

Sugar-making from Sorghum.

In reply to several inquiries made regarding sorghum we quote the following from the *Journal of Agriculture* of St. Louis, Mo., written by H. S. Close, of Kansas:

If convenient, it is best to plow the ground in the fall, and replot in the spring just before planting. Pulverize well by harrowing, then mark out with a corn-marker about 2½ or 3 inches deep; if convenient, mark north and south; then secure the best seed possible, and wash and throw away all that will float on the water. Soak about 36 hours in lukewarm water until the seeds are well sprouted, then plant by hand, dropping 4 to 5 seeds in a hill, 2½ to 3 feet apart, rowing it but one way, and cover 1 to 1½ inches deep. I plant here about the 1st of May, or at any time when it is warm enough. It will come up in about three days. I then use a one-horse four-shovel cultivator, with which I commence cultivating, without disturbing the marks in which it is planted. In a few days I cultivate again with the same cultivator, but go close enough to the row to throw some dirt around the cane. I have some person follow the cultivator, and straighten up the cane and take off the clods. I now consider the cane large enough for me to begin to use a corn-plow and two horses, throw the dirt up against the cane, and cover up the weeds with the cultivator. The cane is now in such a stage, that the crop of syrup, or the yield, depends altogether on how well it is cultivated. The more it is plowed the better will be the yield of syrup, and it will ripen sooner if well cultivated and the ground kept loose and clean. In the last plowing the dirt should be thrown up to the cane as much as possible. I now consider the crop made, or, in other words, able to take care of itself. Whenever the seeds are in the dough it is then fit to work into syrup; and as to stripping, any farmer knows how to strip cane, or ought to know.

As to manufacturing, if I have a large crop to work up I run night and day, as it is a saving of fuel, labor and time. I use a Victor Mill, No. 4. I have a railroad track about 200 or 250 feet long running from the grinder, with a car that will hold two or more wagon-loads of cane. I have the cane all piled up convenient to the track to load on the car. One man can shove the car up the track. When loaded, start it and it will run down itself, the track being down grade to the grinder. Now, if the cane is straight one man can feed fast enough, while another carries away the bagasse; but if it is poor cane, and cracked, I have two feeders to keep up a supply of juice. I use a barrel to receive the juice. From there I carry it to the house with 1½-inch gas-pipe. This is as cheap as tin, will wear forever, never springs a leak and never becomes dented.

My house is 50 feet long, 20 wide, and 8½ feet to plate. The juice is received in a large vat 5½x6 feet, and 2½ feet high, with a partition in the centre, so I can divide the juice in doing custom-work and not interfere with the grinding. I can have on hand 200 gallons of juice in the vat if necessary, besides what is in the heating-vat and boiling apparatus. I have my juice-vat placed so that it projects over the heating-pan, and I have the juice running in the heating-pan by means of a faucet as fast as it runs into the boiling-pan. I have my heating-vat (4x4 feet) next the chimney and about five inches above the evaporator. I have a 12-foot Cook's evaporator next to the heating-pan. In front of the evaporator, and right over the fire, is a boiling-pan 8 feet long. From a sheet of galvanized iron I made the pan to suit myself. I took a 6-inch joist and rounded the corners, put on plenty of white lead and laid on double strips of canton flannel, and then put in two rows of shingle-nails, with half-inch strips on top of the iron. I now have a good boiling-pan, which I set on an 8-inch wall, with strips projecting from the wall over the fire. I have a 1-inch gas-pipe, with a slide gate attached, to run the juice into the boiling-pan at the end nearest the arch door, from the heating-pan next the chimney. I now have juice in the pans at each end of the arch. To get the juice into the evaporator I have the boiling-pan three-fourths of an inch higher than the evaporator, and have a pipe 10 inches long with two elbows, through which I run the juice into the evaporator.

I skim in the heating and boiling pans with a large skimmer 10 inches square, and I never allow any skimmings or scum to remain on the juice while boiling. In skimming the evaporator I use those that fit the sections, and keep a skimmer and a paddle in my hand all the time. I have found by experience that a good paddle (made out

of a piece of siding) that will fit the sections, so as to thoroughly move the syrup, will answer the purpose well, and will let but little sediment gather on the bottom of the pan.

I now pass the syrup to the coolers, which I do by drawing it in a large tin-pail, and then carry it up three steps and pour it into a cooler lined with zinc. The coolers will hold about 40 gallons each. I have a faucet to the first or upper cooler, and I start it running into a percolator, which is a foot square at top and six inches at the bottom. I then have a box 6 inches deep, with a bottom made of perforated tin, that sets on top of the hopper; and a set of frames, covered with coarse flannel, that just fit in this hopper, which I change as often as necessary. I filter all my syrup through this hopper into the second cooler, which I keep covered with muslin so that no dust or flies can get into it. I then consider the syrup ready for barreling.

