



## FARMING AND GARDENING.

The long stormy winter season has at length given way to spring, and since Thursday last the weather has been most delightful. The ground, excepting in low locations, is becoming dry very fast. In the upper part of the city, gardening operations have been commenced and no time should be lost in putting in such seeds as require to be sown early in order to secure maturity and for the production of such vegetables as may be desired in advance of the usual time and as soon in the season as they can be made to grow.

Farming operations will, of course, now that spring has come, be prosecuted with vigor; and wheat and other cereals will be sown as soon as the ground, which was never more wet in this valley, at this season of the year, than now, shall become sufficiently dry to admit of being worked. There was not much wheat sown last fall; and, in consequence of the stormy weather and prolongation of winter, there has not been much plowing done for spring crops; consequently, farmers will have to be the more diligent in preparing their fields for seeding and putting in each kind in the season thereof, or at the proper time in order to secure the best yield, according to the experience they have severally had in grain-growing and other agricultural operations in these elevated mountain valleys.

The results of the many experiments that were made last season in preparing seed, so as to grow wheat and not smut, were so very satisfactory that it is presumed that there are not many, if there be any, who will be so blind to their interest as to sow their fields with wheat without preparing it in some of the several ways that have been satisfactorily ascertained to be a sure and effectual preventive of smut in that staple product of the country.

## CULTIVATION OF THE BEET FOR SUGAR.

In 1747, a Prussian chemist, M. Margraaf, in analyzing the Silesian beet root, discovered that it contained sugar. The discovery, however, led to no practical result till near the close of the century. France was then deprived of her sugar colonies. Domingo, which had supplied her with 150,000,000 lbs. per annum, became free and no longer produced sugar for export. The price of sugar in France rose to five francs per kilogramme (fifty cents per lb.) The French government offered rewards for the best method of producing sugar from indigenous plants. The discovery of Margraaf was soon turned to beneficial account. The beets at first afforded three per cent. of sugar. By improved methods of manufacture, the yield was increased to four, five, six, and finally to seven per cent. The cultivation of the beet for sugar soon became quite extensive. The manufacturers enjoyed a monopoly of the market, and correspondingly high prices. Secure in this monopoly, the manufacturers neglected the best methods of purifying the juice. The sugar was of a very inferior quality. The peace of 1815 deprived them of the monopoly and high prices they had so long enjoyed, and the cultivation of the beet for sugar was greatly retarded, notwithstanding the high duties imposed on colonial sugars. In 1828 the quantity produced was only 4,800 tons.

Since that time, the manufacture has not only recovered itself, but has become firmly established among the industrial pursuits of the country. M. de Lavergne, in his recent able work on French Agriculture, states that there are now 350 sugar works in France, 150 of which are in the Department of the Nord (North), to supply which 20,000 hectares (49,350 acres) are under beet-root; producing an average of 16 tons per acre, and yielding about 576,016 tons of sugar.

In 1852, the protective duties were removed, and such had been the great improvement that had been introduced, that the manufacturers were enabled to stand the competition of the colonial growers.

By actual trial, it has been found that 120,000 lbs. of beet root will yield 8,400 lbs. of sugar, or seven per cent., and 5,030 lbs. of molasses. It is estimated that sugar can be produced at four cents per lb.

As we have said, great improvements in the manufacture have taken place. One result of the application of science and capital has been to increase the size of the sugar houses, while it has reduced the number. The small manufactories, with their imperfect processes cannot compete with the large establishments where everything is done in a scientific and systematic manner.

We see no reason why beet sugar should

not be extensively manufactured in this country. The climate is well adapted to the growth of beets, and the present and presumptive high price of sugar would insure large profits. The cane contains twice as much sugar as the beet, but not more than seven per cent. is usually obtained from it in practice. This is no more than can be obtained from the beet-root.

