

the stratum of limestone gravel containing water: has never been able to get a second crop of wheat, nor have any of his neighbors. The first crop has always shown well, either frost or something else has prevented the maturing of the grain. Last year he got a forest cultivator, and put a piece of new land into fall wheat; he got an enormous crop of straw, but no grain. The crop came just into the wet harvest, and was destroyed; but on asking him about the cultivator, he says, that if he had, at any time, ten acres of new land to put in, he would buy a new cultivator for the purpose, rather than put in the crop without: finds the land dreadfully overrun with Canada thistles, on account of being obliged to put in some sort of a crop amongst the stumps, but gets rid of them where they can lay down the land to clover after the first crop, until the stumps rot out. When they have cultivated the land after the first crop they have always got good crops of oats and peas—indeed the latter have grown too grossly for good yield; has been on the place six years, and has no doubt of the goodness of the soil, when once it can be cultivated, but says that a second crop of wheat on the new land is hopeless; this year had his potatoes cut off and some of them killed by frost in August—his neighbors the same as his own.

Alsike Clover.

To the Editor of THE CANADA FARMER:

SIR,—Allow me, through the columns of your valuable paper, to advise my bee-keeping friends who are farmers to cultivate the Alsike clover. For while it is, for pasturing or hay purposes, decidedly preferable to red clover, it fully equals it in the secretion of honey, and far surpasses the white. Its cultivation would, therefore, greatly increase the forage for bees, which is very desirable. I have ever contended that no plant can be cultivated with profit for bee pasturage alone—that bee-keeping is profitable from the fact that bees gather what otherwise would run to waste; yet the bee-keeper may often cultivate a crop that, while it proves remunerative as such, will, at the same time, increase the pasturage for his bees.

Perhaps nothing will better meet the wants of the bee-keeper in this respect than the Alsike clover. Not only so, but the farmer who does not keep bees would find it to his advantage to sow Alsike clover instead of red clover, as will be seen from the following account of the experience of the Shaker family, near Albany, New York, furnished to the *Country Gentleman* by Mr. Chauncy Miller, a member of that family.

"We find the Alsike clover a very superior grass in the following points:—

1. For its value as a hay crop on a great variety of soils, being of a growth, in height, varying according to quality of soil from ten inches to two-and-a-half feet, and yielding from one-and-a-half to three tons per acre; thus comparing with our best red clovers.

2. For fineness of stalk or haulm.

3. For its multitude of sweet flowers, blooming perhaps three or four times as much as red clover, making, when in bloom, literally a 'sea of flowers.'

4. Its adaptation to heavy soils, clays or heavy clay loams, as well as sandy soils, not being so liable to heave out by frosts in winter and spring as red clover, on account of the root being more fibrous, partaking somewhat of the character of the white clover.

5. To all farmers who keep bees largely, the crop would be of great value, for bees can work upon the flowers equally as well as upon white clover, the blossoms being about the same size, and precisely of the same habit as the latter, but much more abundant in honey; bees are as fond of the flowers as of mignonette, and, in its season of flowering, which lasts about six weeks, are continually upon it, from dewy morn until dusky eve.

6. To those farmers raising clover seed for market, the Alsike clover, in our opinion, would be of great value, as it seeds enormously, and the seed threshes easily, by flail or machine, leaving a beautiful quality of hay, the stalks retaining their greenness when most of the seed is quite ripe."

According to the above, it would be advisable for farmers to cultivate it whether they keep bees or not. That the above is not overdrawn is fully proved by those who have tried it in Canada. It will be seen by referring to THE CANADA FARMER, Vol. 4, page 243, that H. M. Thomas, of Brooklin, Ontario, had it

grown to a much greater height than that mentioned in the above extract, in places measuring four-and-a-half ft. It is abundant in seed, yielding from five to eight bushels to the acre; after threshing, the haulm is equally as good, and is by many considered better for cows than red clover hay. In this county (Ontario) many able and intelligent farmers are ordering seed from H. M. Thomas, of Brooklin, being well satisfied from his success that it is, for all purposes, superior to red clover. So great is the demand in the United States, that the seed is retailing at \$1.50 per pound, at the Rochester seed store, though I believe, with us, it sells at 30 cents a pound, or \$15 a bushel.

J. H. THOMAS.

Brooklin, Ont.

Tobacco.

A "SUBSCRIBER" from Augusta, under date Feb. 5th, writes:—"Can you, or some of your correspondents, answer the following queries?—Will Tobacco grow in Canada? If so, what varieties are best? How should it be planted, and at what time? What is the best mode of harvesting and drying? Where can the raw material be sold? What is the average yield per acre, and probable price per pound? Where can seed be had? Will it pay?"

