

GOOD PAY TO AGENTS.

Agents wanted in every village, town and township, to make thorough canvases for the **RURAL CANADIAN**. Liberal inducements. Work to commence at once. For full particulars address

O. BLACKETT ROBINSON,

5 Jordan Street, Toronto.

Publisher.

The Rural Canadian.

TORONTO, DECEMBER, 1884.

BET ROOT SUGAR.

Our Ontario farmers are sometimes urged to engage in the cultivation of the sugar beet, and the example of France and Germany is referred to as showing the profitability of this crop. In those countries sugar beets are sold to the factories at \$5.50 per ton, and there is no doubt but that, at this figure, they are profitable to the producer. But then there are other circumstances which must be considered before we can know what the ultimate profits are. In Germany the sugar companies have been organized by farmers, who divide the stock among themselves—each farmer binding himself to grow three and a half acres of beets for every share of stock he holds, and being subject to a fine if he fails. The mills buy the beets at about \$5.50 per ton, they pay a revenue tax to the Government of \$4 per ton, and the cost of manufacture is about \$2.50. This makes in all \$12 per ton, and the average product of sugar is about 225 pounds per ton—the total annual product of the country being 300,000 tons. To the German consumer the price of sugar is \$6 per hundredweight of 112 pounds, but to encourage exportation the Government grants a subsidy in the form of a rebate of the tax, and about three fourths of the product is exported. In the London market the price at present is \$2.50 per 112 pounds, which is \$3.50 per hundredweight less than the German consumer pays for it; yet it is affirmed that in Germany it does not pay the cost of production, and that it cannot be made to pay until the price of the raw material is reduced. We do not understand what advantage it can be to the German consumer of sugar to pay \$3.50 per hundredweight more than the British consumer; but so long as the German consents to a policy which yields such a result, no one else has any fault to find in particular, unless it be the producers of other countries who grow the beet or cane and manufacture the sugar without any aid from Government. So far as Ontario is concerned it would be rash to engage in sugar-beet cultivation without knowing more about it than we can learn from Germany or France.

INSTRUCTION IN BUTTER MAKING.

It is pretty generally known that an attempt has been made this year to teach butter-making under the creamery system at the Agricultural College, at Guelph. The results of the experiment are not yet known, and probably will not be until the next annual report of the institution is published. We do not think, however, that a very sanguine account should be looked for—partly because we have only a beginning of the creamery there, but chiefly because it has only been in operation for two months in the fall of the year. In that short time it can scarcely be expected that the students should show much interest in the work, especially as many of them are attending the College for the first time and have not yet got a thorough run of the work which they are called upon to do. Then much depends on the patronage given to the creamery by farmers of the neighbourhood; also upon the relations which the price of cream has to the price of butter product, and generally as to

economy in the management. Another season will be necessary in order to determine measurably as to the success or failure of this department of the College course of instruction, and we do not doubt but that the manager and instructor has already learned some useful practical lessons from his short experience of this year. To the students of the College a thorough knowledge of the processes of butter-making in a well conducted creamery is of great value, and if the course of instruction is thorough, it is a matter of secondary consequence that the College creamery should pay running expenses. At the same time it must be considered that the cost of operating is in itself a thing to be closely considered, for if the business be carried on at a loss there is very little to encourage men to establish or patronize creameries as a commercial enterprise.

Meanwhile it is worth looking abroad to see what is being done by other peoples with a view to improve and develop their dairying industry.

Much information on this subject is to be found in a recent report of a commission appointed by the British Government to enquire into and report upon technical instruction, both in Europe and America. The portion of this report which deals with agriculture was prepared by Mr. H. M. Jenkins, Secretary of the Royal Agricultural Society of England, and contains much that is valuable as to systems and their results.