Sixteen tons of beet roots can easily be raised per acre. This would yield, at seven per cent., 2,240 lbs. of sugar, besides molasses. There is, too, another important item of profit—the leaves of the beet and the pulp. Both can be used as food for cattle; and it must be borne in mind that, as nothing is removed but sugar, all the manurial elements of the crop are left on the farm. The cultivation of the beet root, therefore, is one of the very best methods of increasing the fertility of the farm. On this point, Lavergne remarks:

"It was feared, in the first instance, that the cultivation of the sugar beet would lessen the production of cattle and wheat by occupying the best land. But this fear was ill-founded, at least relative to the best cultivated regions. It is now demonstrated that the manufacture of sugar, by creating a new source of profit, contributes to increase the other products of the soil. The extraction of the saccharine matter deprives the root of only a part of its elements. Its pulp and foliage supply the animal with an abundance of food; and the returns of the sugar works enable them to add commercial manures, which indefinitely increase the fertility of the soil. In 1855, the city of Valenciennes, the seat of the manufacture, was able to inscribe on a triumphal arch these significant words: 'Produce of wheat in the arrondissement before the manufacture of sugar, 353,000 hectolitres (961,173 bushels); number of oxen, 700. Produce of wheat since the manufacture of sugar, 421,000 hectolitres (1,158,256 bushels); number of cattle, 11,500.'"

The pulp or solid residue amounts to about twenty per cent. of the entire root. When divested of the juice, it still contains two or three per cent. of saccharine matter, and is greedily eaten by cattle and pigs, which fatten rapidly upon it. It is said not to be good, however, for milch cows.

Ordinary beets and mangel-wurzel contain sugar, but the Silesian beets alone are cultivated for this purpose. By judicious selection and culture, varieties have been obtained which contain much more sugar than the ordinary variety. In obtaining this result, however, the size of the root has been reduced. M. Knauer, of Germany, has produced a variety, which he names the Imperial beet-root, which contains 17½ per cent. of sugar! This improvement places the beet on a par with the cane as a sugar plant, while the cultivator of the beet has several important advantages over the West India and Louisiana planters. The cultivation of the sugar cane occupies from twelve to fifteen months, and it must all be manufactured in a few days, or great loss ensues. On the other hand, the beet requires only about four months to arrive at maturity, and then it can be stored and manipulated at leisure.—[Genesee Farmer.

## The Cane Grower's Experience.

G. S. L. CITY, Feb. 17, 1861.

EDITOR DESERET NEWS:

In my experience with the Chinese sugar cane, I have taken a few items which I believe will be a benefit to those who intend to cultivate it, especially in large quantities. I saw a field of five acres last summer, belonging to one of my neighbors, that produced only one hundred and twenty gallons per acre. This cane grew on good soil and on the outer edges the cane was large and good, but in the centre of the field the cane was light, and altogether it was but a meagre crop. In a small field near by, the soil no better than the other, a crop was produced which yielded at the rate of three hundred gallons per acre. Why this difference? It was not in the soil, neither in irrigating, for neither field was watered; but I believe it was in letting the small patch have plenty of sun and air. Narrow patches of cane have always produced best, so far as my experience has extended.

My mode of planting would be as follows: Above all things procure pure seed, and, as soon as possible in the spring, plant a strip, say two rods wide, with cane; then plant a strip of the same width with roots, or some low growing crop, and so on alternately. This will admit of the cane being planted in hills, 3 ft. by 3 ft. apart, and five or six canes in a hill. A person owning a small farm can thus change his cane land every year. It should not be irrigated too much. Let it be in the spring as long as possible without watering, and rather use the hoe enough than water too much.

To store the syrup for a small family, make a vat of white pine plank, two inches thick, three feet long, eighteen inches deep, and eighteen inches wide. This will contain fifty gallons; probable cost six or seven dollars, cheaper and better than pine barrels for strong syrup. J. B. M.

Coffee in Illinois.—It is said that G. R. Hoffman, of Effingham Co., Illinois, raised last year two bushels of coffee. The seed was sent him from Australia. The first year the plants were unproductive; the second year they bore a little, and produced a full crop the third year. He thinks thirty bushels can be grown per acre.

