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## FARM AND DAIRY

## A Little Land Well Tilled--Plus a Large Pasture

How One Man Made Money on a Rough Farm—By S. R. N. Hodgins

"MOST dairy farmers, who have come under my observation have had too little pasture," says Finlay McKillican. "They have tried to farm all their land and have spent their lives skimming a small crop from a big acreage, instead of making a little land produce something worth while. There, is nothing like pasture for economical milk production if your land isn't too expensive."

Finlay McKillican retired from farming four years ago. He lives in a comfortable house set in a five-acre piece of ground in the outskirts of Vankleek Hill, Ont. For many years, he farmed about four miles east of the village and was recognized in his district as an exceptionally good farmer. He sent more milk to the cheese factory from his 18 to 20 cows than was sent by any of his neighbors with half as many more cows. The secret of his success lay in the fact that he knew his farm and worked out a system of farming to suit the conditions under which he found himself.

Mr. McKillican's farm was situated in a rough, stony district. It consisted of 150 acres of which but 25 acres were under cultivation. While his neighbors on similar land tried to work their farms as if they were on smooth bottom lands, and ran up costly repair bills in attempting to reap their scant crops from this land, Mr. McKillican recognized that the best use to which this rough land could be put was that of pasture. About 30 or 35 acres on his farm was land that could not be beaten. He therefore turned all his attention to this as far as the production of grain and hay crops were concerned. The rest of the farm, including a large sugar bush, was pastured.

## Intensive Cultivation.

The 25 acres under cultivation was worked to the limit. It was all under drained, and with a stock of 20 milkers, besides young stock, Mr. McKillican was able to manure a large part of this cultivated area each year. While no systematic rotation was kept in mind, each field was made to grow a crop of clover at short intervals. The heavy manuring and thorough tillage, which was possible when such a small area was worked, resulted in exceptionally heavy crops. Mr. McKillican always considered that something was wrong if he did not harvest 50 bushels of oats or more to the acre.

The rough land was turned to good account for pasture. The cattle were turned out early in the spring, for the hills dried off quickly and gave good grass early. The cows then stayed on the pasture till frost came in the fall. As the milk was sent to the cheese factory, the cows freshened in the spring and gave their heavy milk flow while on the grass. The large acreage of pasture produced milk economically. The cows always had a plentiful supply of water in the pasture. This was pumped by a windmill to a tank in the pasture in the summer, and in winter the windmill was utilized to pump water into the dairy barn.

## Winter Feeding.

While winter dairying was not carried on, one of the secrets of Mr. McKillican's success was in never letting his cows down in condition during the winter. Thirty years ago Mr. McKillican built the first silo in his section of the country, and from five to seven acres of corn was grown every year and put into the silo to bring the

cows through in good shape. That this object was achieved is shown by the fact that in one year Mr. McKillican's cows gave just twice as much milk as the herd of his neighbor, who had as good a farm in every way and but one cow less than Mr. McKillican. While some difference was due to the better milking qualities of Mr. McKillican's cows, he attributed considerable of the credit to his system of winter feeding.

At the time Mr. McKillican retired from his farm, he had a herd of grade Holsteins that were well known as milk producers. No one in the district sent anywhere near the quantity of milk to the cheese factory for the number of cows kept. The excellent results which he obtained in his herd just go to prove what may be done by grading up common stock. It was his practice to invest in the best pure-bred Holstein sire he could afford. This he gives as a great help to

own vegetables and the feed for his horse, and here he gave me his idea of farming for success when I visited him recently. Although he sold his farm four years ago, he is still interested enough in it to take frequent trips out to see how things are coming along, for once a farmer, always a farmer.

## Underdrainage at the Experimental Farm

## It Insured Good Crops in 1917

WHILE the Central Experimental Farm was yet in its infancy the necessity for installing a system of underdrainage was realized. From year to year the system has been improved and extended until at the present time a very complete drainage scheme is in operation.

Soil conditions vary greatly. The surface soil ranges from sand to clay with all intervening types. Besides there are considerable areas of muck. The subsoil is of the same variable character and in many places the problem of combating quick or running sand is encountered. The contour of the land may be termed gently to abruptly rolling, inclined to the pockets or basins, and on the whole having little natural outlet.

