguson home there was much time for visiting as Miss Ferguson and I were due in the early afternoon at the King Institute meeting, a report of which appeared in these columns at the time of my visit. On driving over to Mrs. Jas. Stewart's home where the meeting was held, we talked "Institute." As Miss Ferguson is secretary of the King branch she has the work of their Institute very much at heart, and a great deal of credit is due her for the splendid meetings which are held from month to month. In speaking of which she considered most satisfactory, the house to house or central place of meeting, Miss Ferguson said:

House to House Best.

"For us, the house to house idea seems to work best. When the meetings are held at the homes of the different members, they tell their friends beforehand that the next Institute meeting is to be held at their home and invite them over. In this way they secure new members. If meetings are held in a hall, there is no hostess and no one is responsible for making everyone feel at home. Thus, only those who are really interested will accept responsibility. We rarely make our social calls at our Institute meetings."

The members of the King branch are not afraid to "speak out in meetings," and Miss Ferguson emphasized the fact that their discussions are very interesting and helpful. "I suppose it is constitutional to stand up and talk," said Miss Ferguson, "but our members seem to talk more freely when sitting down, and I really get a lot of information out of some of our discussions." For example, one of the topics to be discussed at their meeting in September is "Nature's Medicine Chest." Miss Ferguson will introduce the subject by giving a little talk and will mention some tried and true, although old-fashioned, remedies for various ailments. Then she will expect a number of them to be prepared to pass along other remedies which they have tried out. While the King branch is doing a great deal of Red Cross work, they are also endeavoring to keep up their regular meetings and they are to be congratulated on the splendid lineup of subjects on their printed programmes.

After the meeting was over and we had enjoyed refreshments, Miss Ferguson and I started back to the Ferguson home. In pointing out places of interest along the way, my attention was drawn to the peaks of some buildings a mile or two distant. "That is Sir Henry Pellatt's country home," remarked Miss Ferguson. "I would like you to drive around that way and see it!" Of course I was delighted to take advantage of the opportunity and

it was not long until we had reached the imposing entrance to Lake Marie Farm. Just inside the gateway is the lodge keeper's home and we accepted permission there to drive through the grounds.

Large Tract of Land.

The driveway leading up to the house and farm buildings is lengthy and winding. On either side of the driveway are trees, some, then a drive spruce, alternating all along the drive. These trees are small at present, but when they grow larger will form quite a pretty avenue. As we drove along we noticed a number of cattle on pasture and found the majority of them to be the Dutch belted breed and a few were Shorthorns. There is a great deal of rough land and bush on the farm. I believe that Sir Henry Pellatt has about 1,000 acres. One particularly fine stretch of thickly wooded land attracted our attention which Miss Ferguson informed me had at one time been on the farm of her uncle, Mr. Walter Scott, this farm having been purchased from him by Sir Henry Pellatt.

Some of the buildings noted were the cattle barn, the horse barn, garage, carriage house, dairy building, two large silos and a long poultry house. A number of wire enclosed yards open off the poultry house as a means of keeping the various breeds of fow separate. The house is beautifully situated, overlooking Lake Marie, and is of the bungalow type. Two very attractive houses of smaller size were the observatories or foremen. These houses, as well as Sir Henry Pellatt's residence, are lighted with electricity and have hot and cold water on tap, bathroom, etc. There is a large vegetable garden which must require a great deal of labor and also quite a display of flowers. Several fields of grain could be seen, but we presumed that the major portion of the land was in pasture. Another feature in connection with this large farm is the park in which 15 deer were confined at the time of our visit. But by the time we had looked things over hurriedly, it was time for us to proceed homewards.

A Peep at the Garden.

It was not quite dark when we arrived and as Miss Ferguson's garden is very dear to her heart she took me out for a look around. Everything on one could desire in the line of vegetables had been planted in her garden and was making a good showing for loathsome dishes throughout the summer. Shortly before our visit Miss Ferguson had set out between 175 and 180 head of celery. In planting she first digs a trench, puts in manure, then goes to her compost heap and brings back a wheelbarrow full. It then fits in, then plants the celery. Miss Ferguson tried out the plan this year of sowing radish in the same row with carrots and beets, and found that they came up first, grew splendidly and were pulled up in time to give the carrots and beets plenty of room to come to maturity.

One garden implement which Miss Ferguson values very highly is her wheel hoe. It has several attachments. In the planting season she uses the attachment for making drills which she calls her plow. Then when the planting season is over she uses the hoe or scudler. It is her opinion that it is much easier to push a wheel hoe than to work a hand hoe and it does more work in less time. "This hoe" she said, "cost me \$3 I believe when I purchased it and one article which I would not part with for anything would be my Farm and Dairy. I go out around the garden again the next morning and to try out my

camera, but rain intervened, so this pleasure had to be foregone.

While driving me out to the radial line to catch the car back to Toronto, Miss Ferguson told me a few things about herself which proved interesting. "There are so many sides to my nature," she said, "that I try to keep them all going and as a result my health sometimes gives out. I feel very much at home on the public platform talking along the lines of Sunday School work, Women's Auxiliary work or the work of the Women's Institute. On the other hand, I like house work and am particularly fond of outdoor work, especially my garden. By the time I do my house work and gardening and devote as much time as possible to social duties, my life is a busy one."

After all, however, are not the busy people the happy people? It is not necessary for one to spend many hours around Miss Ferguson's home before finding out that her life is a busy one, but that it is a joyous life is also a good indication that she is happy. When I boarded the radial car for Toronto, it was with a feeling that my visit had been well worth while.

Making Eggs Go Farther

EVEN those of us who live on the farm do not feel that we can use eggs too freely when they are high-priced, and how to make them go as far as possible is something which should interest all of us. There are many ways of economizing in the use of eggs and still having good food. A writer in *Practical and Fireside* makes the following suggestions which are worthy of note:

When breeding fish, cutlets, or any similar food to be fried, try beating one egg and adding two tablespoonfuls of cold water to it. In place of using two eggs, or set half of an egg aside and use one tablespoonful of water with the other half. Roll the oysters, or whatever is being prepared, in flour and dip in flour or crumbs the second time.

In making pumpkin or squash pies, substitute a "rounding" tablespoonful of flour for one egg in each pie. Some people are successful in combining the eggs altogether, using flour in this ratio instead. The success of the method depends upon careful seasoning and baking.

Instead of the usual boiled frosting made with egg-white, try confectioners' sugar moistened with cream, or if milk is used, add a teaspoonful of melted butter, and season. A few chopped nut meats make this frosting very delicious.

In making egg omelet, try the following rule: it will take fewer eggs and not be nearly so likely to fall. Allow one egg to a person, break into a bowl, and beat until light. Add a tablespoonful of milk and a rounded saltine cracker for each egg. The crackers are the long, narrow ones. If you have the square ones on hand, use half a one to an egg. Roll crackers until very fine. Beat in one-half teaspoonful baking powder, and pepper to taste.

Have ready an omelet pan with a large-sized tablespoonful of hot fat in it. Pour in the omelet mixture and keep breaking the lower crust of the omelet with the tip of a knife. When browned on the under side and cooked clear through instead of being milky, fold the omelet together and set in the oven to dry for five minutes. Turn on a hot platter, and serve at once.

Macaroni and cheese is a favorite dish in these days of meanness. It is rather hard on the fingers grating cheese. Try putting it through the meat chopper, using the medium plate. Bread crumbs can be run through afterwards to remove any particles of cheese which might otherwise remain.

War Flour Good Flour

By Caro M. Brown,

Chemist—Lake of the Woods Milling Company Limited

IN the interest of food conservation, it has been proved most economical to insist upon a standard loaf of bread from all bake-shops, and this is only possible when a standard flour is manufactured. In order to effect this standardization of flour all over Canada, the Government requires that the mills make not less than 74 per cent flour from wheat, that is 74 pounds of War Flour is to be made from 100 pounds of wheat. This is only very slightly more than most mills are already extracting.

Not "Graham" Flour

The slight increase of flour extracted will be true flour, and not bran or dust. Formerly this slight amount of flour had been allowed to go into the feeds for animal consumption, but when every grain of wheat counts as it does now, this is too extravagant a practice. There need be no apprehension as to the quality of Government Regulation flour. It is NOT to be "Graham," nor even so called "Whole-wheat" flour, and it is NOT flour mixed with Bran and Shorts. It will be simply pure flour as taken from the wheat berry, purified and sifted exactly as in the past; but, instead of several grades, such as FIVE ROSES, HARVEST QUEEN, LAKEWOODS, etc., being separated, all the flour will be blended together and only one brand will be on the market.

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Excellent Baking Results

Foreseeing that some regulation of this sort was imminent, we have been trying out in our Laboratory recipes for Bread, Cakes and Pastry, using the new "War Flour," our idea being to ascertain if any modification of present methods should be adopted. There need be no fear that the new flour will make unpalatable bread, cake or pastry. We were more than pleased with the results, and found that for bread no variation seemed to be necessary.

Some Suggestions for Housewives

In making pie crust and puff paste we have obtained the best results by using very slightly less water than with FIVE ROSES. The crust was flaky, crisp and well-flavoured. For cake, we followed exactly the same recipe in using FIVE ROSES and the War Flour; the cake from the War Flour was equal to that from FIVE ROSES in lightness and texture, was excellent in flavour and of a rich, creamy colour.

As the War Flour will be rich in gluten, care should be taken in making baking-powder biscuit and pastry not to work it or handle it any more than is absolutely necessary, as this toughens the gluten, resulting in a texture less tender and flaky.

It will require a little study and ingenuity on the part of each housewife to adapt her favourite recipe to this flour, but the little time given to this will be more than repaid by the results obtained.

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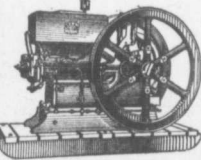
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ONTARIO, CANADA

Young People's Forum

Conducted by Marion Dallas.

Start the Year With the Reading Habit

THE year is still young, and now is the time when good resolutions are in order, and the one of the first should be to form the reading habit, if you have not already done so. A great many people feel that they have not time for a reading habit, imagining that to read properly they should devote several hours a day to books. Nothing could be farther from the truth. If you will read "How to Live on Twenty-four Hours a Day," by Mr. Arnold Bennett, you will see how easy it is to get the best out of bits of time. There are not many people who can give two hours consecutively, or even an hour a day, to reading. The man or woman who knows how to snare the moments as they fly and make the most of them, can accomplish a great amount of reading. If you will count up the moments that you sit with your hands in your lap, and

Polite Cure for Trespassing

A MAIDEN lady owned a piece of ground, and every summer she was found within her garden. But her neighbor kept a flock of hens, and while she worked or slept, with busy feet they dug her finest seed. And when she chased them at her utmost speed, and "shooed" and stoned them, quite undignified. The while her neighbor laughed until he cried. But women who can foil the wiles of men will not be daunted by a Leghorn hen. The hands that rocked the cradle, still can block Mann's ridicule, and give his nerves a shock.

Our lady cried a bit—as was her right—Then took some cards and on each one did write: "Please keep your hens at home!" A seed of corn she strung to each. With early break of dawn Back came the hens; they gobbled grain and string, Then back for home they started on the wing, And lined up in their owner's yard that he The friendly greeting which they bore might see. "Please keep," he scratched his head—his heart was hard. From every mouth they dragged the lady's card. But shame cut through it like a knife, and hence His hens no more flew o'er the lady's fence.

