

will not be any more successful. They certainly will not be so unless the promoters have a large amount of capital at their back and are prepared to experiment for a year or two till the farmers are in a position to grow the kind and the quantity of beets required.

The beet sugar industry has made remarkable progress in some of the States of the Union during recent years. In New York, Illinois, Kansas, Nebraska, and other States the making of beet sugar has so developed that it is now looked upon as one of the important industries. Up to June, 1897, over one third of all the sugar imported into the United States was beet sugar, and the people of that country decided to make an effort to produce this quantity at home. The estimated value of the beet sugar annually imported was \$35,000,000. This amount of money if kept in the country would mean quite an addition to the wealth of the country.

As is well known, the beet sugar industry has had its greatest development in Germany, where a liberal bonus is paid by the Government on all sugar exported. It is this bonused sugar that will be the greatest drawback to the starting of the industry in this country. At present the tariff on sugars is so arranged that the duty on raw sugar is very much higher in proportion than on the manufactured article, with the result that a larger amount than usual of this German sugar is coming in at the present time.

The cost of a plant for working 350 tons of beets per day is given by experts as varying from \$250,000 to \$400,000. This practically bars out any small concern with little capital. The requisites for a beet sugar factory are given by a New York journal as follows: Plenty of beets containing 12 per cent. sugar and 80 per cent purity; plenty of pure water; limestone, with a high percentage of pure carbonate of lime and a little silica; cheap fuel; good facilities for transportation; plenty of room and plenty of capital." At the New York factories the regular price paid farmers is about \$4 per ton, and 15 ton per acre should be raised with good seed and proper care. It is estimated that it costs the farmer in that State from \$25 to \$30 per acre to produce the beets, which should leave him a good profit.

Some years ago Dr. Saunders, of the Central Experimental Farm, made an investigation of this question and came to the conclusion that owing to the bonus on German sugars and climatic conditions it would not be a profitable business for either the farmer or the manufacturer in Canada to engage in. It may be probable, however, that in the sections referred to, which are in about the same latitude as New York State, sugar beets can be successfully grown. In fact, they have been grown with success in the locality of Owen Sound. Experts state that any soil that will produce a good crop of wheat, oats or potatoes will produce good sugar beets. A heavy, clay soil is one of the most satisfactory for the culture of sugar beets. In addition to this they require a rich land and plenty of cultivation and care. Sugar beets are of value for feeding stock, and it might be a good plan for some of the farmers in the sections where sugar beet factories are being agitated to grow some this year. There would certainly be no loss in doing so even if the factory were not in operation, and the experiment would go to show whether they could be grown successfully or not.

How to Farm Fifty Acres of Land

By Wm. Rennie, Farm Supt., O. A. C., Guelph

In a letter received from one of our subscribers a short time ago he asks for information as to how a fifty acre farm could be managed, the different crops and how much of each kind could be grown so as to give the best results. He also wishes to know the number of horses, cattle, sheep and swine that could be fed and kept in good up to date style.

We submitted the letter to Mr. Wm. Rennie, Farm Superintendent, Ontario Agricultural College, Guelph, Ont., than whom there is no one in the country more capable of giving practical information on the questions asked, and we are pleased to be able to give our readers his reply which is as follows:

In reply to the questions of B. H. B., Brantford, Ont., in regard to farming fifty acres of land, the different crops and how much of each, and the amount of stock, including horses, cattle, sheep and pigs, it will support, I have this to say. This subject covers a wide field, and much will depend on circumstances. The first thing to decide is what line of farming would be most agreeable to the taste of B. H. B. After having fully decided this question, never look back, but go ahead with a determination to make a success of it.

On a fifty-acre farm, situated near a city like Brantford, a home dairy might with advantage be adopted. Whether it would be a success or a failure will depend on the management in working out the details. First, as to rotation of crops, I would suggest a four-years' course, dividing the farm into four sections, viz., first year, pasture, second year, meadow; third year, corn and roots (six acres of corn and four of roots); and fourth year, grain (barley and oats) for feed, and seeding down with the following mixture: 7 lbs. red clover, 3 lbs. alsike, and 4 lbs. timothy. This should provide sufficient food for twenty cows, excepting bran to mix with the chopped grain, equal quantities in bulk. In selecting cows for butter it is advisable to have a number of Jerseys or Jersey grades to improve the quality of the milk. The aim should be to supply the very best article and cultivate a special trade.

To obtain the best results cows should have succulent food during the whole year: In the spring about three-quarters of an acre (mixed peas and oats) to cut when the pasture becomes dry in July. After this an early variety of sweet corn will keep the cows in full flow. In winter succulent food can be provided by mixing cut clover, chaff, ensilage and pulped roots, and leaving in a heap for a few days before using. Milch cows should have a supply of pure water in the stable, so that they will not require to be turned out in cold weather for water.

There are an innumerable number of details that tend to make the difference between success and failure in the management of a dairy farm. Some of the essentials are kind treatment to the animals, warm and well-lighted, and well-ventilated stables, and regularity in feeding, milking, etc. The skim-milk can be utilized to good advantage in feeding pigs. Two or three brood sows might be kept and the produce, say 30 or 40 pigs per annum, fed and sold when weighing about 200 lbs. each.

Thirty or forty hens properly cared for will prove a paying investment to supply the special butter customers with absolutely fresh eggs. Another department in connection with the home dairy is the rearing of young ducks and selling them during the season of green peas. Eight or ten ducks might be kept to supply eggs which may be hatched with either an incubator or hens. They can be reared successfully as follows:

Enclose a sod paddock, say half an acre, with wide boards set on edge. Place three or four coops in the paddock with a hen in each. It is amusing to see the old creatures spread themselves trying to cover about fifty young ducks each. Sink a large trough in the ground and keep filled with water for young ducks to swim in. Also several small troughs for feed, which may be composed of skim milk and middlings, adding chopped grain later. Early young ducks raised in this way are in demand at from 50 to 60c. each.

I submit the above system for the approval of P. H. B. or his fifty acre farm near Brantford, and which should give satisfactory returns with proper management.

There are other systems which might be more advisable under certain conditions, which I shall be pleased to give in a later paper.