## Fences and Fencing.

A correspondent of the *Cultivator* and *Country Gentleman* on the subject of fences, after referring to an article in the *New England Farmer*, from the pen of the editor, recommending a new farm fence invented by C. R. Smith, of Haverhill, New Hampshire, says:

This matter of fencing is not only one of great importance, but of almost incalculable expense; and the improvements of a century have hardly effected any changes, for the better, in our fences. All over the country (with the exception of wire fences, which have been tried and found not to answer any useful purpose,) we see the same kinds in use which were in use a century ago. Rail fences, post and board fences, with the posts in the ground, or tipping about from the effects of frost, Virginia or zigzag fences requiring an outlay for lumber, and a breadth of land that no farmer can afford, are as common now as they ever were. Probably not less than seven-eighths of our fences are made of wooden materials, and the average durability of board and rail fences is said not to exceed ten years.

The fences of Pennsylvania cost one hundred million dollars, and their annual cost is ten millions. This State loses the cultivation of 300,000 acres of her best soil by crooked fences. Upon all our low lands bordering on our streams of water, the fences are liable to be swept away in a single night by every flood that passes over them. The winds block up our roads in winter with snowdrifts, and the fences hold them there. Wall fences cover from 40 to sixty feet of land to the rod, and neither they nor post fences will stand on heaving soils.

The editor of the *Farmer* says in his opinion, Smith's fence, if kept whitewashed, will last at least 50 years—which is a merit that no other fence made of wood can claim. Without doubt it combines nearly all the requisites of a straight, firm and durable fence, covering but little land, and particularly adapted to heaving soils, upon which they will stand as well as the zig-zag. One kind is built in sections of about one rod each, and so arranged that a man can let it down to the ground while it is held fast to the stone foundation; or it can be easily removed to a place of safety, if in danger of being trodden upon by cattle. An hour's notice of a coming flood will enable a man to put half a mile of it out of the reach of danger, or when used as a road fence, so that it will not cause the accumulation of snowdrifts. Will it not be well for our farmers to give these fences a trial?

## What is a Short-Horn?

A short-horn is one of the largest species of the ox tribe, not in height and bone, but in solid meat and fat, in breadth and depth of the joints that roast or boil. The short-horn is remarkable, to the most careless observer, for vast breadth of back, "like a dining-table," and a light, elegant, though-bred looking head, soft velvety hair, and mellow flesh, huge carcass and short clean legs. The short-horn may be red or white, or both, the most favorite color being a rich roan; any spot of black is an unardonable blemish, a sign of mesalliance, fatal to the hopes of prizes, however otherwise excellent. The question whether the short-horn is a breed or a compound has been hotly disputed for nearly a century, and still remains unsettled; but, next to race-horses, of all breeding stock it is that which most depends on pedigree; the highest priced animals having almost invariably a genealogical tree, going back a few hundred years, and distinctly recorded in the Burke of the race—Strafford's Herd Book; a book which runs from dams and sires backwards, until it ends in the dark night that preceded the founders of the race—those plain, shrewd, and now famous graziers, the brother Collings. The breeders of other breeds, the Herfords and Devons—than either of which there is no better beef—are happy if they can now and then get £100 for a bull and half the sum for a heifer in her prime.—But for short-horn bulls of the finest symmetry and purest pedigree, £1,000 has been again and again given at public auction. Not many years ago £1,250 was paid for Master Butterfly to export to Australia.—[Dickens' All-the-Year-Round.

Horses.—Horses I learned to govern by the law of love. The relation of friendship once established between man and horse, there is no trouble. A Centaur is created. The man wills whither; the horse, at the will of his better half, does his best to go thither. I became very early, Hippodamos, not by force, but by kindness. All lower beings—fiendish beings apart—unless spoiled by treachery, seek the society of the higher; as man, by nature, loves God. Horses will do all they know for men, if men will only let them. All they need is a slight hint to help their silly brains, and they dash with ardor at their business of galloping a mile a minute, or twenty miles an hour; or of leaping a gully, or pulling tonnage. They put so much reckless, break-neck frenzy in their attempts to please and obey the royal personage on their back, that he needs to be brave indeed, to go thoroughly with him.—John Brent.

—The steel vests, concerning which so much has been said, as affording so much protection to the soldiers, have been tested and proved failures.

