

By proper attention, the yield of maple sugar in this country might be largely increased. It is a great luxury to have plenty of it, and it is even a greater luxury to have a good supply of maple molasses, which is far before the best article of West India molasses, Golden syrup, or Sorghum syrup, ever produced. These articles are not only useful for home consumption, but they are in good demand, and sale for them at fair prices can be had to almost any extent. We close by quoting a few practical suggestions made by a correspondent of the *Country Gentleman*, in a recent number of that paper—

"Use the half-inch bit for tapping, but be sure to keep perfectly sharp, and no danger of splitting the wood. Bore from a half to five-eighths deep; that will give a quarter of an inch for freshing, without materially damaging the tree. I would use the alder spile in preference to any metal spile I have ever tried; and if properly cleaned every spring, with your pans or buckets, there will be no danger of soured sap. My plan is to hot lime juice them, with good rinsing. For cleansing your syrup after straining through double woolen cloth into a tub, let it stand two hours in order to settle; then draw off by a faucet, inserted in the side of tub one inch above the bottom; that will give you the clear stuff. Then place over the fire, and on coming to a boil, add a pint of new sweet milk to every 20 gallons, to slack it; and skim well as long as anything comes to the top. Stir your sugar for one hour, while it is cooling and graining, in large wooden trays or bowls, with a thin wooden paddle, and you will have as white, nice sugar as you could wish. If you would economize time and wood, by all means have a tight sugar-house over your furnace, for a cold gust of wind, blowing on the surface of water, will stop the boiling, as the watery vapour is thrown back by lids into the syrup. Try it for a moment with a lid; then raise your lid and see the water dripping back. The faster the evaporation, the more and better sugar."

Familiar Talks on Agricultural Principles.

BEANS.

The bean is a plant well worthy the attention of farmers, furnishing as it does a valuable article of diet for both man and beast, and a crop capable of playing a most useful part in a well managed rotation. The proportion of nutritive matter in beans, compared with other grain, is, according to Linhof, as follows:—

	By weight	Or in a bushel
Wheat	74 per cent	about 47 lbs.
Rye	70	39 "
Barley	65	33 "
Oats	58	23 "
Beans	68	45 "
Peas	5	49 "
French Beans	54	54 "

The same chemist obtained from 3-10 parts of marsh beans, of

Starch	1312
Albumen	31
Other matters, nutritive, gummy, starchy, sugary, analogous to animal matter	1204
And from kidney beans of starchy matter	1505
Albumen and matter approaching to animal matter in its nature	851
Mucilage	793

The *Mark Lane Express* says—"An acre of beans, averaging 30 bushels at 66 lbs per bushel, gives the following amount of nutritive matter in feeding material: nitrogenous or flesh-forming material, 460 lbs.; starch, 970 lbs.; woody fibre, 198 lbs.; mineral matter or ash, 67 lbs.; water, 285 lbs.

Beans are largely used in England and other countries as food for live stock, particularly for horses and hogs. For the former, they are considered more nutritious than the oat, and a better food on which to sustain hard and protracted labour. At first it is difficult to induce horses to eat them, but before long they come to like them.

Beans are valued by British agriculturists from the place they are fitted to take in a rotation of crops. They require a large quantity of potash and lime, and should be dressed with manures or composts containing these substances, or introduced in a course between crops that consume but small quantities of them. On rich clayey soils in England a course which has been much used is 1, oats; 2, rape, for oil; 3, beans; 4, wheat sown with clover; 5 and 6, clover; 7 wheat; 8 rape. In rich loams, 1, oats; 2,

turnips; 3, wheat or barley; 4, beans; 5, wheat; 6, fallow or turnips; 7 wheat or barley and grass seeds. It will be observed that in the last-mentioned course, a crop of beans is interposed between two white crops, and it was long the practice in the richest parts of the County of Kent to grow wheat and beans alternately for many years in succession, without change or fallow. Although the nutritious matter in a crop of beans is great—almost equal, indeed, to that of a crop of wheat—it exhausts the soil much less. Its succulent leaves and stems absorb much nourishment from the atmosphere, while the leaves, constantly falling off and decaying, restore carbon and mucilage to the soil. Few seed-bearing crops give so great a return with so small a drain on the soil, while none are more grateful for liberal manuring, or leave the land in better trim for a grain crop. We have expressed the opinion heretofore in this journal, that beans are too little cultivated in Canada, and we take occasion to repeat it in this place. The varieties of the bean are numerous, and it is cultivated both in the field and the garden. At present we shall speak only of those employed in field culture. The variety commonly called horse-beans are but little grown in Canada or the United States, from an impression that they will not do so well as in England and other European countries. This we believe to be a mistaken idea. Those who have given them a fair trial, report most favourably in reference to them, and we know of no good reason why they should not flourish and bear good crops here as well as in the Old World. The large amount of nutriment which they contain, renders them very desirable for stock-feeding. The variety most grown on this Continent is the white or cranberry bean. It is largely cultivated in New England, and is much prized all over the United States as an article of human food. "Pork and beans" constitute a favourite dish in all parts of the American Republic; indeed, it is so distinctively "Yankee," that it may be looked upon as being scarcely less national than the roast beef of Old England, or the "haggis" and "kail" of Scotland.