We learn from Mr. Jenkins' report that in Germany there are eighteen schools where special instruction is given in the theory and practice of dairying. The most celebrated of these is at Rastatz, in Mecklenburg-Schwerin, which owes its existence to the liberality of Count Schlieffen. This nobleman provides the school building, the house and garden for the director, and everything that may be required for experimental and teaching purposes; in addition, the governing body of the Duchy gives now a subvention of £325 a year. The course of instruction extends over six months and is given only to young men, six at a time. They pay £7 10s for instruction, and board and lodging at the farm for the full term, and they are made to work in the dairy like paid labourers. Besides these there are about twenty-five other students who provide their own board and lodging in a neighbouring village, and who pay 25s for a month's instruction in the classroom. These students are not required to perform manual labour. The dairy instructor gives demonstrations in all matters of a practical nature, and theoretical instruction is given daily in a lecture of one hour's duration, by the director of the establishment. Great attention is paid to bookkeeping, and to the principles of breeding and feeding as well as of dairying, and throughout Germany this school is regarded as by far the best of its kind.

In a similar school at Heinrichthal, in Saxony, ten or twelve young women are taught the theory and practice of butter and cheese making. These pupils must be at least sixteen years of age, and they pay £5 for one month's instruction, board and lodging, or £3 for three months. The farm consists of 150 acres of arable land, grass and wood, and twenty-two milch cows of the Dutch or Holstein breed, are kept upon it. The course of practical instruction embraces the following:

1. Technical management of a dairy, including bookkeeping.
2. Feeding and management of cows, and fattening calves and pigs.
3. Instruction in cooking and general house-keeping.
4. Management of poultry, according to their season.
5. Management of the kitchen garden.

The pupils of this school belong to a higher class than those ordinarily seen at such schools.

They are mostly daughters of proprietor-farmers of moderate acreage, but some are the daughters of large farmers; while a few, Mr. Jenkins says, come from the towns, being about to marry young farmers, and therefore required to learn everything connected with the management of a farm house.

Another school is at Gross Heinstedt, and while owned by a farmer it was organized by a bonus of £225 granted by the Royal Agricultural Society of Hanover, which society also votes a varying sum yearly toward its maintenance. Under an arrangement made by the society, six pupils are furnished with board, lodging and instruction for a year, at the rate of £18 each. These pupils give their services in the dairy until one o'clock, after which they are taught house-keeping. Servant girls are kept to milk the cows and do other heavy work of the dairy; but if the pupils do not know how to perform any description of dairy work they are taught it carefully.

These three schools may be taken as a fair type of the German dairy schools, and enough has been said to give an idea of the system upon which they are conducted.

In the agricultural school at Fune, in Denmark, a department was established in 1873 with the object of giving special instruction in dairying to girls. The course extends through the months of September and October, and during that period special instruction is given by lectures and practical work, both as regards milking and dairy work, and keeping accounts. The girls are divided into two classes, one receiving instruction in dairy work in the forenoon and the other at the same time being taught account keeping, writing and female handiwork generally. In the afternoons and evenings both classes attend lectures on history. The rate per month is about £2, and books and all kinds of materials required in the schools are obtained from the teachers; and the only revenue of the school in addition to the fees of pupils and the products of a small farm, is a grant of £104, contributed in part by the State, and in part by the commune.

There also prevails in Denmark a system of apprenticeship for the sons of small farmers; but perhaps the system under which the largest results are obtained is that in which every large dairy farm in the country is a practical school of dairying for farmers' daughters. These young women remain on the farm for one or two years, and in exchange for instruction, board, lodging, and sometimes a payment of £2 or £3 a year they do all but the heaviest work of the dairy. As a rule there are not more than three or four pupils in a dairy at once, but Mr. Jenkins mentions an exceptional case where a dozen girls are in attendance as working pupils, and remain for various periods extending from six weeks to two years. Each pupil has five cows allotted to her in rotation and the results of each milking are carefully noted, the produce of each cow being entered separately morning and evening with the name of the milker. This is one of the most fundamental, and at the same time one of the most neglected, of the operations connected with dairy farming; and it is observed that the knowledge that results are booked produces a spirit of emulation amongst the girls which gives far better results than any system of supervision. On some of the very large farms, where the head of the dairy is a man, the pupils are also men; but as a rule dairying in Denmark is in the hands of the women.

Now it appears to us that there is much to be learned from the systems which prevail in Germany and Denmark; not perhaps in cheese-making, for that industry is well understood in Ontario, but more particularly in butter-making.