

for them. Last year onion seed of a Canada for several years that gave uniform growth, as they had been pretty tough, too, of onions and once sowed, and

"muttons," every bed. At least a flower, cabbage, these, also, his as well as having the garden, possible near the to be neglected enough), and lay re and then get and give about you think necessary a variety of different way and with one. Then use little two-bit, but rows run-way of the plot, to work with the work and hand at day the ground to the field crop herwise the field den back a fortnight got it ready, snips and radish y, that is, unless in the hot-bed at that way and er than I can saving the early gaining, if you least a month in

the garden after ator is the best e frequently, to be od plan to mix ot and parsnip rows long before, and by getting as they can be e before doing ne tool to have n a large house- will take hold of o except under y hand or use a e surface often ure. Make an members of the told, it has not of work on the

IK RANCHER.

arden

the time when e be profitably, ut, preparing to s. We cannot e arrangement before weather ed in the open. idea that it is a hot-bed, and uestions asked

thout the loss e of cash. If ith tomatoes, er vegetables, at having one

here there is a d west sides, fence, but not t is practically pit, in which d with several window glass. umber, and in ail the boards Nail a piece y 3 or 4 feet. On this the

sash rests, and can be drawn back and forth with very little trouble. If the boards on the back of the frame are twelve inches above the ground, those in front should be several inches lower, thus giving a slant to the sashes so that the rain may run off quickly, and also allow a better utilization of the sun's heat.

Old windows or storm sashes which are not in use can be made into hot-bed sashes by cutting some notches into the lower part of the sash to allow the water to run off. Frames made to fit the sashes you may have will answer the purpose and in this way the hot-bed is made, really without costing a cent.

For heating material, use horse manure. Haul the manure in a pile near to where you are going to have the bed. Do not make the pile round topped but flat. If it does not start to heat in a few days, pour a pail of hot water down through the center; if heating starts unevenly, one side heating and the other not, turn it over, breaking all hard lumps. Distribute the hot manure throughout the mass. When it is "smoking" uniformly it is ready to use. Shovel the snow away where the hot-bed is to be placed, and spread about four inches deep of dry manure, over the ground, then put in a foot of steaming manure, set on the frame, and pack four inches more inside. On the outside, pack to the height of the frame with dry manure, and lay on your window sash. When the manure begins to heat again, which will be in two or three days, pack it solid. Now, if it is loose and fluffy after being trodden, there is too much straw in it; if it packs soggy and solid there is too little straw. It should feel springy when trodden upon, but should not swell up quickly in a loose mass when released from pressure. After the manure is packed, fill in five or six inches of earth, which should be rich, and contain a large amount of sand. A soil made up of well rotted manure, rotted sod and some rich sandy soil, is the best earth for hot-bed. But where there has been no preparations do not delay the making of the bed on this account. Take the best and richest soil at hand, and, if frozen, it will thaw out under the glass. When the soil has become well warmed through-out, it should be raked fine and level. The space between the soil and the glass should nowhere measure less than six inches in the start; the soil will sink as the manure ferments.

Seeds that germinate at nearly the same time, and which are similar in growth should be sown under the same window, thus giving them equal air, moisture and sunshine. Sow the seeds in rows, and cover with soil composed mostly of sand and do not cover the seeds more than four times the diameter of the seed. Flower seeds should also find a place in the hot-bed, and should be sown separately from the vegetables. After sowing, replace the sash, and leave on until the plants come up.

Watering should be done with caution. Use water that has been slightly warmed. Do not water so much as to puddle the ground. In the early part of the season, water in the morning so that the plants are not damp during the night. Later on, when the weather becomes warm, water towards evening, in order to give the water a chance to soak into the ground before the hot sun evaporates it. Whenever moisture collects upon the panes, ventilation should be given. Ventilation is essential to grow strong, healthy plants. Open always the side contrary to the wind. As the plants grow larger, and the weather warmer, more air is needed, and, finally, the windows may be removed, only covering at night and during chilly days. It is best to cover the glass at night with a mat when there is danger of the plants getting frozen, in the early part of the season.

When the plants are three or four weeks old they should be planted into a cold frame which is made similar to the hot-bed, but without the manure to produce heat. In this way the best and earliest cabbage and tomatoes can be had. The plants should be transplanted a little deeper in the cold frame than they were in the hot-bed. Put the glass on the bed; cover with something to keep out the hot sun for at least two days. Then let the sun in again. Keep the soil moist. The plants will make rapid growth and about the last week in May you can set out the cabbages, in the garden. Tomato plants should not be set out until the middle of June at the earliest. They should be commencing to flower then. Set them deeply right up to the branches. Put in a little soil, then water, and fill up the hole firmly with soil, shade for two days, and the plants will not wilt at all, if carefully handled.

As each plant develops the second bunch of flower buds, break off the end to prevent more buds forming. The branches may need cutting twice a week. If this plan is followed, plenty of ripe tomatoes will pay well for the trouble.

Get an extra early kind of seed.

"DELL."

DAIRY

Records Made the Price

A few days ago a buyer from the States gave the high price of two thousand dollars to a farmer near Brockville for one cow; this is believed to be the highest price ever paid for a Canadian dairy cow. What made the animal so valuable? Granted that she was a model of beauty and an exquisite type of her breed, the fact remains that her actual performance largely helped to effect the sale. She has a record of 121 pounds of butter in 30 days. The records, those figures down in black and white, assisted in making the price. When farmers generally commence to keep records of individual cows we hope to develop not only many more such excellent specimens, but a general improvement in the production of the average herd. Records alone can furnish the information necessary to enable intelligent selection of the promising cows, and the rejection of those that are not profitable. Such selection, coupled with more liberal feeding, will repay any farmer abundantly. As scores of farmers in Canada can testify, it has often resulted in an additional fifteen and even twenty-five dollars income per cow within four years.

