



CULTURE OF SORGHUM.

The growing of Chinese Sugar Cane in the Northern and Western States is of late attracting much attention, and it is in contemplation there to cultivate it the coming season far more extensively than last, as it seems to be settled beyond a doubt that it can be profitably grown below 40° and even north of 43° in favorable localities. The scarcity and consequent high price of sugar is one incentive to this movement, and the people of the free States seem determined to produce their own sugar as well as cotton, and not be dependent on importation, even after the war shall have ended.

The *American Agriculturist*, for the benefit of the many who are constantly making inquiries concerning the best mode of culture, publishes the following, obtained from Mr. Van Meter, of Tazewell County, Ill., who has had considerable experience in its culture and manufacture:

"The plant does well upon any good corn land, and the expense of cultivating the two crops, aside from the cost of the seed, which is inconsiderable, is the same. A rather light soil—sandy loam—other things being equal, produced juice of the greatest richness. In regard to seed, it is of the utmost importance to have pure Chinese Sugar Cane. The Imphee, in his experience, is three weeks later, and produces syrup of by no means so good quality, and less in quantity. The admixture of broom corn seed is not infrequent, and is fatal to a good crop, there being little or no sweetness in the stalks. Sorghum may be planted in hills three and a-half feet apart each way, or in drills the same distance apart—the plants standing singly eighteen inches, to two feet apart, and the suckers allowed to grow. If planted in hills, five stalks are left in each, and the suckers thoroughly removed. He decidedly prefers planting in drills, and thinks that this has much to do with the good results of the crop. The seed should be planted as early as the ground can be prepared, and is fit for its reception—earlier than corn. The practice of a neighbor is to sow in an early seed bed, and transplant to the field, setting the plant two feet apart in rows, and the rows three and a-half to four feet apart. This man's syrup crystallized so readily that he was obliged to make it all into sugar, and was unable to take even a sample of his molasses to the county fair. It is the largest, best grown, and best matured stalks that yield the most and best syrup. Some juice yields seventeen per cent. of good thick syrup, and others only ten per cent.

The crop is treated like corn until it begins to ripen, which may be known by the cane turning yellow upon the joints towards the butts, and by the blackness of the seed. At this period it should be "bladed," or stripped of its leaves, to facilitate perfect ripening. To effect the "blading," take a hickory stick, one-and-a-half to two inches in diameter and three feet long, slip on a ring, or bind it strongly within fourteen inches of the end; split this end in the middle, and spread the ends two inches apart, by a wedge in the split. This saves a great amount of labor—a single blow usually blading a stalk, and often more than one, perfectly. The blades thus removed are considered equal to corn fodder, not having been touched by the frost, and are easily cured. The bladed stalks stand after this two weeks or more, unless danger of frost makes it necessary to cut them sooner. Freezing is ruinous to the cane, giving a peculiar flavor to the syrup, and causing fermentation in the cane itself, unless pressed immediately. It must, therefore, be cut before any hard frosts—those light frosts, which wither the leaves, do no hurt.

When fully ripe, the cane should be cut, which operation is thus performed: Using a corn knife, strike off about three feet of the top as it stands (the length to be cut off will vary somewhat, according to the size and maturity of the cane). Then cut the cane off about eight inches from the ground, or at least above the first joint, and lay in piles or on the wagon. There will usually be suckers enough to bind the cane in bundles if it is desirable, or if it is to be hauled far. After the removal of the stalks, the seed may be collected, or fed to hogs or poultry on the ground. The canes are taken directly to the mill, or set up or laid in piles, and protected against frost by covering them with the tops, or with hay or straw,—in which condition they will keep for months.

The mill used was Hedges, Free & Co.'s two horse mill—a good one—consisting of three rollers thirteen inches long, the largest and upper one eight inches, the others four inches in diameter; both small rollers act against the large one. From eight to thirteen canes are kept passing through the mill at once, and as the juice flows out it is conducted to the "clarifier," being as liquid as water, and of a dark grass-green color. (Imphee juice is of a dark, muddy hue.) In the clarifying pan it is mixed with Root's patent

"clarifiers," (a mixture of lime, soda and eggs.) After clarifying, the juice is boiled and skimmed for fifteen minutes. From this it is drawn off into the settling box, where, mixed with clay, it stands to settle, and after fifteen or twenty minutes, may be drawn off clear and limpid, into a convenient vessel, whence it is pumped up into the evaporator.