—Rural New Yorker.

your thoughts wool-gathering, you will see how much time you have to read if you would utilize those odd moments.

Begin With the Little Folks.

The ability to enjoy good reading must be acquired while the imagination is yet plastic and vivid. It cannot be slipped on at 20 or 30 years, like a new coat. The task of starting the wee folk upon the "printed trail" generally falls upon the mother, and that mother is wise who grasps the opportunity, and uses the spare moments in reading to her children very best books. Cheap novels and detective stories must ever be guarded against, but the child who has plenty of good, wholesome fairy stories, nature stories, and stories of adventure, will seldom choose the trashy ones. The reading of fairy stories and adventures invariably leads to the reading, with pleasure, of history and biography.

In the communities where there are public libraries, lists of the children's classics are easily obtained. I am submitting a list of fairy tales, with the idea of helping some of our readers who are not so fortunate as to be within walking distance of the library. This list is also the outcome of a request from a mother for the names of books she might read to her little children.

Scandinavian.

Fairy Tales, Edition by Lucas

(School Edition); Popular Tales from the Norse, Sir George Dasent; Tales from the Fields, Sir George Dasent; Danish Fairy Tales, J. Christian Bay; Celtic Fairy Tales, Joseph Jacobs; Irish Fairy Book, Alfred P. Graves; Gaelic Folk Tales, Mary O'Sheridan; The Scottish Fairy Book, Elizabeth Grierson.

Great Britain.

English Fairy Tales, Joseph Jacobs; More English Fairy Tales, Joseph Jacobs; Celtic Fairy Tales, Joseph Jacobs; Irish Fairy Book, Alfred P. Graves; Gaelic Folk Tales, Mary O'Sheridan; The Scottish Fairy Book, Elizabeth Grierson.

German.

Household Tales, Grimm Brothers; Fairy Tales, William Hauff.

Russian Fairy Tales, R. Niebet Bain; Cosack Fairy Tales, R. Niebet Bain; The Russian Grandmother's Wonder Tales, Louise Serroum Houghton; Old Russian Tales, Georgene Faulkner.

Italian.

Italian Fairy Book, Anne McDonnell; Legends and Stories of Italy, Amy Stedman; Italian Tales, Georgene Faulkner.

East Indian Tales.

Tales of Punjab, Flora Annie Steel,

The Heart of the Desert

(Continued from page 12.)

"If I catch that Injun alone I'll cut his throat!"

"Was Miss Tuttle bad off?" gasped Porter.

"Sh! Naw; she looked fine. He snassed me, though, as I won't take it from any man!"

"Tell us what happened, for heaven's sake," cried DeWitt, eying Provenzo disquietly.

Jim told his story in detail.

"That Injun Alkus," he ended, "he tied a rag over my eyes, tied my hands up and, say, he lost me for fair! He took all day to it. At night he tied me up to a tree and I stood there all night before I got my hands loose. I was sure lost, now, I can tell you! I struck a cowman up on the range the next night. He give me some grub and a canteen and I made out pretty good till yesterday, working south all the time. Then I got crazy with thirst and threw my canteen away. Found a spring last night again, but I'm about all up."

"How did Miss Tuttle seem?" asked John with curious interest. It seemed to him the strangest thing of all that first the American, then this coarse, tramp-like fellow, should have talked to Rhoda while he could only wander wildly through the Hades of the desert without a trace of her camp to solace his hunger.

"Say, she was looking good! She thanked me and told me to tell you all to hurry."

They gave to Provenzo a burro whose pack was nearly empty, what food and water they could spare, and he left them. They started on dejectedly. Provenzo had told them where Kettle had camped ten days before. They could not get out that spot and attempt to pick up the trail from there.

"Just the same," said Billy, "it's just as well he didn't get away with Miss Rhoda. He's a tough fella, that Provenzo. She'd better be with the Injun than him!"

"Provenzo must be a bad lot," said Jack.

"He is!" replied Billy grimly.

The camp was made that night near a smooth-faced mesa. Before dawn they had eaten breakfast and were mousing when Carlos gave a low whistle. Every ear was strained on the exquisite stillness of the dawn sounded a woman's voice which a man's voice answered.

CHAPTER X.

A Long Trail.

Rhoda gave a cry of joy. From the horsemen rose a sudden shout.

"Spread! Spread! There they are!"

"Don't shoot!" it was Porter's voice, shrill and high, with excitement.

"That's her, the boy there! Rhoda! Rhoda! We're coming!"

With a quick responsive cry, Rhoda struck her horse. With the blow, Kettle leaped from his own horse, understanding his device, she struggled like a mad woman. But she only wasted her strength. Without a glance at her, Kettle turned his pony almost in its tracks and made for the pursuit.

"Cut him out and get away from us!" it was DeWitt's voice, and "John! John DeWitt!" Rhoda cried.

But the young Indian had gaged his distance well. He brought his horse to its haunches and with Rhoda in his arms was running into a fissure seemingly too narrow for human to enter, while the pursuers were still a hundred yards away.

(To be Continued.)

Farmers Refused Coal

A representative meeting of farmers held on Saturday afternoon, Jan. 26th, under the auspices of the Brant County Board of Agriculture, the following resolution was unanimously carried, and a committee was appointed to present the same to the Brantford City Council at its next meeting:

"Whereas a number of farmers in the vicinity of Brantford have recently been refused tickets for coal; and

"Whereas we understand that these refusals have been made in accordance with instructions issued by the City Fuel Commission not to give coal to farmers; and

"Whereas a large number of farmers in the neighborhood of Brantford are just as dependent on coal for fuel as are the residents of the city, while many of those who have wood on their farms have not the available labor to cut this wood on short notice; and

"Whereas, under such circumstances, any wholesale discrimination against farmers is manifestly unjust;

"Be it therefore resolved that this meeting of farmers, called under the auspices of the Brant County Board of Agriculture, emphatically protests against such wholesale discrimination and hereby asks the Brantford City Council to immediately issue instructions to the City Fuel Commission to make no general discrimination between city and country, but to judge each case on its own merits; and

"Be it further resolved, that copies of this resolution be sent to the Brantford City and Brantford Township Councils, to the local papers, to the Ontario farm press, and to the Fuel Controller at Ottawa. Signed, George A. Teller, Pres., Brant Co. Board of Agriculture; A. W. Pate, Sec'y."

The P.E.I. Farmers' Institutes

THE annual meeting of the Prince Edward Island Farmers' Institutes was held in Charlottetown on January 16th and 17th. There was a large attendance of delegates from 15 local institutes throughout the island. Mr. Theo. Ross, B.Sc.A., the President, address, regretted the policy pursued by the Federal Government in taking away the little help from the farm that remained on the island, and thought the State would be better served by leaving those young men on the farms, where they were so badly needed. Farmers are now forced to work 14 hours a day, though the "arm-chair" gent urge patriotism and production. The backyard farmers in the city now, after their season's harvest, can probably sympathize with the ordinary farmer, and are not sunshine and dollars that all is not sunshine and dollars on the farm.

It was regrettable, he said, that so many dairy factories have closed down and did not operate last year, though the total output of dairy products from the island will come near last year's output, but that was materially below the previous years. Co-operative dairying on the island is on the downward march, however painful are the facts. The present regretted that the live stock associations, such as the Dairy Cattle Breeders' Association, the Sheep Breeders' Association, the Cattle Breeders' Association, the Swine Breeders' Association, and the Horse Breeders' Association have been allowed to die out, and recommended that all be reconstructed and formed as one live stock breeders' association for the province. Continuing, he said:

"The supply of horses is far greater than the demand, but it is regrettable that a highly respected seed house quotes prices that were brought in the pre-war times of plentiful supply. Mangel seed is on the average quoted at one dollar a pound, as against forty-five cents last year; Swede turnip seed is offered at about \$1.40 a pound, as

for the export of our island produce. In the case of potatoes and lambs, also hogs, the executive has been instrumental in greatly augmenting the prices paid the farmers for these three products."

It was shown during the discussion that not less than 12 cheese factories have closed their doors—about one-third of the fourth of the total factories in the province. The action of setting a price, 21½¢, on cheese by the Imperial and Federal Governments, has had a bad effect on our cheese production, and the majority of patrons went in for buttermaking in the season just past instead of cheese.

The Women's institutes have been doing good work during the year.

"As farmers we have endured a plethora of advice," said one speaker. "We have been urged to increase production, while our help has been taken away. We have been asked to increase our hours when we are now working 14 hours six days and about half as many on Sunday. Our women are asked to increase their duties on the farm when we all know that we are now making slaves of our women on the farms. We have been called profiteers when our profits have seldom amounted to five per cent. on invested capital. And here the time has come for the assertion of our proper social position and status in the country."

A number of resolutions were passed, many of them of great local moment.—J. A. M.

The Field Root Seed Supply

CANADA has so far, as is well known, relied almost entirely on Europe for her supply of root seed. Before the war, i.e., as long as agricultural and transportation conditions were normal, there was no danger of Canada being inadequately supplied with seed, but with the outbreak of the war the conditions became different.

It is true that during 1914 and 1915 the import of root seed falling off, as a matter of fact Canada imported during these years more seed of both mangel and turnips than during any previous year. A mere study of the import figures therefore gave the impression that Canada at the end of 1915 was not in any danger of having the seed supply seriously curtailed in the immediate future. However, as the prospects for an early peace continued to remain far off, the agricultural activities in the seed raising countries of Europe had to be directed almost exclusively toward production of food for the armies. As a consequence, root seed growing was being neglected, especially in France, a fact that became noticeable as early as 1915. The immediate result of this was a rapid decrease in the seed supply in Europe, which made it necessary for the root seed producing countries to prohibit the export of root seed for the duration of the war. When this embargo took effect, it began to be realized in far-seeing quarters at least, that there was a real danger of shortage in the seed supply needed by Canada in the near future. The danger gradually took on a more serious aspect, as to the difficulty of actually securing seed in Europe was being added the difficulty of shipping it across the Atlantic in safety.

At present the root seed situation is far from satisfactory as one could wish it to be, and what it will be like later in the season is difficult to foretell with accuracy now. One thing is certain, however, and that is that the prices to be paid by root growers for seed this year will be abnormally high.

A catalogue just received from a highly respectable seed house quotes prices that were brought in the pre-war times of plentiful supply. Mangel seed is on the average quoted at one dollar a pound, as against forty-five cents last year; Swede turnip seed is offered at about \$1.40 a pound, as



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The sooner you get your Alpha working for you, the sooner it will begin to save its cost.

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compared with about 45 cents a year ago, and in field carrot seed there is an increase over last year's prices that in instances amounts to over fifty per cent.

These prices tell a story that can hardly be misunderstood. They clearly indicate that the available root seed supply is small, a fact that also may be gathered from import figures of the last two years, as given by the Department of Customs.

Under the circumstances our advice to root growers who have not taken the precaution to grow their own seed is to secure whatever quantities of seed are needed for the coming season's root crop as early as possible.

War Time Poultry Problems

(Continued from Page 4.)