There are but few places in Canada where the summer season is long enough or hot enough for the successful cultivation of this "weed" on a large scale; and, from a commercial point of view, we could scarcely recommend its growth as a branch of Canadian farming. On still higher grounds we should do all in our power to discourage such an enterprise. God Almighty, for some inscrutable reason which eludes our search as much as the origin of evil, has seen fit to sow the world sparingly with noxious herbs, as he has found place in animate nature for tigers and vermin; but that is no reason why man should diligently cultivate or propagate them. Some of these poisons have their use in medicine, though even here they are often of questionable benefit; but most assuredly they were never intended to become articles of daily and hourly consumption. We believe the use of tobacco, in any shape, is deleterious to the health of the individual, and will eventually deteriorate the race. All, however, do not agree with us on this subject, and for the information of such as find themselves able, with a clear conscience, to grow and use the plant, we subjoin the following replies to the queries of our correspondent, so far as we are able to furnish them:

Tobacco is grown, though not very extensively, in some places in Canada; it may be tried, we suppose, where Indian corn will ripen well. The best variety for this climate would probably be what is denominated "Little Frederick," as this kind, though small, matures early. It is necessary, we believe, with us, to raise the plants in hot-beds, and as soon as there is no danger from frost, to plant them out in the field in hills three feet apart. The after cultivation consists in keeping the land clean and light with occasional stirring. As soon as the plants are a little over a foot high they should be topped; that is, the terminal bud should be nipped off. The lower leaves should also be removed, leaving about eight leaves to mature. All suckers and lateral shoots should be removed as soon as they appear. Harvesting should commence when the leaves begin to change in color and become spotted. The stalks are split with a knife nearly as far as the lowest leaf, and then cut off below this, then inverted and left standing on the ground for a short time; they are then collected in small piles, and left to dry for a short time longer, after which they are taken to the barn or drying house, the stalks suspended by means of the split portion across sticks, and these again are laid across poles in the drying house, which should be tight. The drying is effected in some cases by means of fires, and in others by fires on the ground underneath the rows of tobacco.

With regard to market, there are dealers who will readily take it in all our chief cities. The average yield, per acre, may be set down at about 700 or 800 lbs. The price varies; during the last year buyers here have been giving from three to five cents per pound. There is at present an upward tendency in the market. Seed can be procured pro-

bably through our own seedmen; or application may be made direct to United States dealers, among whom we may mention the following:—W. A. Hoppe, Richmond, Virginia; James B. Casey, Cincinnati, Ohio; Reynolds & Co., 9th Street Tobacco Warehouse, Louisville, Kentucky. As to its paying in Canada, we doubt it.

SUPERPHOSPHATE OF LIME AND BONE DUST.—A subscriber from Oakville enquires if we have any experience of Lamb's Superphosphate, and how it would compare with bone dust; also, what quantity of either should be used for spring wheat. We have used both these manures for turnips, as prepared by Mr. Lamb, and have found them satisfactory. We prefer the superphosphate as giving a much quicker return, being more soluble, and showing its efficacy in the first crop. The quantity required must depend upon the condition of the land—about 100 lbs. of superphosphate to the acre may be set down as an average; and from four to six bushels of bone dust.

WEARING OUT THE LAND.—The editor of the *Monthly Report* of the Department of Agriculture at Washington has been on a tour of inspection through the wheat growing regions of the West. His observations there lead him to the conclusion that the manner of wheat cultivation in that section is wrong, and must soon prove ruinous to the farmers who practise it. By the course of cropping pursued the yield per acre has dwindled down from twenty-five to thirty bushels to an average of twelve or fourteen, and is yearly diminishing. To arrest this downward tendency it is proposed to diversify the crops more, thus giving the soil a chance to recuperate while supplying a greater variety of products. In such cases, however, more than change of crops will be found necessary. The land must be enriched, and the elements of fertility restored to it.

BET SUGAR IN GERMANY.—A German agricultural journal gives an interesting account of the beet sugar business in that country. Fields of beets of from two to three hundred acres are often seen there. The beets are drilled in rows about fifteen inches apart, and the whole labor of cultivation is performed by the hoe. The women and men work in gangs of twenty or more. The men get from sixteen to nineteen cents per day, and the women from thirteen to fifteen—working fourteen hours. The manufactories for this sugar are on a correspondingly large scale, some of them employing a thousand hands. The beets are brought from the field and elevated to the upper story of a high building, where they are cleaned, crushed and filtered, the juice descending from story to story, undergoing a refining process by the way till it reaches the lower one in the shape of a sugar cone two and a half feet in length. It is a very nice article, and worth at the factory about ten cents per pound. It takes eight days from the time of crushing the beets till the sugar is dried sufficiently for market. One of these establishments turned out six millions of pounds last year with the help of six hundred hands. *New England Farmer.*

LEACHY SOILS.—A. P. Miller, from Norwich, writes:—"I have frequently heard farmers speak of a certain kind of soil as being 'Leachy,' that is, that manure leached down through it, so that it could not be kept productive without being continually manured. What do you think of the matter? Will manure escape through the soil or not?"

ANS.—It is one of the peculiarities of humus or mould to absorb all true manurial matters, attracting them by a sort of chemical filtration from liquids holding them in solution as they pass through. Hence there is no better deodorizer or disinfectant than dry earth. Nevertheless, there are some soils possessing very little humus, and composed chiefly of sand and gravel. Through such soils, no doubt, manure will drain away. The present Earl of Leicester, many years ago, before he had come to the title, converted many acres of such land on his estate in Norfolk, at great expense, it is true, into excellent and productive land, by adding clay, and using a machine invented by himself for pressing the soil together, and rendering it more compact. Such costly remedies may not be practicable here, but something may be done in these cases, by turning in clover to increase the retentive top soil, and by such pressing as our ordinary appliances will afford. Rolling will do something; and the combined treading and manuring supplied by feeding sheep on the land is of service.