Cook's evaporator is used, in which the fire plays under an inclined pan, down which the juice is made to run, following a zig-zag course, running faster or slower, according to the inclination of the pan, or the rapidity at which it is allowed to flow in or out. Water is placed in the evaporator to begin with, and in twenty to twenty-five minutes after the juice begins to flow in at one end syrup begins to flow out at the other. By the exercise of a little care, there is no danger of burning the syrup; but the care must be constant. A uniform product is most desirable. The syrup should not be too thick, for it will not flow readily from the barrels if it is so, and this great degree of concentration is not necessary to prevent souring. The mill runs about sixty gallons an hour, and six gallons is a charge for the clarifier, and so about this quantity was worked at one time.

Mr. Van Meter made syrup for half the product, and found ready sale for his portion at the mill, as fast as it was made, at fifty cents per gallon, and had no end of orders which could not be filled.

One hundred gallons to the acre was about an average yield last year for land adjoining corn which yielded fifty bushels to the acre. The Sorghum syrup, at fifty cents per gallon, half going to the boiler, nets the farmer \$25; while corn only sold for fifteen cents per bushel, netting \$7.50 per acre."

The people of Deseret are more interested in the production of sweetening and cotton than are the people of the east, for whether there be peace or war, they are so far away from the cotton and cane growing States that the importation of these indispensable articles will ever be attended with a ruinous expense. Much Sorghum was grown and no inconsiderable amount of molasses was made last year in most of these valleys, but not enough to supply the demand, and larger quantities, and greater breadths will be planted the coming spring than ever before, experiments having proven that it is the most profitable crop that can be produced, especially on lands suitable for its culture.

Those intending to engage in the business, either on a limited or extended scale, should be looking out in season for good seed; as much of that planted last season had been so mixed with the seed of broom corn, that the amount of sweetening obtained was far less than it would have been, if, in all cases, unadulterated seed had been planted.

Planting Trees.

A correspondent of the *Washington Star* addresses the following to those who lived on the open prairie, on the advantages accruing from planting groves of forest trees on their premises:

The first benefit to be derived from a grove on the prairie is a shelter from the cutting winds which blow so keenly over the bleak wintry waste of a prairie country. It is well known to all who have moved from the wooded hillsides of the Eastern and Middle States, how much harder to endure the winters are on the open prairies of the West, even while the thermometer marks a higher temperature.

This is caused by the wind, which comes entirely unbroken from the icy summits of the Rocky Mountains. Now, let a person who is traveling over the prairie in the winter in the face of a Nor'wester, just come into the shelter of a few bushes, it may be they are leafless, but as soon as he passes them, he is made aware of the benefit of even a poor shelter, and can appreciate the comfort a person would take in doing his chores in the shelter of a grove in a stinging cold day in winter.

The second benefit is the timber for domestic purposes. To many, this is a matter of great interest; and they would plant trees, only they think that the trees would be of no benefit to them, or else they put it off in a dilatory way till some more convenient season, which, in most cases, never arrives. Now, there are trees that will thrive and grow on prairie soil amazingly fast. I have seen a cottonwood set out about two feet high, grow in three years to be from 16 to 20 feet high, and from three to five inches in diameter at the ground. Now, a few of such fast growing trees, to shelter and induce a more thrifty growth in the slow growing hard woods, such as the oak and maple, would soon make a beautiful grove, from which fencing and firewood could be got in limited quantities, and in a few years in more abundance.

The third consideration that should induce the dweller on the prairie to plant trees, is the benefit of the fruit to both man and beast. Among the nut-bearing trees indigenous to most prairie countries are the walnuts—black and white, and the shell-bark hickories; the chestnut will grow in some situations, and I doubt not, with proper care and shelter, it will every where; and who will overlook the pleasure to be derived around the family hearth on a winter evening over a few butternuts, walnuts or the estimable chestnut. Then

the acorns and the nuts of the bitter hickories will, if given due prominence in a farm grove, fatten poultry, and feed growing swine as well as corn, while they may gather these themselves.