Silage Clover and Roots

It is becoming apparent to cow owners in this country, as it became so to the dairymen of the south and east, a good many years ago, that cows need better food and a greater variety of it, to produce profitably in winter, than the natural resources of the country afford,—taking the natural cow feeds of this country in winter to be hay, straw and a little ground grain.

Farmers are beginning to take an interest in corn growing, are asking questions about it, are inquiring re silo construction and some are preparing to go in for the cultivation of the most mommoth member of the grass family, and to cut it and save it green for winter feeding, either to cows or other cattle. It all shows the progress our agriculture is making. Ten years ago were a man at an institute meeting or agricultural convention to spend much time in the discussion of the growing of the corn crop, he would be more likely to be hailed as a prophet, forecasting something that might come to pass in the distant future, than as a teacher of practical fact.

Dairymen have come to realize that however nutritious our native grasses are as feed, and the feeding value of prairie grass is always overestimated it does not possess qualities that will maintain the milk flow of the cow herd during the stable-feeding season. In feeding cows inside, the aim is, to imitate as nearly as we can, the food that produces the maximum milk flow. That is why clover roots and silage are coming to be more generally grown on the Western farm where cows are kept, and the growing of these crops is as beneficial to the farm as the crops are good for the milking cows.

Making Whey Butter

The question of making butter from whey has been receiving a good deal of attention in Ontario during the past year, and the results of some experiments conducted at the Eastern Dairy School, Kingston, and by the chief dairy instructor in the western part of the province, as to the actual returns from manufacturing the butter fat in whey into butter, have just been made public. The report shows that the best yield of butter recorded is 3 pounds, per 1000 pounds of whey. The average yield is about 2 1/2 pounds per 1000 pounds of whey. As to the cost of manufacturing there is some difference in the estimates made. Prof. Mitchell estimates that it costs 11.5 cents per pounds to manufacture whey butter. The estimates of the other experimenter is 7 cents per pound. Taking an average of these two estimates, it would make the cost of manufacturing whey butter, 9 cents per pound.

The quality of the product which it would be possible to make from this fat would determine, of course, its market price. The conclusion of the experiments shows that whey butter is slightly inferior in quality to that of butter made from whole milk, under average creamery conditions, and that when creamery butter is a high price and scarce the whey butter will bring very nearly as high a price, within a cent or two, but when good creamery butter is plentiful there is a wider margin of difference between the two products. The price which the butter would bring under market conditions of 1907 and 1908 was placed at an average of 20 cents per pound. This will show a net profit of six cents per pound on whey butter manufactured, or 15 cents per 1,000 pounds of whey.

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A start has been made at the Ontario Agricultural College, Guelph, in the manufacture of soft cheese. Professor Dean has secured the services of an expert from England, and, although the market in Canada is limited, it is thought the demand will grow rapidly. Small round cakes of one and a half pounds sell at 20 cents. Sweet, unripened milk is used, and the working done so as to retain the moisture throughout the cheese. The finished product is soft and spongy, containing about 50 per cent. moisture.

POULTRY

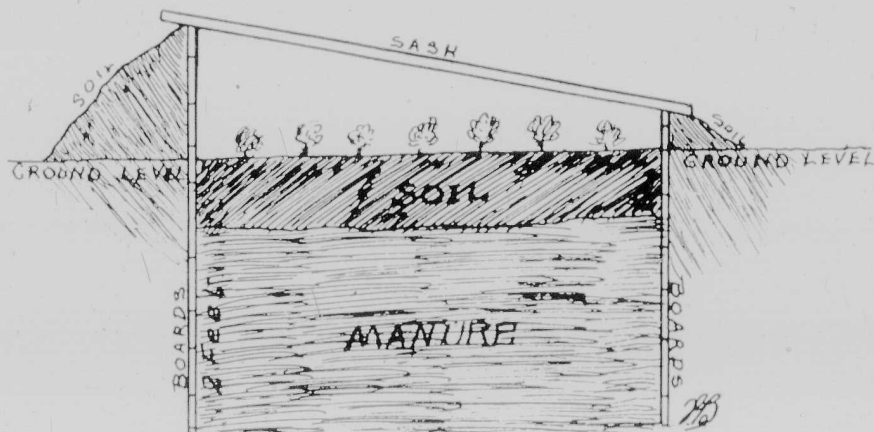
IS DUCK RAISING PROFITABLE

Readers of the poultry department are asked to contribute their experience in duck rearing, for publication in our issue of March 31st. Explain how to manage ducks profitably, outlining your own method of rearing and marketing, giving attention to the difficulties that have to be contended with in the business, and describing how these may be best overcome.

For the best article on this subject we will award a prize of \$3.00, to the second \$2.00, the latter amount being paid for other contributions published. Contributions should reach us not later than March 20th to insure of their being in time for consideration.

Interesting the Public in Poultry Shows

Poultry shows are rather hard to work up public interest in, the hardest perhaps of all live stock shows. There seems little about them that the public, aside from poultry fanciers, can take much interest in. To the poultry breeder they are of intense interest and much value. If one is a fancier, intent upon breeding the best in the particular varieties he is working with the poultry show offers the best of all opportunities for him having his stock passed upon by expert men, for having their deficiencies or merits pointed out, and for himself becoming familiar with the strong points of his breeds in their different strains and families. The exhibition is an opportunity too, to extend business, buy or sell stock and advertise. All of which is most desirable from the poultryman's point of view and important for the development of the poultry industry. But what we would like to see



CROSS SECTION OF A HOT BED.