The field or horse-bean may be sown quite early in the season, as it is less tender than the garden or white varieties, and will bear a light spring frost without injury. It should be sown in drills wide enough apart to admit of being cultivated with the horse-hoe. The white bean should not be put in until all danger of spring frost is over. About the 1st of June will generally prove the best time. It is cultivated by our Yankee neighbours very much in the same way as corn, being planted in hills, and tilled both ways with the horse-hoe or cultivator. Bean-stalks are valuable as fodder for sheep and horses. Chopped or broken up, they are considered little inferior to ordinary hay.

Progress of the Potato.

The potato holds its own at home and abroad, and the cultivation and consumption seem to be larger than ever. Exclusive of our home-growth, we imported nearly 807,000 cwts. from the continent during last year; and the average imports of the past three years were 50,000 tons annually. Although in some former years the foreign imports were half as large again, the home production has probably extended. There is scarcely any doubt that the annual growth in Great Britain and Ireland equals what it was estimated at some fifteen years ago, namely, nine million tons.

Wherever the climate and soil are suitable, there the British settler carries with him and extends the culture of his favorite tuber. We find it in the southern African colonies, in parts of India, all over Australia, while in Tasmania and New Zealand it has long proved one of the most important crops. Even so far north on the great Australian continent as Queensland there are some five or six hundred acres already devoted to the potato. In the British North American colonies and Bermuda, potatoes are also much attended to. The Celestials have taken to

its culture in the northern parts of China; and potatoes sell there at five shillings the hundred weight and a quarter.

In Ireland, the extent of land under potatoes still keeps large, and has averaged in the last ten years with but slight fluctuations, 1,100,000 statute acres. The average yield has dropped off, however, one-half from what it was; for, while in many past years it exceeded six and seven tons to the acre, it scarcely reaches one-half that amount now. In 1817, the average was seven and a-quarter tons per acre, and the produce two million tons; in 1819, at five and a-half tons per acre, the yield was four million tons; in 1855, at six and a-half tons, the produce was six and a-quarter million tons; in 1863, at three and a-half tons, the yield was three and a-half millions.

With a rapidly-increasing population in Australia, whose breadstuff wants are considerable, the demand for potatoes is yearly becoming larger. Potatoes, being next in importance to wheat as the food of man, are especially important in a mining colony like Victoria. The extent to which potato-cropping has been carried in Victoria for some years past indicates the intention of the colonists to adopt it as a standard crop; and, looking at the requirements of a mining population, they are right. As the climate of Victoria has been found to ripen the crop at three periods of the year, that circumstance suggests the feasibility of double-cropping the field in potato-rotation between its wheat-harvest and its barley-seeding.

It is curious to trace the progress of potato-culture in Port Phillip. In 1810, there were but 300 tons of potatoes raised; in the next year, this increased to 3,734 tons; and in 1814, to 12,500 tons. Last year, there were 28,000 acres under culture; but the average produce in the past ten years was three tons to the acre, showing that much remains to be done to increase the produce. The import of potatoes to Melbourne from the adjoining island of Tasmania is very large; in 1842, it was but 384 tons; in 1853, it was 9,000 tons, valued at £170,000; and now it has risen to very much larger proportions.

In 1864, one-fifth more land was planted with potatoes in South Australia than in the previous years; but the season proving very unfavorable, the quantity only exceeded that of the previous year by 224 tons; 2,963 acres were sown, yielding 6,493 tons, or 44 cwts to the acre, being 11 cwts. below the previous year's average. This small acreage-yield contrasts strongly with England and Ireland. The importance of the potato in New Zealand we recently alluded to; and the very large yield per acre there, ranging from ten to twenty tons, will bear favourable comparison with any country, however high the cultivation.

In the United States, the produce of potatoes increased from 65½ million bushels in 1850 to 110½ million bushels in 1860. Of this quantity, New York produced fully one-fourth, the next largest producing States being Pennsylvania, 12 million bushels; Ohio, 8½ million bushels, Maine, 6½ million bushels; Vermont Michigan, Illinois, New Jersey, and New Hampshire, ranging from 4 to 5 million bushels. In the Southern States, sweet potatoes (*Batas edulis*) are also grown to the amount of 42 million bushels annually. In our own North American Provinces the quantity grown is large. In 1860, three million bushels were raised, being an increase of fifty per cent. over 1855. In New Brunswick, 37,667 acres produced over four million bushels, valued at "s. a bushel; in Nova Scotia, about the same quantity. In Upper Canada, the quantity of potatoes grown increased from five million bushels, in 1856, to fifteen and a-half million bushels in 1861.

These several facts and figures may prove useful to those interested in potato-culture here and elsewhere; more especially as they are not generally accessible to the public, but are the results of close research in various official channels.—*Farmers' Magazine*.

PREPARING FOR SPRING—Said a farmer who always takes time by the forelock, "In winter I prepare for spring: my plans for the crops for the coming season are all made and ready for execution so soon as the spring opens, be it early or late: my tools are all got in readiness, so that when the time comes to use them, I have not to go to the blacksmith to get chains mended, crowbars sharpened, and to the agricultural warehouse for ploughs or plough points, and so on to the end of the list of wants probable." Such a farmer never depends on his neighbor for what he can procure for himself: he never borrows tools, and would never lend, but for the incessant opportunity of neighbor Slack, Hardup & Co. His motto is,—

Neither to borrow nor to lend,
Ensures good neighbors and true friends.

Boston Cultivator.