The fourth consideration is to screen an orchard and garden from the wind and sun. The great trouble in raising fruit trees in this country is the exposed situations either to the heat of the sun or to the cold winds, or both. In the warm days of spring the sun pours his rays directly on them and starts the sap; next day a bitter northwest wind freezes them up, bursts the sap vessels, and thus blights and eventually kills the tree; whereas, had it been sheltered from both influences by other trees, they would have kept the fierce rays of the sun from it, and also the cold wind, protecting them from spring changes, summer heats, and the fruit from the early frosts of autumn. We also know how hard it is to raise early vegetables in an exposed situation; to convince any one of the benefit to be derived from a grove on early vegetation, let him compare the wild plants on the open prairie with those at the edge of some grove, where he will find them half hidden by old leaves, growing finely, while the others are hardly started. There are also many vegetables which grow much better in a sheltered situation, but especially is the shelter of a grove desirable for early vegetables.

The fifth consideration is—that these groves will be a great benefit to future generations. The idea of being a benevolent man is one that will have considerable weight; he does not live entirely for self, but is willing, nay anxious to do something useful in the world; and one of the most useful is to start groves of beautiful and useful trees on the prairies of your neighborhood, directly, by your own hands, on your own farm; indirectly by your example and advice, and if necessary, your help also, on those of your neighbors.

The sixth consideration is to add to the beauties, the pleasures, and the attractions of home. What attractions is there, can there be, in a home which only contains the four walls at right angles to each other, and on a line with some principal meridian, or correction line, nothing to shelter it from the driving winds nor scorching sun; but surround it with trees, make it a place of comfort, of rest, and peace, and your children and dependents will feel the blessed influence, and instead of fleeing to the city to find employment behind the merchant's counter, or in the lawyer's office, they will be more likely to remain at home and follow the business of an agriculturist, which is the most virtuous, as well as that on which all others depend, on which the prosperity of the whole country is mainly built.

LAMBDA.

Shoeing Horses.

The following extract is from Col. Fitzwygram's "Notes on Shoeing Horses:"

To shoe horses with ordinary feet, I would suggest to the shoer the following directions: 1. With your drawing-knife, lower the ground surface of the crust, as much as may be represented by a month's growth. Remember that there is generally a far more rapid growth of horn at the toe than at either the heels or quarters. More, therefore, will require to be taken off the toe than off the other parts; in other words, shorten the toe. Be careful to make the heels level. Having lowered the crust to the necessary extent with the rasp.

2. Round off the edges of the crust with the rasp. Do this thoroughly and carefully. If a sharp edge be left, the crust will be liable to split off.

3. The preparation of the foot is now complete. There now remains to fit the shoe to the foot.

4. Let the shoe be made with a narrow web (3:4-inch) of even width all round, except at the heel (see direction No. 9, below) flat towards the sole, and concave towards the ground.

5. Turn up the toe of the shoe nearly from quarter to quarter on the horn of the hoof.—The degree to which the toe is to be turned up is to be regulated by what you find necessary in each horse to make the wear of the shoe nearly even all over. You will find in practice that most horses take about the same degree of turn-up.

6. Let there be five counter-sunk nail holes in each shoe—viz. three on the outside and two on the inside. Make the anterior hole on each side immediately posterior to the turn-up. Let the second and third holes on the inside be opposite to the second hole on the outside.

7. Let the nail holes be punched coarse, i.e. in the center of the web, and brought out in the center on the other side. This can be done with safety when a good crust has been preserved.

8. Fit the shoe accurately on the foot. The shoe must be as large as the full unrasped crust, but no part must project beyond it.

9. In fitting the shoe, the web is to be narrowed at the heels so that its inside edge may cover the line of the bars, and no more.

10. Slope off the heels of the shoe in the same direction as the heel of the crust so as to prevent the possibility of the hind shoe catching in the heel of the fore shoe.