## Corn Leaf and Grass Paper.

Paper has been and is now manufactured somewhat extensively from dry grass and straw, but P. W. Runel, of Plumstead, Pennsylvania, states that he has made the discovery that paper pulp can be made at less cost by using green instead of dry grasses for its production. He has taken out a patent for the improvement, and he states that when grass becomes dry its silica becomes hard and difficult of solution, whereas, when it is taken green, the silica and other unfibrous substances in it are more easily separated. He takes any green plants, such as sea grass, which are abundant and cheap, and first washes, then steeps them in warm water, and after this he boils them in a weak alkaline solution. They are now easily reduced to pulp by passing them between crushing rollers, or through the common beaten-engines used in paper-mills. The pulp is bleached in the usual manner with chlorine. The leaves of Indian corn are now used for making paper in Europe. There is one paper mill in operation in Switzerland, and another in Australia, in which paper is made from such leaves exclusively. The husks, which envelope the ears of corn, make the best quality. It is wonderful to see the thousand useful as well as ornamental purposes for which paper is applied in the hands of these industrious and tasteful people. Our papier-mache manufacturers should go to Yedo to learn what can be done with paper. We have seen it made into material closely resembling Russian and Morocco leather: it was very difficult to detect the difference. With the aid of lacker, varnish, and skillful painting, paper makes excellent trunks, saddles, telescope cases, the frames of microscopes; and we even saw and used excellent water-proof coats made of paper, which did keep out the rain, and were as supple as the mackintosh (india-rubber). The Japanese use neither silk nor cotton handkerchiefs, towels, or dusters; paper in their hands serves as an excellent substitute. It is soft, thin, and of a pale yellow color, plentiful and cheap. The inner walls of many a Japanese apartment are formed of paper, being nothing more than painted screens. Their windows are covered with a fine translucent description of the same material. We saw what seemed to be balls of twine which were nothing but long shreds of tough paper rolled up. If a shopkeeper had a parcel to tie up, he would take a strip of paper, roll it up quickly between his hands, and use it for twine. In short, without paper, all Japan would come to a dead lock. Japanese mothers-in-law invariably stipulate in the marriage settlement that the bride is to have a certain quantity of paper allowed her. The Japanese do not use rags for making paper, but the inner bark of trees.

IMPERIAL PRESENT.—On her birthday, the Emperor Napoleon presented the Empress Eugenie two large and magnificent vases in massive gold, enriched with precious stones, being part of the spoils taken by the expeditionary forces in China, and purchased by the Emperor's orders, from the English. They are worth, for the weight of the gold only, more than 100,000 francs, but the richness of their ornamentation and their artistical value render them infinitely more valuable.

The father and mother of Napoleon III, King Louis of Holland and Queen Hortense, were a very French couple; they lived unhappily together, and yet—if we may believe a new "Memoir of Queen Hortense," just published in London—the following scenes of funny sentimentality passed between them: "Louis would sit for hours with his wife, endeavoring to amuse her by a witty conversation; and Hortense began to consider it her most sacred and sweetest duty to make her husband forget, by kindly showing him all possible attention, how miserable he was at her side. They both hoped that the child they expected would indemnify them for an unhappy union and the freedom they had lost. 'If I should give you a son,' Hortense said with a smile, 'when he first addressed you by the sweet title of father, you would perhaps forgive me for being his mother.' 'And in pressing that son to your heart, in feeling how dearly you love him, you might forget that it is I who am his father. You will at least cease to hate me, for I shall be the father of your child.'"

AN UNEXPLAINED PHENOMENON.—The *Presburgh Gazette* says that near Saly, not far from Misloletz, runs a stream called Paflock, which descends from the mountains, and which, at the distance of a league from its source, disappears in the ground. For some time past, its waters have assumed the color of blood coagulated. It is usually in the morning that it looks so, and the appearance continues for about an hour and a half. In the neighboring village of Ketsch, and in still a third locality, the phenomenon is repeated, and the inhabitants no longer use the water thus discolored. Up to the present time, all scientific attempts to unravel the mystery have failed.

TERRIBLE FLOOD AT MECCA.—The following letter, dated Beirut, Jan. 15, 1862, has been received at the office of the American Board of Foreign Missions in Boston:

There has been a flood of rain at Mecca; three hundred lives were lost, and one-third of the city destroyed; the great sacred mosque, Haram esh Sherif, was also flooded; the Holy Black Stone was submerged, and the great library destroyed.

It should not be forgotten, in view of this, that the massacre in Damascus was planned, and decided upon in that so-called holy city.