"We have purchased a car load of elevator screenings for this department," Prof. Graham informed us. "When we first fed it it will be mixed with rolled oats or wet mash, to get them started. If we want to feed terminal elevator screenings extensively, however, we will have to back up to the day that we hatch our chicks, and mix it in with the chick feed. If we teach them to eat the screenings then, our troubles are over. I haven't the slightest faith, however, in teaching old hens to eat something that they do not know. I have even seen hens that would not eat corn or wheat, simply because they had not seen them before. If screenings are to be fed to old hens they must be fed ground or in some way whereby the hen cannot see her vision.

"Have you any substitute for corn that will warm the pullets up this cold weather?" we asked, hardly expecting an answer. Prof. Graham, however, was ready with a substitute that has been giving excellent results at the college.

"Yes, we have been feeding pork tripe, purchased from the local packing house. This tripe actually costs us less than corn, and its heating value is greater. Being mostly fat, however, it has to be fed with great care, or the digestive apparatus of the chicken will

be completely upset. But we have experimented with it sufficiently to recommend a safe method of feeding. To 300 hens we feed five pounds of pork scrap. Some hours previous to feeding, the pork scrap is put through a bone grinder and ground fine. Boiling water is then poured over it to emulsify it. Before feeding it, we mix with the emulsified pork four pounds of ground barley, four pounds of low grade flour and seven pounds of a commercial mixture called "Predigest." Other ground grains would do, however, as the idea is to make a crumbly feed, so that no bird will be able to get more than her share of the pork. I would emphasize again the import-

good layer is usually a hustler, goes to feed late and gets up early. She very seldom, when well fed, develops a mass of internal fat. The body cavity or the space between the pin bones and end of the breast bone, is soft and flexible in good hens. A little practice will assist us to pick out nearly 80 per cent of the poor producers. Finally a laying hen's pin bones are very seldom close together.

"Another point of importance is the date of hatching. Get the chickens out during April and early May. They will make the best winter producers. Market the surplus males and old hens when they are ready. Many keep the old hens and males after they have

Cheapering The Mash.

In addition to the scratch rations, mash rations can be cheapened considerably. Wheat screenings are available on the market at the present time, and can be purchased through the Provincial Government. These should be used as freely as possible, grinding them and mixing them with other ground grains and dry mash rations. We have cheapened our mash rations by using the following:

Ground wheat screenings.....	4 parts
Ryan	2 "
Crushed oats	2 "
Shred	2 "
Middlings	1 part
Commeal	1 "
Charcoal	1 P. C.

This makes a well balanced ration, and the substitution of the ground wheat screenings for a good part of the rye meal and middlings, as formerly used, cheapens the ration considerably.

Farmers are in a good position to supply their fowls with the required amount of green food in the form of mangolds, turnips, clover hay, or if none of these are available, then sprouted oats may be used. It has become very urgent that farmers and poultrymen in general should make the best possible use of all waste products around the farm. Table scraps, waste soap, garbage in general and other materials should be incorporated in the wet mash ration. It is expected that our profits in egg production will be greater than last year, in view of the high prices prevailing for eggs.

Mr. Crerar's Popularity

AN indication of the great popularity of Hon. T. A. Crerar in Western Canada is furnished by the majority of about 6400 which he obtained in the constituency of Marquette, Manitoba, where he used to live and where the farmers are well acquainted with him. The returns in the poll at Silver Creek where he lived for a while were 729 to 9 in his favor. At Russell, where he also lived for some time the returns were 320 to 10 in his favor. One poll elsewhere in the constituency recorded a vote of 68 to nothing in favor of Mr. Crerar.

OLDCAKE FOR FARMERS.

THE foodstuffs branch of the Federal livestock branch of the Department of Agriculture has placed at the disposal of the markets' branch of the Ontario Department of Agriculture 80 carloads of oldcake for distribution among the farmers of the Province. Another 80 cars have been offered to the United Farmers of Ontario, a total of 160 cars. Ontario's share of 10,100 tons of oldcake was received in New York for sale to the farmers at \$55 f.o.b. New York, the war tax included.

Soldiers to Help in Seeding Operations

AS an outcome of the recent conference held by Provincial representatives with Hon. T. A. Crerar, Minister of Agriculture, at Ottawa, arrangements have been made for the creation of Leave of Absence Boards in each Province for the purpose of passing upon the release of soldiers, drafted under the Military Service Act, for participation in farm labor. The idea is for the men to assist in seeding operations, but they will be held under military discipline, and must engage in actual seeding operations, returning to their depots when this work is finished.

Their Need—and Our Opportunity

OF the need for all exportable Canadian food products no one should longer be in doubt. The first of a series of fortnightly bulletins from France to the Food Controller, states with a plainness that would be pitiful, if it were not so noble, how badly off the French civilians are. "The supply of breadstuffs is causing grave anxiety. Impoverishment of cereals will not permit of its application," it says. "What does that mean? Simply that France is so short of bread that it cannot risk even a hand-to-mouth system, but some should starve. Yet France fights on gloriously! Surely a common pride in any fighting the bravest fight of all the ages, should be enough to make anyone determine that in as far as in him lies, he will do up a noble butter and meat, and all dreadfully short, but still sold at a price practically unobtainable. As the sugar, of the British Dominions practically accessible to cargo carriers, is manifestly 'up to Canada' to strain every nerve to increase the exportable quantities of these commodities so much needed overseas.

ance of thoroughly emulsifying the pork."

Calling The Fleck.

"And after the feeding, what comes next as a war time poultry measure?"

"Many of us will have to learn to cull our flocks," replied Prof. Graham. "In general it can be said that never was a good laying hen more profitable than now, and it is equally true that never was a poor layer more unprofitable. Therefore, cull the flocks. Trap and sell all that are not profitable. Good laying hens lose the yellow color from their shanks; those having white ear lobes, like Leghorns, lose the yellow tinge; the hen's plumage does not appear in perfect condition; then the

outlived their profitable age.

"And my final word would be, watch for leaks in the business. Study increased production and decrease the boarders. There is no place today for the careless poultryman. I firmly believe, however, that poultry is still a good proposition for a intelligent poultry man, and from the national standpoint as well."—F. E. E.

Economy in Poultry Feeding

(Continued from Page 4.)
give variety. As soon as corn is available it should be used as much as possible.

Cockshutt Tractor Plows

Cockshutt's were the first to place a successful big engine gang plow on the market some 10 years ago. The experience gained has kept our product well in the lead and today's demand for small 2, 3 or 4 Furrow plows finds

a splendid response in the sturdy, easily controlled, modern design Cockshutt Plows, Mad: from 2 to 12 furrows.

The horse has his place on the farm—always will have—but for rapid, clean plowing in a short season, the Cockshutt Tractor Plow will pay big.

The Cockshutt Light Tractor Plow is an ideal plow of 2 or 3 furrows. You can turn it into either a 2 or a 3-furrow plow at will.

The bottoms are raised to clear an obstruction, etc., and lowered again automatically—just by two pulls on the same rope.

Lever for regulating the depth of the cut are within easy reach of the driver's hand. Make any desired change without stopping the tractor.

Can be used with any tractor. Hitch is adjustable and fitted with break-pin connection to avoid damage when meeting an obstruction.

Built throughout of highest grade of steel—levers, ratchet, sleeves, brackets, etc.—all are steel and very substantial.

The furrow wheel is staggered—this together with the height of beams gives ample clearance.

Hard grease cups are provided at all wearing points, ensuring light draft and long life to the plow. It's worth seeing.

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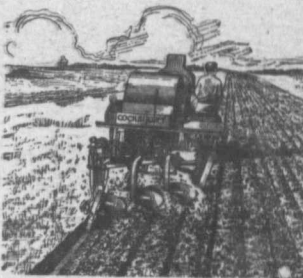
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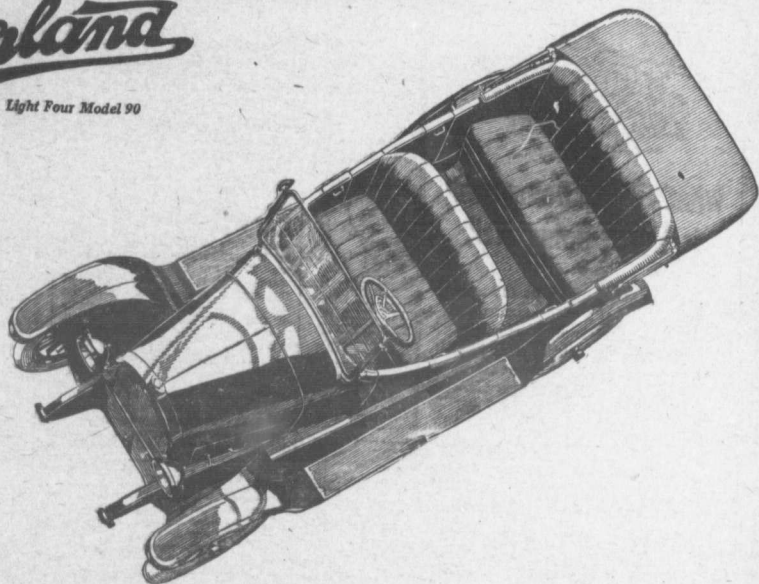
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Our intimate knowledge of field conditions—our continuous research work and our unsurpassed manufacturing conditions will all be apparent and you are sure to find just the Tractor Plow listed that you ever needed for.



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Light Four Model 90



The Thrift Car

A farmer 30 miles from town with an Overland is closer than one 5 miles away who depends entirely upon horses.

Often a repair is suddenly needed when harvesting—with an Overland it is no trick to go to town, get the repair and return to work without losing precious time.

Sixty percent of all the Overland cars sold are bought by farmers. Why?

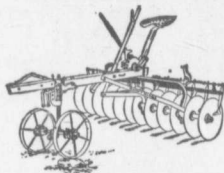
Because this thrift car combines in a maximum degree *all* of the five essentials necessary for complete satisfaction.

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What's Worth Doing at all is Worth Doing Well

NOBODY questions the usefulness of a Disc Harrow on the farm. It is almost as necessary as a Plow and as much care should be exercised in its selection. When a field needs the Disc Harrow, you should use one which will cultivate all the surface of the ground, regardless of dead furrows, ridges, etc.

THE MASSEY-HARRIS Nos. 8 and 9 DISC HARROW

will do it. It has an improved Spring Pressure Device for holding inner ends of Gangs in working position in hard and uneven ground. One end of either Gang may rise to pass an obstruction while the balance of the Harrow remains at work.

The Pressure Springs prevent damage to the machine when striking obstructions and save both team and driver from sudden shock.

This Disc Harrow met with favor when first introduced and now there are many thousands in use and thousands are sold each year.



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—Agencies Everywhere—

The Makers' Corner

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

United States Prohibits Export of Margarine to Canada

JUST as we go to press news comes that the United States Food Controller has issued a decree against the shipment of oleomargarine to Canada and the probability is that there will be little, if any, on the Canadian market for some time. For each shipment sent out of the United States the shipper had to get a special license, according to the regulations of the Food Control Department. This license has been refused by the authorities, for the time being. There are manufacturers of oleomargarine in Canada, but the bulk of the supply comes from across the line, and one of the essential elements of the composition, cottonseed oil, comes entirely from the United States. Should the U. S. continue to enforce the embargo and if it applies to the ingredients as well there will be no more oleo manufactured in Canada, as well as bricks can as easily be made without straw as margarine without cottonseed oil. Further developments in the situation will be waited on with interest.

