

this, an additional \$5,000 has been voted to increase the compensation.

FRUIT.—There is a vote of \$1,000 for the holding of a Provincial fruit, honey and flower show. If accommodation can be got in Toronto, it is understood that the show will be held there next October or November.

BEEF-SUGAR BOUNTY.—The condition, value and prospects of the beet-sugar industry are such as to warrant the Legislature in continuing the bounty of last year, to the extent of half a cent per pound on all Ontario-made sugar, up to a maximum of \$75,000.

THE AGRICULTURAL COLLEGE.—The ill effects of the smallpox of last winter are seen in some special votes to cover the extra expense. The new Macdonald buildings call for about \$20,000 for furnishing equipment and improvements. The old kitchen and laundry are to be reconstructed and modernized. Then there is a vote of \$3,500 for the "encouragement of forestry." This is the new work outlined in the Minister's speech, as indicated in the last issue of the "Farmer's Advocate." Farm forest trees are to be grown at the College, and distributed to farmers at the cost of production. Work has already begun.

Mr. E. I. Zavitz, an Ontario specialist in forestry, is in charge. A plot has been prepared, seeds sown and seedlings set out, so that in the spring of 1905 the Department of Agriculture will be prepared to meet the demands of Ontario farmers. Meanwhile, an educational campaign will be started through the Farmers' Institutes.

There was very little legislation enacted that might be called purely agricultural, but there was, as will be seen from the above, a great deal of valuable work provided for. During the session the Hon. John Dryden delivered an address on the work of his department, which was a revelation to some non-farming members, and might be surprising even to many of our intelligent readers. Agriculture appears to be the common meeting ground of our political parties.

Should Potato-growers Spray?

According to a bulletin issued recently by the New York Agricultural Experiment Station at Geneva, the question as to whether potato-growers should spray has again been answered in the affirmative. Exhaustive tests have been made, both at that station and by farmers in different parts of the State, working in co-operation with it, and in every case where the spraying was done thoroughly and at the right time, the score has been strongly in favor of the Bordeaux mixture, an excess of as much as \$25.77 per acre net profit having been made from the sprayed over the unsprayed portions. Failure, in fact, has only resulted where one of these conditions, or both, have been disregarded. In order, then, to ensure success, spraying must be done before the least sign of disease appears. It is a preventive, not a cure. Again, it must be done so completely that the entire surface of the plant may be covered by a film of the mixture, leaving no vulnerable point upon which the germs of disease may fasten and begin their work. When the weather is moist and warm—at which time the plant is growing rapidly and continually exposing new surface—or when rains occur, the spraying must be done more frequently than in dry weather. Ordinarily, however, it will be sufficient to start when the plants are six or seven inches high, and spray every two weeks during the growing season. To dispose of the "bugs" at the same time, it is only necessary to add Paris green or other bug-killer to the mixture. For this purpose, white arsenic, in the form of arsenite of lime, is recommended as being very much cheaper and quite as effective as Paris green. When sufficient lime to neutralize the acid is used in the Bordeaux mixture, there is no danger of any of these poisons injuring the foliage. In short, the bulletin summarizes the benefits to be derived from spraying as follows: "The potato-grower who sprays thoroughly every year, ensures his crop against serious damage from blight and rot, and in a season when disease is epidemic, will make enough profit to repay the cost of treatment for many years."

"Transactions" of Interest and Value.

The following quotation, taken from the "Transactions of the Highland and Agricultural Society of Scotland for 1904," goes to show that the question of progress along agricultural lines obtained in Scotland as well as here: "Undoubtedly, the man who is best facing the circumstances of present-day conditions is not the man who is content to follow unquestioningly in the footsteps of his father or grandfather, but the man who has been quick to adopt new methods, or modifications of new methods, as they have been found advantageous by others." The presentation of these successful methods is the object of the compilation of this book, which is issued annually by the Society. The volume for 1904, which has been edited by Mr. Jas. Macdonald, F. R. S. E., Secretary of the Society, is certainly a credit to the institution, and will doubtless be of much value to those agriculturists into whose hands it may come.

Acreage in Sugar Beets.

I am pleased to know that the culture of sugar beets is to be discussed in the "Farmer's Advocate." In that way the beet industry and its requirements and the most up-to-date and practical methods of growing and handling the crop will be brought to the notice of a large number of farmers who are (or ought to be) interested in this industry. First, because it is (under proper conditions and intelligent methods of handling) the best-paying crop a farmer can grow. It is a cash crop, with a stated price. At the Wallaceburg factory last fall the average price was \$5.08 per ton.

The money for the beet crop comes at a time of the year when a farmer has most calls for money. Hired help, taxes, and many other annual expenses have to be met at that season of the year. Four or five acres of beets will cover the ordinary fall expenses, and the farmer will not have to sell his grain crop at the low prices usually prevailing at that season.

In answer to your question regarding kinds of soil, I would say that any good land rich enough to grow a good crop of corn or potatoes will grow a good tonnage of beets. Land newly broken, light sand land, and heavy, sticky clay are least suitable for beet crop. Land should be rich, clean, and well drained. Beets grow well on clover sod, plowed deep in the fall, and well worked on surface before seeding in spring; also, on land manured for crop the spring before, or on land manured and plowed early in fall, as for fall wheat. A winter-killed wheat field would be an ideal field for beets, because the manure or other fertilizer would be evenly distributed through the soil.