11. The shoe must be continued completely round towards the heels, as far as the crust extends.

12. Twist off the clenches as short and stubby as possible, and lay them down flat with the hammer; the pincers during this time being firmly pressed against the head of

the nail. The clenches are not to be filled either before or after turning down.

13. The nails must fit exactly into, and completely fill the nail holes.

The horse is now shod. Do nothing more for what you may fancy appearances. The best iron only should be used. Good iron makes a lighter shoe wear as long as a heavier one of inferior iron.

How Long Should Cows go Dry?—In answer to this question, a correspondent of the *Ohio Farmer* furnishes the following sensible suggestions. After saying that no rule could apply to all cows alike, he adds—"I have found that cows inclined to take on fat could be milked up to two weeks before calving, and have cow and calf healthy and plump; and cows that could not be fattened while milking require from four to six weeks of rest from milk-giving previous to calving, otherwise the calf was small and not well formed, and the following year's supply of milk was lessened."

Another Large Porker.—Mr. William F. Maylett of Manti, says a correspondent, has recently killed a hog eighteen months old, which weighed six hundred pounds, and asks somewhat exultingly if Great Sa't Lake can beat it, to which we reply that if not this season it is expected to do so next, as great improvements in such matters are being made by farmers and others in this county.

Heavy Charges against the Republican Party.

Since the commencement of the war, old party lines have been measurably obliterated in the North—Democrats as well as Republicans supporting the war to put down secession, and it is alleged by some of the old Democratic journals that the leaders and presses of the dominant party labor to ignore the word "Republican" lest it should remind the people of the evils which have come upon them under the management of the leaders of the party bearing that name, but they admit that occasionally a sound Republican boasts that "the Republican party still lives." In commenting upon this declaration, the *Milwaukee News* remarks:

"Yes, it lives—but we have civil war, a broken Union, an enormous Public debt, a direct tax, an oppressive tariff, an empty treasury and a deserted Capital. The grave of Washington is in a hostile land. Half a million men in arms maintain the President in his seat. A thousand battle-fields drink the blood of our country's children. The deep trenches are filled up with the bodies of our fair sons. The nation awakes each day to the boom of hostile guns. The glittering bayonets of regiments of men are passing along the streets to the murderous work of the battle-field. The people rise in the morning and lie down at night, amid scenes of mortal strife. The newspaper columns throng with sickening details of murder and death. The old gorgeous banner of the Union, with its cheerful blazonry, once the radiant emblem of greatness, progress, unity and power, droops amid the smoke of the conflict—its glory faded, many of its stars stricken out. Prisons full, grain fields barren, home in mourning, husbandmen turned soldiers; the plough idle in the furrow; great ships rotting at the wharves of our cities; grass growing in places where busy feet were wont to tread; the avenues of trade locked up; the voice of humanity stifled in the din of the deadly work of fighting men; the family circle torn asunder in hostile groups; free speech restrained; a free press hampered; the writ of habeas corpus suspended; a military law existing, and its permanent establishment threatened, predicted and probable—this is Republicanism in its full fruition! All this the bitter fruit of Republicanism not yet dead. For the sake of the country, people, the world, and for the cause of liberty and union, would that it had been strangled in its birth!"

A Substitute for Lead Pipe.

It is a well substantiated fact that lead pipe, when used for conducting water for drinking or culinary purposes, is highly deleterious to health.

It has therefore been for years a desideratum with scientific men to procure an article which should obviate this difficulty. One of the best, and a successful invention for this purpose, is an article patented by Charles McBurney, Esq., and manufactured by the Boston Belting Company. A specimen of this pipe, that has been in constant use and buried under ground for three years shows no symptom of decay. Extreme degrees of heat and cold do not effect it; Water may remain in it frozen for any length of time without injury to it, and it can only be destroyed by the direct application of fire.

There is nothing injurious in any of the materials of which it is composed; indeed, it could be eaten without in the least affecting the system. It is made of any size, and furnished at a remarkably low rate, and possessing so many desirable qualities, is certainly a pipe that commends itself and must come into very general use.—*Scientific American*.