Care of Cream Cans

IAM not thinking of holes in the vessels when I say that there is a big needless leak in cream cans. The cream can is one of the worst slammed about, rammed about and jammed about pieces of furniture known to the twentieth century civilization. And part of the bad usage is quite unnecessary.

The war is creating a special reason why cream cans should be treated with greater respect. There is a present shortage of tin plate, from which cream cans are made, and in the United States, as well as in Canada, efforts are being made to impress can handlers with the importance of caring for these vessels. One United States publication just to hand says, "It may soon be impossible to secure more milk, cream or ice cream cans until after the war." If a real famine in milk and cream were to occur, the loss to the farmers would be much greater than usual because of the higher prices which are now obtainable for milk and cream.

Here are Some "Cans."
You can avoid using milk or cream cans for wrong purposes. Sometimes people put gasoline in them and ruin them almost immediately.
You can refrain from battering the cans needlessly.

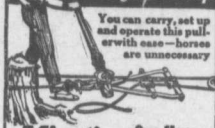
You can return other people's cans, if you happen to get them by mistake. The owner needs them.

You can see that your can does not leak about the railway station. Even though you may not be going to use it at once, take it away and care for it.
You can remind the railway agent that he may help by giving cans as much protection as possible.

You can rinse the vessel before using. It may have been thoroughly cleaned at the factory; but it needs a fresh rinse before using.
You can keep the vessel clean inside. Use a little sal soda occasionally in washing the tins out, if necessary.

You can see that a tin does not stand in a damp place or with moisture inside. Especially at the end of the season, when the cans are being put away, dry each carefully and store under cover in a dry atmosphere.—L. A. Gibson, Dairy Commissioner for Manitoba.

One Man Pulls Any Stump



You can carry set up and operate this puller with ease—horses are unnecessary

Kirstin One-Man Stump Puller

This KIRSTIN One Man Stump Puller is in a class by itself. It is an superior all time favorite. Just a steady back and forth motion on the lever gives you a pull on the stump.

The secret of its great power is its double leverage. Made of high grade steel, containing great strength, durability and light weight. Soft steel clutches grip and pull without wear on the cable. Cleans over an acre from one anchor. Changes the speed while operating.

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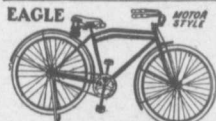
with 100,000 miles of splendidly equipped road, traversing and opening up a hundred thousand square miles of magnificent country—forest and stream—prairie and mountain.

The Canadian Northern

opens the new, interesting and scenic route between Eastern and Western Canada, with connections for all principal points in Canada and United States.

The Road of a Thousand Wonders and Opportunities
For "opportunities" booklet, timetable, fare and information, apply C.N.R. ticket agent, or write General Passenger Dept., Toronto, Montreal or Winnipeg.

PRIZE STOCK—Large Embden Geese, \$8.00 to \$7.50 each. Large Pekin Ducks, \$2.25 each—\$4.00 per pair. White Wyandottes, St. I. Reds, and Pekin and Runner Ducks eggs, \$2.00 per setting.
S. R. COPLAND
R. R. No. 1 - Harristown, Ont.



Write to-day for our big **FREE CATALOGUE** showing our full line of bicycles for Men and Women, Boys and Girls.

MOTOR CYCLES
MOTOR ATTACHMENTS
Tires, Coaster Brakes, Kickers, Inner Tubes, Lamps, Bells, Cyclometers, Saddles, Equipment and Parts of Bicycles. You can buy your supplies here.

T. W. BOYD & SON,
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BOOKS

Write for our catalogue of farm books. It is sent free on request. Ask us for information on any book you require.
BOOK DEPT., FARM AND DAIRY PETERBORO, ONT.

When Writing Mention Farm and Dairy

A Defence of Seven Day Tests

Mr. Leavens Replies to Mr. Stevens.

EDITOR, Farm and Dairy.—In your issue of Jan. 10th, Mr. F. H. Stevens, of Iacova, N.Y., criticized the short time records and wants the breeders to abandon them altogether for yearly records. He uses for his text part of the 7th chapter of St. Matthew, where the two men build their houses, one on a rock and the other on sands. Now I think when St. Matthew wrote this parable, he meant it for a lesson for Mr. Stevens and others, rather than for the Holstein cow. She will acquit herself creditably whether in short or long time tests. I think anyone who has only sand and rocks to keep Holstein cows on had better sell them and go into sheep. Someone has truly said the man has 50 per cent. of the record in short or long time tests, in any breed of cattle, in the case of the expert with scientific methods and electric fans; but in ordinary cases the cow is 90 to 100 per cent. of the record.

He asks, "How long will such methods endure?" About 20 years ago Henry Stevens (father of F. H. Stevens) made a sensational world's record with DeKol End, in seven days. The descendants of this cow have produced more big records than the descendants of any other cow of any breed. Thirteen years ago E. A. Powell was having the same trouble Mr. Stevens is having now. Evidently Mr. Powell's nerves have been quieted, for I notice in the Holstein-Frisian World, he is advertising a young bull of which he gives the seven day records of 15 of his ancestors. He calls him a great bull. Seven years ago, men I knew said cows could not make these records. Today they are breeding Holsteins and touting them themselves.

A Case in Point.

I want to compare the records of the cow Zarlida Clothilde 3rd DeKol, (whose picture you used to illustrate Mr. Stevens letter), with a Jr. 4-year-old heifer of my own. In seven days Clothilde 3rd made one pound more butter than the heifer, but for thirty days the heifer made three pounds more butter than the cow, and was giving over a hundred pounds of milk a day when taken out of the test. Who will say, if the breeding is equal, that a son of one is worth more than a son of the other? Mr. Stevens seems to think if a cow has made a big yearly record that we need ask no questions.

We will take the one-time champion yearly record cow, DeKol Plus. Her daughters and grand-daughters have only made average records. I bought a cow with a big long-distance record. When put in my herd under the same conditions, she proved to be the poorest cow I owned.

A few years ago a Guernsey cow made over 1500 pounds butter in a year, a world's record. The next year a Holstein cow made over 1500 pounds in a year. Now, with ordinary conditions and in the average breeder's hands, neither cow would have made half that amount. Now I think you will agree with me that long distance records are as misleading as the short ones.

If half the good cows were given a long time test like the above cows have had, it would take an army of men and all the Victory Loan. If people are speaking disparagingly of tests where there is an official supervisor to watch every milking, how can we expect them to be credited where they are weighed once a month.

If Mr. Stevens will use his ability to teach the dairy farmer how to disconnect records of both kinds, he will be a better friend of the "breed" than by building his house of sand.—B. R. Leavens, Bloomfield, Ont.



ROYAL YEAST

Has been Canada's favorite yeast for over a quarter of a century. Bread baked with Royal Yeast will keep fresh and moist longer than that made with any other, so that a full week's supply can easily be made at one baking, and the last loaf will be just as good as the first.

MADE IN CANADA

E.W. GILLETT COMPANY LIMITED
WINNIPEG TORONTO, ONT. MONTREAL

GILSON TRACTOR



THE STANDARDIZED TRACTOR

—is a business machine designed along sound mechanical lines of proven worth, with no frills. Features, 15-30 h.p. *Write for free catalog and rock bottom prices.*
GILSON MFG. CO. LTD.
377 YORK ST. GUELPH, CAN. 27



"I'm Off to Town, Is There Anything More You Want?"

YOUR son or daughter will be able to handle your shopping in town,—to take your produce to market, or to invite "hands" to the threshing or silo-filling, if you own a Ford. Furthermore they always will be glad to make the trips.

In doing these errands they take a man's place. They save your time—and that of a horse. This time saving means money to you, and again, a Ford, it has been estimated, costs less than two cents a mile to drive, or two-fifths of a cent a mile per passenger. The Ford is, therefore, much cheaper than a horse to drive. It is safer. It is more enjoyable. It requires less attention. It will soon pay for itself. The Ford is the farmer's utility car.

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THE UNIVERSAL CAR

- Touring - \$495
 - Runabout - \$475
 - Coupe - \$770
 - Sedan - \$970
 - One-ton Truck \$750
- F. O. B. FORD, ONT.



Ford Motor Company of Canada, Limited

Ford, Ontario

Ayrshire News

JEAN ARMOUR IS DEAD.
THE Ayrshire Breeders' Association, with deep regret, announces the passing of Jean Armour, one of the greatest dairy cows in history. The Jean Armour, 26497, was bred by H. and J. McKee, Norwich, Ontario, but was developed by Mrs. P. D. Erhardt, West Bercoe, Vermont. She was the first Ayrshire milk to produce over 20,000 pounds of her breed. Champion being 20,174 pounds milk, 77.73 pounds butter fat. In her fourteenth year she produced 15,382 pounds milk, 716.36 pounds fat. Jean Armour made more Ayrshire history when she dropped Jean Armour 2nd, 22219, the present World Champion 2nd, a three-year-old, whose official record stands 21,937 pounds milk, 882.55 pounds fat. Jean Armour was born October 19, 1861, being 16 years, 2 months old at time of death. She was a splendid individual and a great breeding cow. Her death is a great loss to the Ayrshire breed.

AYRSHIRE SILVER CUP WINNERS, 1917.

THE following Ayrshire cows and their respective classes in the H. O. P. test during the year. The one that heads each class is the winner of the silver cup. It will be seen that the competitors were as close as in each class the winners have a comparatively small margin of points.

Mature Class.
Dairymaid 2nd, 26128; 152.06 lbs. milk, 417 lbs. fat, 6.01 per cent. fat, 324 dys. 14900 points. T. C. Stevenson, Latta.
Betsey Brown, 30883; 14669 lbs. milk, 431 lbs. fat, 4.3 per cent. fat, 304 dys. 14684 points. A. S. Turner and Son, Ryckman's Corner.
Holehouse Pitt of Frost Run, 27023; 14322 lbs. milk, 633 lbs. fat, 4.38 per cent. fat, 365 dys., 14137 points. J. L. Stanwell, Stratfordville.

Four-Year-Old Class.
Grace of Fernbrook, 35936; 13440 lbs. milk, 601 lbs. fat, 4.50 per cent. fat, 365 dys., 5897 points. E. Burpee Palmer, Norwich.
Beauty of Glendala, 34024; 13113 lbs. milk, 460 lbs. fat, 3.5 per cent. fat, 262

dys., 5327 points. Morley Hotchkiss, Stratfordville.
Bonnie Jean, 48311; 10713 lbs. milk, 504 lbs. fat, 3.77 per cent. fat, 326 dys., 5026 points. Samuel G. Binkley, Watfordville.
Three-Year-Old Class.
Lenore 2nd, 35914; 11202 lbs. milk, 490 lbs. fat, 4.36 per cent. fat, 288 dys., 10901 points. Harmon McPherson, Orkney.
Princess of Selkirk, 48413; 12107 lbs. milk, 426 lbs. fat, 3.59 per cent. fat, 262 dys., 9483 points. Hospital for Insane, Selkirk, Man.
Scott's Snowball, 42683; 11048 lbs. milk, 451 lbs. fat, 4.08 per cent. fat, 325 dys., 9013 points. Smith Bros., St. Thomas.
Two-Year-Old Class.
Springbank White Rose, 44100; 12520 lbs. milk, 546 lbs. fat, 4.47 per cent. fat, 305 dys. 12000 points. A. S. Turner & Son, Ryckman's Corner.
MacGregor's Laurie May, 41908; 15000 lbs. milk, 592 lbs. fat, 3.95 per cent. fat, 246 dys., 14061 points. Nova Scotia Agricultural College, Truro, N.S.
Beaver Meadow Carrie 2nd, 44314, 10644 lbs. milk, 405 lbs. fat, 4.71 per cent. fat, 285 dys., 12200 points. W. C. Tully, Athelstan, Que.

