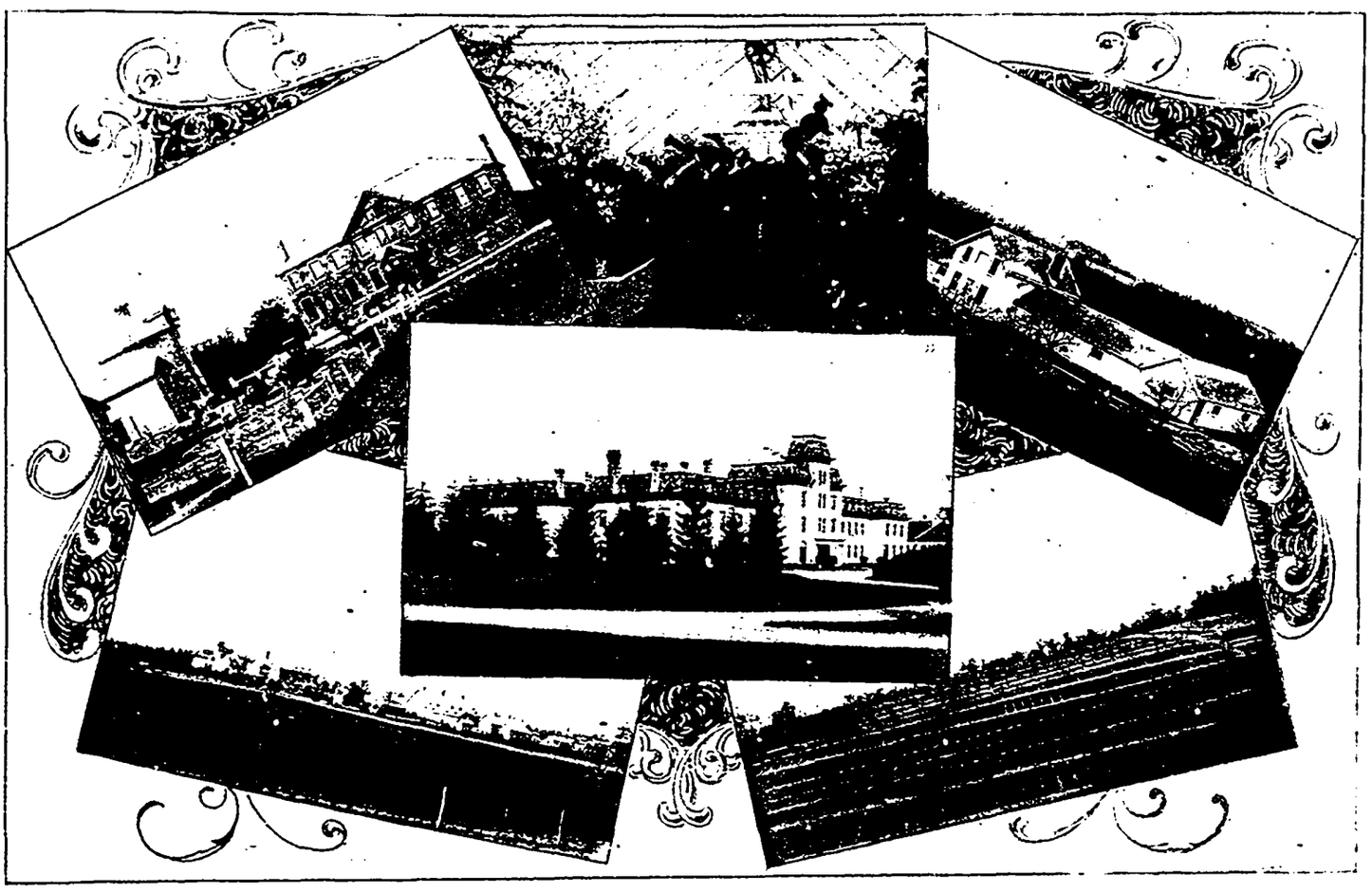
matter has been plowed under in light soils it tends to fill the interstices in the soil, and in this way the avenues for the filtration of water downward are hindered. Vegetable matter, too, has much power to retain moisture. When there is a goodly supply of it in a light soil, and rain falls on it, the rain is absorbed by the vegetable matter to a far greater extent than it would be if the vegetable matter were not present in the soil. The moisture thus held is available for the sustenance of the roots of the crop which may be growing there.