Land that has been deeply fall plowed should be stirred with disk harrow a week or ten days before preparing to sow, in order to start any weeds or grasses near the surface. Spring-plowed land should be worked till it has a good firm bottom, and finely-pulverized seed-bed, as level as possible.

The best implements for sowing seed are the drills especially for that purpose, as they can be set at any depth or any distance apart in the rows, but an ordinary force-feed grain drill will answer the purpose. The danger with the ordinary drill is in getting the seed in too deep. It is very important that the seed be not sown more than an inch, or, at most, an inch and a half deep. The distance the rows should be apart will depend to some extent on the size of the horses to be used in cultivating and working the crop. Eighteen-inch spacings are considered best if horses weighing up to eleven or twelve hundred pounds are to be used. If large horses are used, have spacings twenty to twenty-two inches. The closer the rows are together, the better it will be, as the leaves will the sooner cover the ground and preserve moisture. In the narrow spacings, the beets will not grow so large as in the wider, but will contain a higher per cent. of sugar, which is an important point.

Fifteen pounds of seed per acre is none too much to sow, as it is necessary to have plenty of strong, thrifty beets along the rows to choose from. A strong, thrifty beet at the start will be a large beet in the fall, while a small, spindly one at the start will be a small one to the end of the chapter.

Thinning should commence as soon as beets show four leaves, as the thinning can be done much faster and better then than after they get larger and begin to tangle. Thin to one strong beet in a place, eight or nine inches apart. Blocking can best be done by using a common, straight-sided, seven-inch hoe. Boys from nine to fourteen years of age can thin beets much easier than men can. A good smart boy will follow a man blocking, if the blocking is done close, leaving but three or four beets in a place, which can easily be done.

Cultivate as soon as the rows can be seen from end to end, so as to be sure and get the start of any weeds or grass near the surface. Cultivate as often as necessary to keep the weeds down and surface loose, to preserve moisture till the leaves cover the ground.

The more thorough the cultivation, the greater will be the per cent. of sugar in the crop. Use horse cultivator, especially designed for beets, because they are fitted with thin, flat teeth, with shields on the outsides to keep the earth from covering up the plants when small. With these cultivators, when the plants are small, you can shave to within an inch of each side of the rows, and the beets can be cultivated much quicker than with the ordinary farm cultivator. Two-row cultivators are better than those designed to cultivate four rows at a time. The amount of acreage which could be profitably devoted to sugar beets on one hundred acres would depend largely on what amount of land was in condition for the crop, and the strength of help on farm or otherwise available. Where a suitable crop rotation is followed, ten acres could, I think, be very profitably devoted to beets each year, but think it would be better (unless used to root crop) to start with five acres first year, for with this crop, as with everything else, experience is the best teacher. With the new and improved machinery and up-to-date methods, an acre of beets can be harvested and marketed as quickly and as cheaply as an acre of corn.

Kent Co.

FRANK SHAW.

Avoid Land on Which Clover will Not Grow.

Sugar-beet growing is one of the best and most money-making industries we have in our country to-day for the farmer. I have had experience in growing the sugar beet, and I have made a success in tonnage, per cent. of sugar and quality.

Mild clay or sandy loam soil is excellent for growing beets. Any soil that will produce a good grain, potato, corn or clover crop will produce a good beet crop. Deep muck, marshy or new soil which is not well drained, and on which clover will not thrive, should not be selected. The soil should be deep and porous, and well drained by tile or surface drainage. My experience in selecting fields most suitable for the growing of the sugar beet is clover stubble plowed in the fall, wheat stubble, barley stubble, potato and corn ground. I know after any of these crops sugar beets will give good results, if the land is in good shape and well looked after.

Method for Preparing Soil.—Draw out barnyard manure in August, fifteen tons to the acre; plow lightly, say five inches; roll the plowed land. Let it lie in this state till the first of November, then plow deep, say nine or ten inches; then open your water drains well, to prevent the surface water from souring the soil. In the spring, disk your ground well; then give it sufficient harrowing, and, if dry, roll the ground solid before sowing. Seed may be sown from April until June. Early sowing usually gives best results.

Spring Method of Preparing Soils for Sugar Beet.—Choose your best soil; draw out some of your best stable manure, about ten to twelve tons to the acre; plow the ground when in a dry condition, roll the ground well, then use the spring-tooth harrow, then the smoothing harrow; roll the soil solid, if not wet; and then sow your seed. I am satisfied this preparation will give good results. I advise every farmer with soil suitable for growing sugar beets, to put in not less than five acres the first year, and ten acres the following years.

Sowing can be well done with Moline beet-drill, or by the Planet Junior hand drill, or by the ordinary grain drill. When sown by the grain drill, be sure to put some sort of a shoe on the hoes to keep them from sowing too deep, for it is not advisable to sow too deep. One-half inch is sufficient depth to sow the seed. Set the grain-drill at the mark that sows seven pecks of oats to the acre, and it will sow fifteen pounds of beet seeds per acre. By sowing with every third hoe it will leave the rows twenty-one inches apart. When sown with Moline beet-drill, have the rows eighteen inches apart; the same with the Planet Junior.

I find it necessary to sow fifteen pounds of seed to



Climax, Scotland's Banner, Ringleader.

Yearling Shorthorns in the herd of Frank W. Smith, Scotland, Ont.