SOME SPLENDID OFFERINGS IN AYRSHIRES.

READERS of Farm and Dairy who are on the lookout for some particularly good Ayrshire stock would do well to note the offerings from Evie Stock Farms, at Chesterville, Ont. All the offerings from the Balmangrove farm are sons and daughters of their great imported sire, OHL HENRIET BARONNET, illustrated in our issue of the 17th.

JERSEY NOTES.

OUR representative recently called at Brampton, Ont., to inspect the Jersey herd of Messrs. E. H. Bull & Son. The herd of about three hundred Jerseys were found to be in excellent winter condition. The firm are making a special offering of fresh calved cows. The kind that would soon pay for themselves. Sunbeam of Edeley, the cow that holds the yearly R.O.P. butter fat record for Canada, and also Beauty Maid, the yearly champion butter cow for last year, are herd. According to the Brampton these cows stand first and second over all Canada as yearly butter producers. Messrs. Bull & Son have in their herd animals, also other lines of breeding capable of large production.

25 HEAD AUCTION SALE 25 HEAD Registered Holsteins THURSDAY FEB. 21st, AT HESPELER

Females:—From high record sires, descended from officially tested stock, some from tested dams with records up to 25 lbs. butter in 7 days, including daughters of Pontiac Segis Avondale, son of King Pontiac Artis Canada. His 3 near dams average 31.10 lbs. His pedigree contains the sires or grandfathers of 10 40 B. cows, also daughters or Mechtildis, "Kornydke Manor DeKol," "Taka Sylvia Beets Posch," and others equally well bred.

Four Males:—Including herd sire "Pontiac Wayne Kornydke," brother to Brook-bank Butter Baron, 54 R.O.M. daughters, including Queen Butter Baroness, 33.18 lbs. Sired by a brother to sire of—"K. P. Pontiac Lass," 44.18; "K. P. Dionia Pieterje," 40.15; "Het Loo Pieterje," 30.28, world's champion 2-yr-old.

An opportunity to get stock from some of the best record strains in America. I am situated one-half mile from stations, Railway connection, connecting at Galt with Galt, Preston and Hespeler Electric Railway. Electric cars every hour from Galt and Kitchener. Catalogues will be forwarded promptly by request.

(A calf whose six tested dams average 25.36 lbs. will be sold. Proceeds to go to Red Cross.)

JAMES McDONALD, Guelph, Auctioneer WM. A. RIFE, Prop., Hespeler, Ont.

Old Orchard Farm Bloomfield

OFFERS two sons of King Segis Alcartra Spofford, "whose dam Fairmount Netherland Posch made a world's record at whole lactation period." One of Canada's leading sires and whose daughters are developing even past our expectations.

NO 1—DAM—LADY SEGIS WALKER

World's Champion three quarter cow, "having had a test stepped on at 2-yr.-old." Record 28.50 lbs. butter 7 days. Best days milk, 104.4 lbs. She is a daughter of the great Count Segis Walker Pieterje, six of whose daughters milked over 100 lbs. a day last spring and averaged well over 30 lbs. butter for 7 days.

NO 2—DAM—SYLVIA SEGIS WALKER

Daughter of No. 1 and sister of May Echo Sylvia on sire's side. Her 2-yr.-old record is 21.965 lbs. butter 7 days, 655 lbs. milk; 42.45 lbs. butter 14 days and 1057.8 lbs. milk. Best days milk 85.6 lbs. These are splendid individuals ready for service.

ED. B. PURTELLE Bloomfield, Ont.

PREMIER HOLSTEINS

Production will help to win this war. Breed production into your herds so that we may always be supplied with the GREATEST food known—MILK.

-- NOW --

I am offering a few good bull calves backed by the GREATEST MILK PRODUCER in the WORLD, May Echo Sylvia, 152 lbs. in 1 day, 1005 lbs. in 7 days, 41 lbs. butter in 7 days. The dams of these calves have milked over 80 lbs. butter in 7 days. The dams of these will average around 95 lbs. per day and 20 of the nearest relatives average butter for 7 days will be about 30 lbs. I will offer a different calf every other week, each to be sold during that time. The dams and sires are TUBERCULIN tested and each one is GUARANTEED to satisfy. Come and see my herd. Note their INDIVIDUALITY and PRODUCTION.

"WATCH THIS SPACE IN FUTURE."
W. G. Bailey, Oak Park Stock Farm, Paris, Ont. Phone 1102 Brantford

JERSEY BULL

I am offering for sale a young bull ready for service of good size and type. His sire is a son of Sadie Mac, 15.211 lbs. milk and 74 lbs. fat. Canadian record when made, and John Polo, a bull whose breeding is well known. His dam has R.O.P. 8,730 lbs. milk and 69 lbs. butter 3-year-old.
H. H. GEE
HAGERSVILLE, ONT.

Choice Sires and Females

FROM THAT GREAT IMPORTED SIRE

CHAMPANTON BARONET

(48420)

Study lines of our great sire and you will get an idea of wonderful conformation of his young stock. Not only are they well turned but they trace to heaviest of the Ayrshire blood. Note also the particularly good records of their dams.
1.—Evie Baronet (55412) on our Herd sire above and out of Balmangrove Queen who as a 2-yr.-old has just made 7,647 lbs. of 4% milk. He is just 12 months old and ready for service.
2.—Evie Sir John (55412), sire Champanton Baronet, dam Auchenfaul Mysie, 7,588 lbs. of 4.8% milk. He is just 1 yr. old, and will make an excellent herd header.
3.—Evie Admiral Jessie Fisher, sire Champanton Baronet, dam Hall Minnie 6 (48422) who made 9,923 lbs. 4.2% milk. He is 1 yr. old and ready for service.
4.—Evie Barbara, dam Lesnescock Snowwhite, sire Champanton Baronet. Dam's production, 5,166 lbs. 4.4% milk.
5.—Evie Lady Betty, dam Auchenfaul Brownie, sire Champanton Baronet. Dam's production 2.4% milk.

The breeder who wants the choicest blood and conformation for his herd, will do well to secure one of the above young sires. The two females are the right kind for foundation stock. Write or phone for full particulars.

EVIE STOCK FARM

CHESTERVILLE, R.R. No. 1, Ont.

J. & C. C. BALLANTYNE, Proprietors

HOLSTEIN-FRIESIAN NEWS

Farm and Dairy is the leading exponent of dairying in Canada. The great majority of the members of the Canadian Holstein-Friesian Association are readers of the paper, and the Association are invited to send items of interest to Holstein breeders for publication in this column.

OFFICIAL RECORDS OF HOLSTEIN FRIESIAN COWS FOR DEC. 1 TO 31, 1917.

Matre Class.

1. Pouch Mercedes Springbank 2nd. 26179, 7y. Im. 1id.; 69.5 lbs. milk, 23.13 lbs. fat, 26.31 lbs. butter. T. H. Dent & Son, Woodstock.

2. Countess Maude Pouch, 15644, 7y. Sm. 6d.; 846.8 lbs. milk, 26.66 lbs. fat, 24.83 lbs. butter. Gordon S. Gooderham, Clarkson.

3. Daisy Gerben Calamity, 12350, 5y. Sm. 11m. 2d.; 566.7 lbs. milk, 26.68 lbs. fat, 25.73 lbs. butter. Jos. O'Reilly, Peterboro.

4. Princess Ormsby DeKok, 26716, 6y. Sm. 2nd.; 564.7 lbs. milk, 26.46 lbs. fat, 26.64 lbs. butter. Maria McDowell, Oxford Centre.

5. Missor P. H. Mand, 28390, 5y. Im. 2nd.; 495.0 lbs. milk, 19.63 lbs. fat, 24.42 lbs. butter. Gordon S. Gooderham.

6. Grace Payer Patricia, 6367, 6y. Sm. 6d.; 480.4 lbs. milk, 18.64 lbs. fat, 23.21 lbs. butter. John Cathlin, Peterboro.

7. Beattie Belle Hanla, 19811, 7y. Sm. 2nd.; 458.8 lbs. milk, 18.43 lbs. fat, 23.27 lbs. butter. Fred W. E. Burnaby, 3y. Sm. 2nd.; 524.5 lbs. milk, 18.37 lbs. fat, 23.10 lbs. butter. H. C. Hanner, Norwich.

8. Adelaide DeKok Springbank 2nd. 21828, 6y. Im. 17d.; 439.7 lbs. milk, 17.90 lbs. fat, 21.63 lbs. butter. T. H. Dent & Son.

9. Evergreen March 2nd. 12869, 7y. Im. 10d.; 504.6 lbs. milk, 18.94 lbs. fat, 21.17 lbs. butter. Dir. Exper. Farms, Ottawa.

10. Princess Merceia Schulling, 24259, 5y. 7m. 1id.; 629.3 lbs. milk, 19.48 lbs. fat, 20.89 lbs. butter. E. E. Hanner, Norwich.

11. Chateau Beauty 2nd. 21172, 5y. 7m. 2nd.; 553.0 lbs. milk, 18.13 lbs. fat, 20.17 lbs. butter.

30-day record: 2292.0 lbs. milk, 62.71 lbs. fat, 78.39 lbs. butter. Dir. Exper. Farms, Ottawa.

12. South Calamity, 24294, 5y. Sm. 7d.; 435.6 lbs. milk, 16.38 lbs. fat, 20.15 lbs. butter. Thos. P. Chasterton, Ottawa.

13. Silver Cross, 27230, 6y. Sm. 2nd.; 434.4 lbs. milk, 15.98 lbs. fat, 20.00 lbs. butter. Sherrick Bros., Bethesda.

14. Nettie Tension Korndyke, 17479, 6y. 10m. 4d.; 472.2 lbs. milk, 14.34 lbs. fat, 17.99 lbs. butter. Sherrick Bros.

15. Zarlike Corliss 2nd. DeKok, 14857, 6y. Im. 15d.; 369.4 lbs. milk, 13.67 lbs. fat, 16.87 lbs. butter. 305-day record: 30467.7 lbs. milk, 107.52 lbs. fat, 1271.34 lbs. butter. Colony Farm, Danville, N.C.

Senior Four Year Class.

1. Duchess Aggie Wayne Meachilde, 25709, 4y. 10m. 4d.; 653.3 lbs. milk, 21.26 lbs. fat, 26.36 lbs. butter. Walburn Rivers, Ingersoll.

2. Johanna Butterback 2nd. 28159, 3y. 6m. 1d.; 490.1 lbs. milk, 15.34 lbs. fat, 21.13 lbs. butter. L. L. Wetliander, Tavistock.