Humus also lessens evaporation. In sandy soils, destitute of vegetable matter, evaporation is rapid. In the first place, the air more easily penetrates the large interstices between the particles of the soil; and, in the second place, the larger interstices allow the ground



Some of the Buildings at the Ontario Agricultural College, Guelph.

moisture to escape more rapidly. It is easy, then, to see the great mission that humus fulfils in light soils.

But how shall we get plenty of it in such soils? In the first place, by growing grasses frequently upon them. It is usually easy to get a good catch of grass on light soils, when the weather is not very dry in the summer season. But they do not sustain themselves as in heavy soils, and for that reason they should not be kept long without breaking them up. But they should be renewed frequently.

A second mode is to add barnyard manure, and to be careful to apply it as fresh as possible. When the manure is applied fresh, the vegetable matter composing it is capable of retaining more moisture than when it is applied in a decomposed condition. If any land on the farm has to go without manure, let it be that land which is heavy, for it is naturally stronger than the light soil.

A third way is to grow green crops, and plow them under. These may be various, as clover, buckwheat, peas, and mustard. Some of these are more bulky, and some of them are less so than others. The more bulky of these will bring the most moisture, but some are more capable of bringing fertility. This is true of the legumes, and to grow these green crops it is not necessary, as a rule, to miss a crop of grain or of something else. Light soils are what may be termed quick soils. They push vegetation up rapidly; hence, when one catch crop follows another, these may furnish a large amount of humus the same season, and, while the green crop is growing, it prevents nitrates from leaching out of the soil.

Growing Flax.

The flax industry is one of no little importance in some parts of Ontario, and in Manitoba growing flax is likely to come more and more into favor, owing to the great adaptability of that province for producing fine crops. In Ontario the crop is grown for the fibre as well as for the grain, but in the Northwest it may be said that it is only grown for the grain.

Flax culture is found in three distinct forms. The first has reference to growing it only for the seed. In this form it pays well in some instances, more especially when grown on rich prairie soils, which can spare a portion of their exuberant fertility. But there is an element of waste in such instances, in the burning of the straw, and, even though it should not be burned, it is otherwise only used for litter.

By the second method, flax is chiefly grown for the fibre. It is sown with much care when thus grown, with reference to an even distribution of the seed in the soil. But, of course, in such instances a fair crop of seed may also be obtained. However, the seed is regarded as a secondary consideration.

By the third method, the crop is grown for both seed and fibre. Some hold to the view that first-class fibre and heavy yields of seed cannot be obtained from the same plants, but this does not always seem to hold true, for it is a fact that in some parts of Belgium, where flax is grown in great perfection for the fibre, it also produces good crops of seed.

Ordinarily, deep and well-cultivated soils are considered the most suitable for the cultivation of flax. Dark, rich, loamy clays, and heavy clay loams, well drained, are among the soils named in the reports of the United States Department of Agriculture as being the most favorable to the cultivation of flax. But, without any doubt, the rich spongy soils of the prairie are also well adapted to the growth of the same. In dry, calcareous soils the stalk remains short, while in those of a heavier texture it is lengthened, but at the expense of the fine quality of the fibre, so that where the fibre is an important object only clean land should be chosen for the production of the crop.

The preparation of the land for flax should be very thorough. A fine seed bed is indispensable to secure the very best results. In order to obtain the cleanness of soil necessary in growing the crop, we would recommend deep fall plowing early in the season, followed by surface cultivation in the spring until the sowing of the flaxseed. The weeds will thus, to a considerable extent, be removed from the surface soil. In Farmer's Bulletin, No. 27, issued by the Department of Agriculture in the United States, fall plowing is advocated, followed by two plowings in the spring. But this would not prove nearly so helpful in destroying weeds as the other method of preparing the land as given above. Nor would it be so favorable to the quick growing of the flax. And on prairie soils the two plowings in the spring would be decidedly injurious to the growth of the flax in a dry season.

The season for sowing flax will, of course, depend upon the climate. We should not be nervous about getting it in too early. As with Indian corn, it is more important to have the ground in fine condition, and thus secure a quick growth, than to sow early and have the crop grow slowly, as it struggles with weeds for the mastery. A very good time to sow is when the leaves of the trees begin to unfold. To secure fibre of the best quality, hand sowing is considered preferable, but when the seed only is wanted, it is better probably to use the drill. When the fibre mainly is wanted, drill sowing is apt to produce a very uneven size of stalk; that is to say, some of the stalks will be fine and some coarse, as the plants grow closely in the line of the row. But in dry prairie countries drill sowing will secure a better germination.

It will be readily apparent that flax cannot be grown successfully for the fibre from a poor quality of seed. Therefore, when the fibre is an important end sought, only the best quality