Western range men, who claim they are hardier, and stand the Western climatic conditions better than the white-faced ones.

The Cotswold cross upon grade or common ewes makes a remarkable improvement—the first cross often have all the appearance of a pure-bred—and they cross well upon the fine-wooled breeds. In general appearance, the Cotswold is a stylish, stately-looking animal, and possessed of proud carriage. They mature early, weigh well, and are thrifty.

Cotswolds were first imported into Canada in 1854, by Geo. Miller, of Markham, and F. W. Stone, of Guelph, and soon after by John Snell & Sons, of Snelgrove, and rapidly gained popularity, which has grown with the years, until they are more widely-spread in America than any other breed of sheep.

THE FARM.

Another Reason for Crop Rotation.

A new argument against continuous growing of a single crop on the farm, in addition to the one usually suggested, that it tends to deplete the soil of certain elements necessary for that particular crop, is put forth by Prof. H. L. Bolley, of North Dakota Agricultural College. Some years ago a bulletin was issued from Washington on the subject, which took the ground that the roots of growing plants give off excretions which are toxic or poisonous to the roots of succeeding crops of the same kind, while harmless, or comparatively so, to crops of other kinds. Prof. Bolley, who has conducted numerous experiments both in the fields and in greenhouses, has come to the conclusion that the reason that the wheat fields of the Red River Valley, which have been cropped for many years, now fail to raise good crops of plump wheat is not due so much to depleted fertility as to the presence of fungi with which the ground has become infested. These fungi, he claims, produce root rot and blight, after the same manner as the wilt fungi damage the flax crop. He mentions as a fact that these fungous diseases may be spread to new lands by the use of fresh manure containing straw from diseased wheat fields, and the wheat-growing capacity of such lands injured thereby. There are three or four types of minute fungi which it is believed attack the wheat crop, affecting the whole plant, roots, heads and grains, and even gaining entrance to the interior of the grain. These fungi live over in the soil, ready to attack the next crop that may be sown. The above conclusions were reached as the result of extensive pot experiments in the greenhouse, in which 20 square inches of soil each were used. The soil with which these boxes were filled was taken from old wheat lands which no longer raised any plump wheat, and had had about forty continuous crops. Some of the soil samples were sterilized by chemical disinfectants, others under high steam pressure. When healthy, treated seed was planted in these sterilized plots, healthy, strong, stooling plants, with good roots, were produced. From the same seed, planted in the same kind of earth, but unsterilized, feeble, decaying plants were produced. Shrivelled seed, internally diseased, treated, produced diseased plants, even in well-sterilized soils, showing clearly that the disease is in the seed, as well as in the soil.

The chief remedy is rotation of crops. The hurtful fungi, not having host-plants to live upon, perish, more especially if the ground is thoroughly aerated by cultivation. Careful selection of plump grain for seed, and winnowing it well with a heavy blast, is also very important. It is also recommended that all seed wheat should receive the formaldehyde or hot-water treatment, as used for smut prevention.

Whether the cause of decreased yields in crops grown on the same fields successively is that assigned by Prof. Bolley, whether it is the exhaustion of fertility, or whether the other theory, that toxic poisons are excreted from the roots of growing plants, which affect plants of similar character, be correct; or whether, as is possibly the case, there is truth in all three theories, the beneficial effect of proper rotation of crops is established beyond doubt.

A Cotswold Ram Lamb.

Alfalfa Statistics.

A few facts as to the area of land under alfalfa in some foreign countries will be of interest. The twelfth census of the United States reported the area of alfalfa in that country, in 1899, as 2,094,011 acres, with a production of 5,220,671 tons, Colorado leading, with 455,237 acres, producing 1,107,471 tons. It may be noted that these figures do not show the yields claimed as possible averages in Canada, but, when taken in conjunction with an average yield of some twelve bushels per acre of wheat, as compared with an average of around 20 bushels in Ontario, the discrepancy is explained. Poor farming will pull down average yields of any kind of crop, and there is much poor farming in the United States.

Among records of other foreign countries, the Argentine Republic stands first, with a computation, in 1908, of 8,740,448 acres under this magnificent crop. Thrifty France follows, with 2,717,726 acres, in 1906. No comprehensive statistics have yet been obtained as to the area in Canada. Ontario, however, has a modest acreage, with small amounts in various other Provinces, from coast to coast.

Grows Fifty Acres of Alfalfa.

Editor "The Farmer's Advocate":

We have grown alfalfa for a good many years, having about fifty acres under crop at present. Our farm is heavy clay, rolling land, and seems peculiarly fitted for growing alfalfa. We get three crops in a season, averaging, in all, about four tons to the acre. There is no reason why any land that is well drained, and on which water does not lie in the spring, should not grow good crops of this wonderful feed.

We sow the seed about 20 pounds to the acre, with a light sowing of barley as a nurse-crop. We usually inoculate the alfalfa seed with a culture which may be got at the Agricultural College, Guelph. We do not think, in our case, that this is really needed much, as, with the manure drawn from the barn, we believe all our land is thoroughly inoculated.