3. Beattie Heneverval Fafort, 27764, 4y. Sm. 6d.; 686.2 lbs. milk, 19.57 lbs. fat, 19.84 lbs. butter. R. W. E. Burnaby, Jefferson.

Junior Four Year Class.

1. Pontine Countess Echo, 35261, 4y. 4m. 4d.; 530.7 lbs. milk, 20.43 lbs. fat, 25.82 lbs. butter. Thos. P. Chasterton.

2. Pauline Colantha Canary, 26032, 4y. Sm. 5d.; 391.3 lbs. milk, 18.93 lbs. fat, 23.86 lbs. butter. A. H. Hild, Norwich.

3. Hilda Gano Fafort, 26441, 4y. 6m. 4d.

672.3 lbs. milk, 18.64 lbs. fat, 23.18 lbs. butter. Wm. Steadaker, Stratford.

4. Octavia Beattie Ann, 27130, 4y. Sm. 11d.; 536.6 lbs. milk, 18.54 lbs. fat, 23.17 lbs. butter.

30-day record: 2302.0 lbs. milk, 72.13 lbs. fat, 91.60 lbs. butter. Dir. Exper. Farms.

5. Pontine Jessie 2nd, 30880, 4y. 6m. 11d.; 494.3 lbs. milk, 15.34 lbs. fat, 22.76 lbs. butter. Maxin McDowell, Oxford Centre.

6. Cherry Grove Meta Fafort, 29268, 4y. Sm. 5d.; 472.7 lbs. milk, 14.13 lbs. fat, 20.37 lbs. butter. Wm. Steadaker, Stratford.

7. Bolo Mercedes Corliss, 20313, 4y. Sm. 11d.; 464.1 lbs. milk, 16.16 lbs. fat, 20.19 lbs. butter. R. C. Hanner.

8. Shearar H. C. Hanner, 4y. Sm. 2nd.; 509.2 lbs. milk, 16.92 lbs. fat, 20.08 lbs. butter. R. W. E. Burnaby.

9. Lyons Segie Korndyke Aagie, 26030, 4y. 2m. 17d.; 549.8 lbs. milk, 17.73 lbs. fat, 21.89 lbs. butter. R. W. E. Burnaby.

10. Beattie's Charcoal, 26889, 5y. Sm. 9d.; 458.2 lbs. milk, 15.83 lbs. fat, 17.19 lbs. butter. C. N. Hilliker, Barretonville.

11. Hearty Pieterte Meachilde, 29086, 4y. Sm. 1d.; 468.3 lbs. milk, 15.33 lbs. fat, 16.67 lbs. butter. Hiram Freeman, Dundas.

3y. Three Year Class.

1. Hot Lee Lady, 25094, 4y. Sm. 17d.; 682.1 lbs. milk, 20.71 lbs. fat, 25.83 lbs. fat, 106.97 lbs. butter. 343.4 lbs. milk, 94.85 lbs. fat, 121.00 lbs. butter. D. Raymond, Vaudreuil, Que.

2. Hot Lee Ann, 22092, 3y. Im. 4d.; 610.3 lbs. milk, 20.28 lbs. fat, 26.27 lbs. butter.

3. Fanny Ormsby DeKok, 31775, 3y. Im. 2nd.; 432.6 lbs. milk, 16.38 lbs. fat, 19.32 lbs. butter. R. W. E. Burnaby.

4. Duchess of Norfolk, 27695, 3y. Im. 5d.; 547.0 lbs. milk, 17.44 lbs. fat, 21.81 lbs. butter. A. H. Hild, Norwich.

5. Fanny Ormsby DeKok, 31775, 3y. Im. 2nd.; 432.6 lbs. milk, 16.38 lbs. fat, 19.32 lbs. butter. R. W. E. Burnaby.

6. Missor P. H. Mand, 28390, 3y. Im. 2nd.; 495.0 lbs. milk, 18.43 lbs. fat, 23.27 lbs. butter. Walburn Rivers, Ingersoll.

7. Duchess of Norfolk, 27695, 3y. Im. 5d.; 547.0 lbs. milk, 17.44 lbs. fat, 21.81 lbs. butter. A. H. Hild, Norwich.

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3y. Two Year Class.

1. Hot Lee Lady, 25094, 4y. Sm. 17d.; 682.1 lbs. milk, 20.71 lbs. fat, 25.83 lbs. fat, 106.97 lbs. butter. 343.4 lbs. milk, 94.85 lbs. fat, 121.00 lbs. butter. D. Raymond, Vaudreuil, Que.

2. Hot Lee Ann, 22092, 3y. Im. 4d.; 610.3 lbs. milk, 20.28 lbs. fat, 26.27 lbs. butter.

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15. Duchess of Norfolk, 27695, 3y. Im. 5d.; 547.0 lbs. milk, 17.44 lbs. fat, 21.81 lbs. butter. A. H. Hild, Norwich.

3y. One Year Class.

1. Hot Lee Lady, 25094, 4y. Sm. 17d.; 682.1 lbs. milk, 20.71 lbs. fat, 25.83 lbs. fat, 106.97 lbs. butter. 343.4 lbs. milk, 94.85 lbs. fat, 121.00 lbs. butter. D. Raymond, Vaudreuil, Que.

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5. Fanny Ormsby DeKok, 31775, 3y. Im. 2nd.; 432.6 lbs. milk, 16.38 lbs. fat, 19.32 lbs. butter. R. W. E. Burnaby.

6. Missor P. H. Mand, 28390, 3y. Im. 2nd.; 495.0 lbs. milk, 18.43 lbs. fat, 23.27 lbs. butter. Walburn Rivers, Ingersoll.

7. Duchess of Norfolk, 27695, 3y. Im. 5d.; 547.0 lbs. milk, 17.44 lbs. fat, 21.81 lbs. butter. A. H. Hild, Norwich.

8. Fanny Ormsby DeKok, 31775, 3y. Im. 2nd.; 432.6 lbs. milk, 16.38 lbs. fat, 19.32 lbs. butter. R. W. E. Burnaby.

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15. Duchess of Norfolk, 27695, 3y. Im. 5d.; 547.0 lbs. milk, 17.44 lbs. fat, 21.81 lbs. butter. A. H. Hild, Norwich.

--- SUNNYBRAE BARGAINS ---

ABBEKERK PIETERTE CLOTHILDE, 8 years, due in 2y. 4m. First daughter tested 15.38 lbs. butter, when under two years.

ABBEKERK'S bull calf, 11 months, by SYLVIOUS.

Her grandson by RATTLE, 9 months.

Her daughter by SYLVIOUS, 2 months.

BUTTER BARNNESS, ex-champion of CANADA.

Bull calf, 10 months, by RATTLE (Dam by PALADIN ORMSBY)—one tested sister, 23.23 lbs. butter at 2 1/2 years. See notes elsewhere in this issue.

Run down and see these when at the Annual Meeting, Grand Trunk Station, Millbrook, Long Distance Phone.

L. ROGERS "Sunnybrae" MANVERS STN., ONT.

HOLSTEINS

We have the only two sons in Canada, of the 44-lb. bull Ormsby Jane sale, also a 30-lb. calf, whose dam was famous cow. One of them is the bull in 7 days. Also 11 bull calves of lesser note, and females of all ages.

R. R. No. 4, PORT PERRY, ONT.

HAVE SOLD ALL FEMALES

But have a couple of nice bulls left from fine dams. Remember they are 44-lb. breeding. Don't miss this excellent opportunity. Write at once to R. R. No. 3, CHAS. E. MOORE, PROTON STATION, ONT.

HAY BAY HOLSTEINS;

SEGIS HENGERVELD OTTILIE is for sale April calves last year. He is by the same sire as JY. EARL, 80% heifer champion. His dam is the B.O.M. and has two great-grand-dams average 35.4 lbs. You can't equal the individual, his breeding or price.

L. F. BOGART, R. R. No. 3, NAPANEE, ONT.

"MILLHURST STOCK FARM—HOLSTEINS"

Two young bulls, good growthy fellows, well marked, being one year old, from good milking sires. Sired by G. GRAMMOND OF COLANTHIA JOHANNA LAD and PONTIAC KORNDYKE. His sire is a son of a 23 lb. cow and it also bull, both sires of 30.48 lbs. and 113.18 lbs. also. Also this spring's

M. C. WYMAN, CHUTE A BLONDEAU, ONT.

A RARE CHANCE

Holstein bull 12 months old. Sire—SIBUBIEN ABBEKERK MECHINICA, whose only 1 tested daughter gave records of 18.43 as JY. 3-yr.-old and 16.18 2-yr.-old. This sire is from a 25 lb. daughter of MADAM FOSHY PAULINE, 34.59. His sire is an Al individual, well marked, well grown. Priced for quick sale. We have also for sale some good R. of M. females from 2 to 3y. of age.

ROBERT C. LANING, VILLA NOVA, Ontario.

KING SEGIS ALCARTRA CALAMITY is living up to his royal breeding. His first daughter made nearly 21 lbs. butter at 2 years old. Four sons also for sale from 6 to 9 months old; also 2 high-class youngsters. Write to day for our prices.

PETER S. ARBOGAST, R. R. No. 2, MITCHELL, ONTARIO

CALDWELL'S

HUSTLE YOUR CALVES INTO THE BEEF CLASS

By feeding Caldwell's Cream Substitute Calf Meal. Save your whole milk—feed separator milk or water in combination with our calf meal and you will get just as good results at lower cost. You will be helping also to feed the Allies in this world food crisis.

Calves always do well on Caldwell's Calf Meal, because it contains the food elements of whole milk in their proper quantities. Protein, 19%, Fat, 7%, Fibre 5%, Carbohydrates 56%.

Order Caldwell's Calf Meal from your feedman, or write us and we will supply you promptly.

The Caldwell Feed & Cereal Co., Ltd. DUNDAS, ONTARIO

Makers also of: Dairy Meal, Molasses Horse Feed, Hog Feed and Poultry Feeds of all kinds.



REGISTERED HOLSTEIN COWS

Sale on FEBRUARY 15th, of thirteen milk cows, five heifers rising two, and four yearling heifers/ALSO heavy draught horses, farm implements

Trains will be met at Millbank, C.P.R., and Milverton, G.T.R. For catalogue, apply to

ALEX. F. CLARK, Prop., R. R. No. 1, MILVERTON, ONT.

SELDO YOU SEE

a big knee like this, but your horse may have a bunch or bruise on his Ankle, Hook, Stifle, Knee or Throat.

ABSORBINE

will clean it off without laying the horse up. No blister, no hair gone. Concentrated—only a few drops required at an application, 25¢ per can delivered. Describe your case for special instructions and Sample B. Free. ABSORBINE is a scientific solvent for skin. Sold in London, Boston, Philadelphia, New York, Chicago, St. Louis, Toronto, Vancouver, Montreal, Ottawa, Halifax, St. John's, and all other cities.

W. F. YOUNG, P.O. Box 124, Montreal, Canada.

For MILK, BUTTER, CHEESE, VEAL

Holstein cows stand supreme. If you try just one animal you will very soon want more. Write the HOLSTEIN FARMERS ASSOCIATION.

W. A. CLEMONS, Sec., St. George, Ontario

Farm and Dairy is in an excellent position to champion the cause of the farmer in Canada, because it is owned and controlled exclusively by farmers.