Under these conditions, the problem of drainage was rather a difficult one entailing considerable thought and accurate work. Three main outlets are used, two located at the western and one at the eastern boundary. In explanation of the system it may be defined as a combination or modification of the herring-bone, gridiron and across-the-slope systems of drainage. The first described system is well suited to drain ponds or basins; the second or gridiron system, is well adapted to level land where the drainage required is fairly uniform; the across-the-slope system is used on side hills and slopes.

Clay tiles were used throughout, varying in size from 3 to 10 inches. Tile smaller than three inch were considered too small in this instance and are not recommended for ordinary conditions.

Sand traps or silt basins are indispensable, furnishing clearance for the fine sand that enters the tile and which, if not provided for, would lodge in and clog such tile as are laid on somewhat less than a two-inch grade. These sand traps are of different sizes according to requirements. Some are six feet square while the majority are approximately four feet square, extending into the ground about two feet below the outlet tile, thus providing ample space for the outlet tile, thus providing ample space for the outlet tile, thus providing ample space for the outlet tile.

The depth and distance apart of the drains vary with soil conditions. In clay subsoil, the laterals are as close as 40 feet at a depth of approximately three feet. In lighter soils, the laterals are farther apart and often deeper in the ground, especially towards the outlets.

With regard to the maintenance of a drainage system the most important factor to observe is to practice systematic inspection of the whole and prompt repair of part or parts that require attention. This is essential for a low cost of maintenance and for an efficient system.

From the earliest time in the history of the

## CANADA AND THE WORLD FOOD SHORTAGE

RECENT developments in Europe, official correspondence and the latest crop estimates make it plain that the world food situation to-day is serious beyond anything that we could see a few months ago. Unless we are willing to make some sacrifice in our eating and rigorously to guard against waste of food-stuffs, we may find the conclusive victory of our armies endangered.

Reports of the crops of France and Italy show that we shall be called upon to strain every effort and to conserve every ounce of food to make up the shortage of our allies. Temporary disaster has overtaken the Italian Army and it will be of our allies. Temporary disaster has overtaken the Italian Army and it will be of our allies. Temporary disaster has overtaken the Italian Army and it will be of our allies.

The situation is grave to-day and the time has come when the people of Canada must realize that the Allies are depending on the continent of North America to a far greater extent than ever before. It is within the power of all of us to do effectively to support the efforts of our armies. The Canadian farmer has done his part by harvesting a splendid crop. Plans have been made for greater production next year. But until the next harvest, the only means of increasing the exportable surplus of food is for the consumer to do his part. The fighting efficiency of the Allied forces will be impaired unless Canada awakens to the seriousness of the food problem. THERE RESTS UPON A TRUE CANADIAN RESPONSIBILITY—PERHAPS FOR THE VERY ISSUE OF THE WAR.

W. J. Hanna,

Food Controller

ward success in dairy farming. He made a start in this direction 25 years ago when he brought one of the first pure-bred Holstein sires into that part of the country. The cows with which he had to start were the ordinary red cow of the district, of no particular breed. At the time of his sale, some of the cows in his herd were direct descendants from an old red cow brought over by his grandfather when he came to this country in 1816.

Mr. McKillican never sold any grain or hay off his farm. He turned it into milk. When milk was selling at the cheese factory at from 60 to 75 cents a cwt., Mr. McKillican was drawing from \$500 to \$1,000 from that source for his summer's milk. A similar amount of milk delivered to the factory now would net him about three times this amount. Butter was made before and after the cheese factory season. The rough part of the farm supported, besides the cows, a goodly flock of sheep and a large sugar bush. The latter was quite a source of profit all of the time of his occupancy of the farm. A small orchard supplied apples for the family and left a number of barrels for sale each year.

Mr. McKillican with his small farm carried a goodly equipment. He had his own threshing, gasoline engine, grain grinder and saw. He let his cattle and sheep farm the rougher and more difficult parts of his estate, while he spent all his time getting the ultimate bushel of grain or ton of hay from the fertile 25 acres at his disposal.

Mr. McKillican retired from farming on account of ill-health. On his five-acre estate he still keeps in touch with Mother Earth. Here he grows his

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