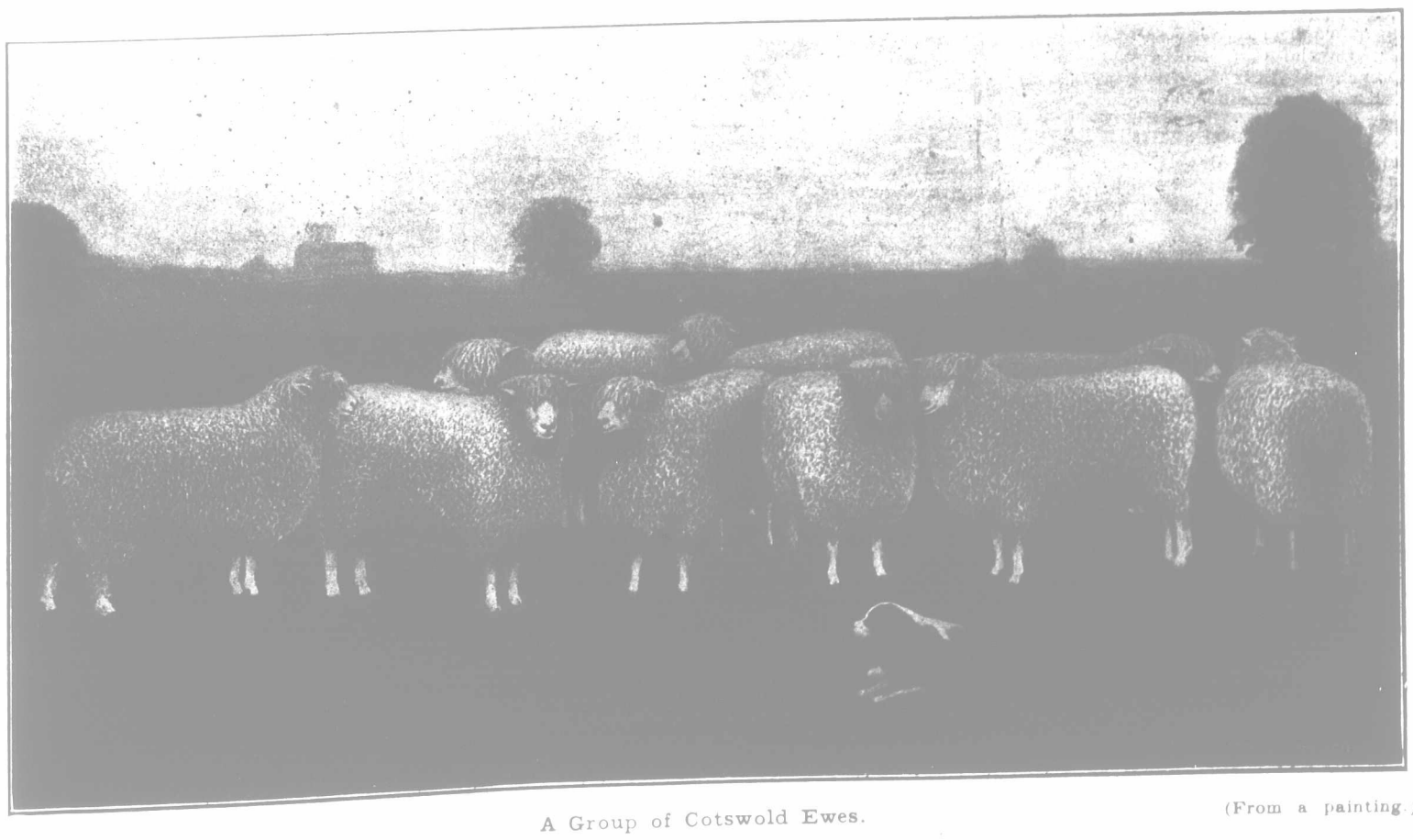
We have used a side-delivery rake this past season, which we have found a great help in curing the alfalfa. The rake rolls the clover up in very light rolls, which usually, in good weather, are fit to go into the barn the afternoon after cutting.

Regarding the duration of a good stand, we believe it will last many years, provided it is well drained. We usually plow it up after four or five years to make room for other crops. We feed silage and alfalfa to our dairy cattle, and, by doing so, very little other grain need be used. We feed no bran at all, as we find the alfalfa takes the place of bran, with good results, at much less cost.

We have read a great many accounts of the wonderful value of alfalfa, and would confirm all that has been written about it. In the dry weather, when the lack of rain has dried up everything else, the alfalfa is as fresh and green as a spring pasture. We fail to understand why every farmer who can possibly grow it, should not have at least one field of alfalfa, to convince him that he has the best and cheapest feed he can grow. We trust that you may be able to interest your readers in this wonderful feed, which is good not only for cows and calves, but every other animal raised on the farm. J. S. McCANNELL.

Halton Co., Ont.

Some men who have used the split-log drag as a clod-crusher in the fields say it is excellent for the purpose. Turn it end for end, and draw it backward, round face of the slabs to the front.



A Group of Cotswold Ewes. (From a painting.)