STANDARD FEEDS

35 HEAD DISPERSION SALE 35 HEAD

HOLSTEIN Owned by J. K. Moore, Peterboro FEBRUARY 20, 1918, at 1 O'clock, P. M.

Herd headed by King Segis DeKol Pontiac, sire King Segis Pontiac Poosh, son of Armandus \$50,000 bull. Dam, Queen Kild Pontac, 23 lbs. butter in 7 days at 12 yrs. ...

For particulars see bill. Sale held on farm of J. K. MOORE, R. R. No. 2, PETERBORO, ONT.

ALLENROCK STOCK FARM ON THE BOULEVARD OF THE BEAUTIFUL NIAGARA RIVER

A few well-bred, young Holstein bulls for sale. Also a Belgian Stallion, weight about a ton.

Address W. C. HOUCK - R. R. 1, Chippawa, Ont.

SUNNYSIDE STOCK FARM HOLSTEINS

BECHO SIGIS FAYNE our herd sire, is by a brother of the world's 50-lb. cow, Segis Fayne Johanna. He is a grand bull in every way and is not yet 4 years old. To avoid in-breeding we sell him at a price. Also Segis Fayne and out of grand producing cows. If you need a well-backed bull, write or come and see them.

JOHN M. MONTLE, Prop. Sunnyside Stock Farm, STANSTEAD, QUE.

HIGHLAND LAKE FARMS

Herd sire, AVONDALE PONTIAC ECHO (under issue), a son of MAY ECHO SVLIA, the world's record cow. Only one other 41-lb. bull in Canada. We have young bulls for sale, whose two nearest dams (both Canadian champions) average as high as 45 1/2 lbs. butter in seven days; another whose two nearest dams are both 100-lb. cows, and one ready for service from a 41-lb. sire and an 18,000-lb. two-year-old dam.

Send for our "Book of Bulls." A few females for sale. Satisfaction guaranteed.

R. W. E. Burnaby, Farm at Stone Hill, Young Street Road, Jefferson, Ont.

THE PRODUCING KIND AT VILLA VIEW

In the last week of 1917, Villa View developed three cows that made from 31 to 32.61 lbs. of butter in 7 days. We believe this to be a Canadian record for one week; besides three others made 27.80, 27.36 and 26.85 respectively.

We have for sale one bull ready for service, guaranteed pure and right in every way. HE IS GOOD ENOUGH TO BE USED IN ANY HERD IN CANADA. His dam has 31 lbs. butter, 42 lbs. milk, for 7 days; 86 lbs. in 1 day. ALSO 1 bull 11 months old, from a 57 lb. yr. yearling.

Hired help is scarce, but if you buy a bull from Villa View, we will be working for you for years to come. BETTER WRITE TO-DAY.

ARBOGAST BROTHERS, SEBRINGVILLE, ONT.

LAKEVIEW STOCK FARM

offers for sale several daughters, granddaughters and grandsons from the following cows-LAKEVIEW HATFIELD, 27.54 lbs. butter 7 days and the present Canadian Champion 30-day butter cow, 8 months after calving; LAKEVIEW DUTCH-LAND ARTIE, she 34.6 lb Canadian Champion Sen. 3-yr. old; PEP, LAKEVIEW COUNTY-PRIDE, 27.73 lb Canadian Champion for 3 consecutive years in the 30-day class, 8 mos after calving; QUEEN ENKA CENSALY, 21.53 lbs. butter in 7 days, and 24.77 lbs. milk in 1 year, also Canadian Champion Mature cow in 7-day class, 8 mos. after calving. And her granddaughters-LAKEVIEW QUEEN JUD, 18.16 lb. 2-yr. old, and Canadian Champion Sr. 3-yr. old 7-day butter cow, 30 lbs. milk a day. This is the first time a 2-yr. old and running off after calving, 16.98 lbs., who is now on test in the history of Canada that such high producing Holsteins have been offered for sale.

DON'T WAIT TO WRITE, but take the first train from Bronte, Ont. Terms, cash or time. Major E. F. Oeler, Prop. BRONTE, Ont. T. A. Dawson, Mgr.

lbs. fat, 74.49 lbs. butter. D. Raymond, 2. Essie Butter Baroness, 3646, 2y. 11m. 2d; 35.5 lbs. milk, 14.48 lbs. fat, 13.32 lbs. butter. E. H. Lefe, 3. Colony Sena Newman, 36010, 2y. 3m. 26d.; 27.2 lbs. milk, 14.44 lbs. fat, 13.30 lbs. butter.

30-day record: 177.3 lbs. milk, 69.65 lbs. fat, 75.32 lbs. butter. Colony Farm, Essendale, B. C. 7. Lady Tenen Alabek, 3529, 2y. 7m. 24d.; 39.1 lbs. milk, 12.10 lbs. fat, 16.49 lbs. butter. A. E. Holet, 8. Louisa Idalia, 3585, 2y. 11m. 26d.; 31.73 lbs. milk, 13.60 lbs. fat, 15.36 lbs. butter. A. E. Holet, 9. Pontiac Poosh, 3585, 2y. 11m. 16d.; 34.5 lbs. milk, 12.09 lbs. fat, 15.11 lbs. butter. Hiram Lyndon, 3585, 2y. 11m. 16d.; 34.5 lbs. milk, 12.09 lbs. fat, 15.11 lbs. butter.

10. Lucinda Gray Poosh, 3573, 2y. 9m. 14d.; 42.4 lbs. milk, 11.31 lbs. fat, 14.77 lbs. butter. E. E. Hamner, 11. Miss Segis Hengerfeld, 4243, 2y. 9m. 24d.; 39.2 lbs. milk, 11.64 lbs. fat, 14.88 lbs. butter. J. A. Hale, Lansing, Ont. 12. Pioneer Snowball Harlow, 3521, 2y. 7m. 12d.; 33.8 lbs. milk, 11.24 lbs. fat, 14.21 lbs. butter. Walburn Rivers, 13. Mona Segis Freeman, 3746, 3y. 6m. 18d.; 33.2 lbs. milk, 11.19 lbs. fat, 13.99 lbs. butter. J. C. Holby, Glasgow, Ont.

14. Spring Brook Lattie Poosh, 4190, 2y. 7m. 8d.; 26.9 lbs. milk, 10.70 lbs. fat, 13.31 lbs. butter. Sherrill, 15. Madeline Dolly Keyes, 3712, 2y. 9m. 26d.; 36.9 lbs. milk, 10.44 lbs. fat, 13.20 lbs. butter. William Stock, 16. Shadaleen Lattie Echo, 3526, 2y. 6m. 12d.; 29.7 lbs. milk, 10.34 lbs. fat, 12.92 lbs. butter. A. E. Holet, 17. Mina Bewander Corcoran, 4067, 2y. 7m. 24d.; 34.8 lbs. milk, 10.44 lbs. fat, 12.76 lbs. butter. James McKay, St. Marys, 18. Pontiac Isabella DeKol, 3270, 2y. 10m. 29d.; 28.7 lbs. milk, 10.12 lbs. fat, 12.48 lbs. butter. Gordie, 19. Pontiac Daisy DeKol, 3648, 2y. 7m. 15d.; 34.9 lbs. milk, 10.67 lbs. fat, 12.55 lbs. butter. Wm. Stock, 20. Belle Fayne Sheby, 3718, 2y. 6m. 4d.; 27.3 lbs. milk, 9.63 lbs. fat, 11.91 lbs. butter. Fred W. Lee, Spiringwood, 21. Ruby Corcoran DeKol, 4087, 2y. 6m. 22d.; 28.5 lbs. milk, 9.14 lbs. fat, 11.42 lbs. butter. James McKay, St. Marys, 22. Idea of Madam Mercedes, 3271, 2y. 7m. 18d.; 26.7 lbs. milk, 9.04 lbs. fat, 11.30 lbs. butter. E. E. Hamner.

As Two Year Class. 1. Woodrow Clyde Pate, 4632, 3y. 6m. 4d.; 37.7 lbs. milk, 13.36 lbs. fat, 16.70 lbs. butter. 2. Record: 455.6 lbs. milk, 25.16 lbs. fat, 31.44 lbs. butter. 30-day record: 184.5 lbs. milk, 61.03 lbs. fat, 84.61 lbs. butter. A. C. Hardy, 3. Miss Hengerfeld Segis, 4284, 2y. 11m. 24d.; 37.8 lbs. milk, 12.51 lbs. fat, 16.91 lbs. butter. H. W. E. Burnaby, 4. Colony Pauline Segis, 3616, 2y. 9m. 12d.; 37.0 lbs. milk, 12.36 lbs. fat, 14.45 lbs. butter. 50-day record: 324.1 lbs. milk, 65.97 lbs. fat, 62.47 lbs. butter. Colony Farm, Essendale, B. C. 6. Grace Fayne Aggie, 4812, 2y. 11m. 13d.; 26.1 lbs. milk, 10.37 lbs. fat, 12.23 lbs. butter. S. R. Lefe, 7. Jane DeKol Baronesse, 4291, 2y. 11m. 2d.; 30.8 lbs. milk, 9.59 lbs. fat, 12.11 lbs. butter. E. E. Hamner, 8. Susie Peltie, 3952, 1y. 11m. 16d.; 28.1 lbs. milk, 9.38 lbs. fat, 11.73 lbs. butter. Thos. P. Charlton, 9. Stacia Corneil Gray, 3572, 2y. 11m. 24d.; 28.7 lbs. milk, 9.47 lbs. fat, 10.54 lbs. butter. E. E. Hamner, 10. Greenfield P. W. Laak, 4577, 2y. 6m. 12d.; 29.7 lbs. milk, 8.38 lbs. fat, 10.47 lbs. butter. Wm. Steinacker, Stratford. Record made at least eight months after calving.

As Three Year Class. 1. Calumity Snow, Mochillie 2nd, 3670, 1y. 11m. 8d.; 38.4 lbs. milk, 10.25 lbs. fat, 12.35 lbs. butter. Walburn Bros. SEMI-FRIESIAN COWS FROM DEC. 1 TO 31, 1917. Mature Class. 1. Louisa Gerben, 1293, 6y.; 18.16 lbs. milk, 6.99 lbs. fat, 74.76 lbs. butter. Geo. W. Busch, Balgoblen, 2. Rhoda 2nd Maid, 7314, 18y.; 13.794 lbs. milk, 5.79 lbs. fat, 47.75 lbs. butter. Duper, Farms, Ontario. Four Year Class. 1. Victoria May Nannet, 20590, 6y.; 21d.; 122.13 lbs. milk, 37.67 lbs. fat, 125.19 lbs. butter. Wm. J. Gibson, Marshfield, P. E. I. 2. Orchard Loch Butter Girl, 2297, 5y. 350d.; 124.95 lbs. milk, 43.2 lbs. fat, 64.69 lbs. butter. Jas. G. Currie, Ingersoll, 3. May Pouch Calumity, 2184, 6y. 138d.; 107.18 lbs. milk, 37.0 lbs. fat, 46.80 lbs. butter. Jas. G. Currie. Two Year Class. 1. Dusky Mercedes Baronesse, 3776, 2y. 24d.; 19.66 lbs. milk, 8.10 lbs. fat, 63.59 lbs. butter. Kinworth Farm, 2. Countess Plus, 3216, 2y. 178d.; 15.047 lbs. milk, 5.95 lbs. fat, 49.66 lbs. butter. S. Lemoh, Lynden, 3. Princess Waverly Concordia 2nd, 3701, 2y. 21d.; 19.77 lbs. milk, 8.46 lbs. fat, 43.92 lbs. butter. J. W. Lucas, Ontario, 4. Mercedes Duchess 2nd, 3638, 2y. 14d.; 12.86 lbs. milk, 5.2 lbs. fat, 43.67 lbs. butter. Wm. Gilbert, Stony Plain, Alta. 5. Johanna Grisold, 3468, 2y. 165d.; 8.2 lbs. milk, 2.9 lbs. fat, 31.8 lbs. butter. P. M. Hilder, Kelso, Que. 6. W. A. CLEMONS, Secretary.

As butter. Wm. Gilbert, Stony Plain, Alta. 5. Johanna Grisold, 3468, 2y. 165d.; 8.2 lbs. milk, 2.9 lbs. fat, 31.8 lbs. butter. P. M. Hilder, Kelso, Que. 6. W. A. CLEMONS, Secretary.

A 40 POUND COW.

E DITFOR, Farm and Dairy-3 am advised through report and by wire that the Holstein-Friesian cow Verona DeKol Segis 23710 has shown a production of 720 lbs. milk containing 37.365 lbs. of fat in seven consecutive days at Six months of the age of 6 years, 6 months, 25 days. Her sire is Pontiac Korzyde 25857; her dam is Princess Madam 2184. This cow was bred by Mr. E. H. Dollar, Hevelston, N.Y., who is now in Canada at the Ontario Farm, J. Edna Center, N.Y. With this production she is the 23rd cow to obtain place in the list of Holstein-Friesian cows with production exceeding 32 lbs. fat in seven days and stands fourth in the list. Computed on the 80 per cent basis, the equivalent butter claimed for Fairview Korzyde Maie would amount to 46.71 lbs. - MALCOLM H. GARDNER, Supt. A.R.

ANOTHER 40 POUND COW.

E DITFOR, Farm and Dairy-4 am advised through report and by wire that the Holstein-Friesian cow Verona DeKol Segis 23710 has shown a production of 720 lbs. milk containing 32.964 lbs. fat in seven consecutive days. She finished at the age of 4 years, 2 months and 20 days. Her sire is Elmwood Heats Korzyde 2681; her dam is Verona DeKol Poosh 2184. She was bred by Mr. Burton DeBon, Thebes, N.Y.; and is now in Canada at the Ontario Farm, J. Edna Center, N.Y. With this production she is the 24th cow to obtain place in the list of Holstein-Friesian cows with production exceeding 32 lbs. fat in seven days. Computed on the 80 per cent basis, the equivalent butter claimed for Verona DeKol Heats would amount to 49.08 lbs. - MALCOLM H. GARDNER, Supt. A.R.

SUNNYBRAE OFFERINGS.

E LEBWIEBE in this issue of Farm and Dairy will be found several offerings from one of our newest breeders in Holstein and Wales. When Mr. Abekker started to raise his herd of Holstein a few years ago, he turned to some of the best herds in Ontario to secure the best stock. It is animals of this breeding that he is offering at the present time. One of the young calves offered is a grandson of Count Hengerfeld Fayne De Kol, who has had 12 sons, 12 daughters and six grandsons with 18 tested daughters and six proven sons. Any record in Canada at Sunnybrae has been made under very ordinary farm conditions. 30-day record: 184.5 lbs. milk, 61.03 lbs. fat, 84.61 lbs. butter. Colony Farm, Essendale, B. C. It is therefore not as creditable by any means as the sire is, and we are sure that other young offerings is a grandson of Rattler 1st, and traces twice to Count Hengerfeld Fayne De Kol and twice to Lakeview Rattler, former champion of Canada, in the 7-day and 30-day classes and in the 7-days and 30-days 8 months after calving. Dairymen who are looking for time stock would do well to visit this breeder.

LAKEVIEW FARM WILL REDUCE HERD.

L AKEVIEW Stock Farm, Bronte, Ontario, in ordering change of advertisement, advise us that, owing to the great shortage of help, they have decided to reduce the stock. One of the cows will give as much milk in a year as 8 ordinary 20-lb. cows. This is a great opportunity for the average farmer to lay the foundation of a great dairy herd. He has a son looking forward to, as every animal over two years old in the Lakeview Herd has been officially tested in the I.O.M. and has some very creditable records to show. As well as their show-ring worth, the stock sold at the present time are six of the highest records in Canada for butter. Lakeview Holsteins are high testers, big milkers, and regular breeders. One thing remarkable in the Lakeview Herd is that the entire herd has been got by five cows, all of whom are in the herd at the present time and averaging over 100 lbs. milk each.

LONDON HOLSTEIN MEN MEET.

E DITFOR, Farm and Dairy-The annual meeting of the London District Holstein Breeder's Association in the Department of Agriculture rooms. A large and representative gathering of the breeders was present. Officers for the year were elected for 1918. President, H. Matthews, Putnam; 1st Vice-President, H. Holby, Glanworth; Sec.-Treas., S. P. Hedden, Wilton. The meeting was held on Monday, February 5, 1918, at 7:30 p.m. in the Hotel Victoria, London. The meeting was held in the presence of Mr. J. J. Smith and Mr. T. H. Hedden. It was decided to hold the first contingent sale in London on March 14th.-E. F.

Records- milk, 4676

W.

ROYCROFT HOLSTEINS

The Herd That Sets World Records

Our Herd

Holds more world's records than any other herd in Canada. In founding it, our aim has been to breed nothing but the very best, with this end in view.

In the first place, we bought the very best that money could buy. Then, in order that our young stuff might be even better than the foundation stock, we secured for herd sires PONTIAC KORNDYKE, HET LOO, one of the most wonderful bulls living to-day, and later KING SEGIS ALCARTRA SPOFFORD, a worthy son of the \$50,000 bull. Besides the two cows shown below, we have another world record cow WOODCREST COLANTHA PIETJE, 20,859 lbs. milk and 639.62 lbs. butter in 1 year as a yearling.

To the right of the page we tell of a few choice bulls which are now for sale.



PONTIAC KORNDYKE HET LOO
Our Senior Herd Sire

This is one of the most noted sires in Canada to-day, in type, he is almost faultless. He weighs nearly 3,000 lbs. and in breeding he stands without an equal. Yet this is not all. When we consider progeny which is the real test of a sire's value, we find his first tested daughters making three world's records.

The JUNIOR HERD SIRE is KING SEGIS ALCARTRA SPOFFORD, also a wonderful sire, and a son of the \$50,000 bull.

Young Sires We Offer

We have a fine bunch of young males bred by our senior herd sire. This makes them half brothers to our World Record cows. Considering this, and also the fact that their dams have records well up among the best, they should be about the best buying that can be obtained to-day.

These animals are all fine straight young chaps with good deep bodies and plenty of vigor. They are well grown and ready for service—just the kind to put at the head of a first class herd of high producing Holsteins.

I have five of these excellent animals on hand, ranging from a few months up to 12 months. We want to sell these chaps right away to make room. No matter what the prices paid, they will mean five excellent bargains for the fortunate breeder who needs a herd sire at once, or who wants to take one of the younger fellows and develop him in his own hands. Write me for particulars, pedigree and prices.

WORLD RECORDS?—YES—5 OF THEM!!!
More Than in Any Other Herd in Canada

OUR FEMALES



MILDRED PEITERTJE ABBEKER
World Champion 4 Year Old

Records—1 day, milk, 127 lbs. Butter, 7 days, \$2.61 lbs.; milk, 856 lbs. 30 days, butter, 135.64 lbs.; milk, 3570 lbs. 45 days, butter, 200.41 lbs.; milk, 4976.9 lbs.



HET LOO PEITERTJE

World Champion 2 Year Old in Following Divisions:

Records—Butter 7 days, 30.32 lbs.; milk, 578 lbs. 30 days, butter, 122.01 lbs.; milk, 2362.6 lbs. 60 days, butter, 223.27 lbs.; milk, 4561.1 lbs. Average milk for 60 days, 78.06 lbs.

The Kind You Want to Buy

W. L. SHAW, Roycroft Stock Farm, NEWMARKET, ONT.

Mr. Edison's Wonderful New Phonograph



Only
\$1.00

and after trial!

Yes, we will send you the New Edison, the product of the world's greatest inventor's genius, the phonograph with the wonderful diamond stylus reproducer and your choice of latest Diamond Amberol Records on *free trial without a penny down*. On this offer, you can now have the genuine Edison, the instrument which gives you real, life-like music, the finest and best of all phonographs at a small fraction of the price asked for imitations of Mr. Edison's great instrument. *Seize this opportunity!* Send coupon today—now!

Rock-Bottom Direct Offer—

If, after the free trial, you decide to keep Mr. Edison's superb new instrument, send us only \$1.00. Pay the balance on easiest kind of monthly payments. Think of it! A \$1.00 payment, and a few dollars a month to get this wonderful new style outfit—Mr. Edison's great phonograph with the Diamond Stylus reproducer, all the musical results of the highest price outfits—the same Diamond Amberol Records—yes, the greatest value for \$1.00 down, balance on easiest monthly terms. Convince yourself—free trial first. No money down, no C. O. D., not one cent to pay unless you choose to keep the instrument. Send coupon!

COUPON

F. K. BABSON, Edison Phonograph Distributors,
355 Portage Ave., Dept. 512 Winnipeg, Man.

Gentlemen:—Please send me your New Edison Catalog and full particulars of your free trial offer on the new model Edison Phonograph.

Name.....

Address.....

Our NEW Edison Catalog Sent Free

Your name and address on a postal or in a letter (or just the coupon) is enough. No obligation in asking for the catalog. Get this offer—*while this offer lasts!*

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355 Portage Ave., Dept. 512 WINNIPEG, MAN.
U. S. OFFICE: Edison Block, Chicago, Illinois

For years, the world's greatest inventor worked night and day to make the music of the phonograph true to life. At last he has succeeded. Now that you can get THE BEST on the wonderful offer below, you need no longer be satisfied with anything less than Mr. Edison's great instrument. Just read below how easily you may have the genuine New Edison in your home.

A Happy Home

Happiness is life—and real happiness is found only in a real home. And by a real home I do not mean a house with a yard or farm around it. Oh, no! A real home is the place where the happy and united family gather together for mutual enjoyment and recreation. And the Edison takes this possible, for it stands supreme as the greatest home entertainer. It will open more than 2000 worlds of enjoyment, more than an hour of amusement, yes, it will mean entire pleasure of the entire party—the best entertainment and culture of the most brilliant. It will reach the family circle—a or home.



Entertain Your Friends

Get the New Edison in your home on free trial. Entertain your family and friends with the latest up-to-date song hits of the big cities. Laugh until your sides ache at the funniest of funny minstrel shows. Hear the grand old church hymns. Hear the cracking brass bands and waltzes. Hear the world's greatest singers. You will be missing these old favorites that you have heard all your life. Take your choice of any kind of entertainment. All on free trial. Then, after the free trial, outfit back at our expense if you choose. Or keep it on our great rock-bottom offer. Send the coupon today!