I draw the syrup from the second cooler by means of a molasses faucet, and measure it into barrels or kegs by drawing it off in this way. If there should be any sediment of any kind it will settle on the bottom, and all the foam will remain in the coolers.

I wash and clean out the coolers as often as convenient. If I run steady all week I close up on Saturday evening; fill all the pans and evaporator with water, and while the water is hot I wash all the skimmers, pails, and everything that needs washing; scald out the juice-vats with hot water, take a broom and scrub off the pans and evaporator inside and out. I also do this as often as I happen to stop the mill. On Monday morning I heat up the water in the pans and evaporator, wash out the coolers clean, and feed the scum to the pigs—which, I may add, is a good preventive of hog-cholera.

As to sugar, I only let it set and it will granulate itself by leaving a vent in the barrel, or some open vessel, so it can evaporate.

I sold nearly all the syrup I had last fall at the mill at 50c per gallon, and contracted to one man all I had to spare at 45c. My customers tell me it is worth ten cents more than ordinary sorghum, because it is perfectly clear of foreign matter, makes no foam, and looks as clear as the best refined syrups. I expect to plant 20 acres on my place this coming season; besides, there will be a great deal planted by my neighbors, who frequently haul ten and twelve miles to my mill. In doing custom-work it does not yield alike; some has been well cultivated and some not, and of course the yield is in proportion to the cultivation. Last year I worked one small patch of 1½ acres that yielded 200 gallons. I use old vinegar and whisky barrels, which I scrape out perfectly clean, otherwise the syrup would be spoiled for market.

[We will give you a cut of a mill and evaporator before you have your sorghum crop grown.]

Applying Bone Dust.

The amount of bone or phosphate to be applied to wheat will depend in the condition of the land. If in good heart or fair condition, one hundred and fifty to two hundred and fifty pounds to the acre will give good results. If the land is only fair, use two hundred and fifty to three hundred pounds to the acre, and if the land is so poor or exhausted that you fear young grass will not make a good catch, then apply three hundred to four hundred pounds to the acre. The above amounts are for fine ground raw bone and the best class of phosphates. If the bone is coarse or the phosphate poor, then much larger amounts must be used to obtain the same results. We get a fine, pure, clean raw bone fertilizer here that is all we can ask or desire. We get the best results from this bone by drilling in with the seed, for a small application. But if you want to make a heavy application, of say three hundred pounds, we drill a portion of the bone dust separate and then go over the same way, finishing with the bone and wheat mixed in the drill together. We used to get phosphates in the East which were made of bones, but now some of them seem to have very little bone in them. We value them more for a quick start of the crop; but when we want a fertilizer that will give good present, and at the same time long-continued results, we want either bone or else a phosphate that is made out of bone. In our former discussions here, over our experience in using fertilizers, we have settled down to about this conclusion: that the farmer who is settled on his own land had better use the best raw material he can get to put into his land, and let the elements in his land do the manufacturing of his phosphate or superphosphate, as you prefer to call it.—[Cor. Ohio Farmer.

Jerusalem Artichokes.

We have received enquiries about this plant, and as opinions differ, we quote the two following conflicting accounts, the first from the *Farmer's Review*, the second from the *Country Gentleman*.

Last spring I purchased enough seeds of the Jerusalem artichoke, at a cost of \$2.50 per bushel, to plant nearly an acre. The spring was very wet; I broke the ground twice, and it was too wet each time. I planted about the 10th of May, and the ground was so wet that I just "mudded" them in, in rows two and one half feet apart, tubers two feet apart in the row. The wet weather continued till the ground run together very close, and then it set it dry, and about five or six weeks after planting I plowed once with the bar next the artichokes, and broke the ground into clods from about three to eight inches in diameter. I then scraped the weeds from between the plants that had come up, and turned the crop over to Providence, and it looked like Providence gave them as poor a show as I did, for the clods were not wet through before October.

When I went to digging them, I was wonderfully surprised, for in the best spots they yielded at the rate of 500 to 600 bushels per acre.

They are a lazy man's crop; if planted, they will yield fairly, regardless of weather or cultivation, and I have no doubt about raising 1,000 to 1,500 bushels per acre on good land, with a fair season and fair cultivation.

I have been feeding them, and find stock does well on them. Milch cows do splendidly.

If planted for hogs, they should be where hogs can be turned on them about October, and they will require no other food except during frozen weather. Enough should be dug to feed during such a time.

I find I can sell all I have, and will not feed any more of them, as I am getting \$1 per bushel. I am quite sure a man can make more money raising them at five cents per bushel than the best land here will cost per acre.

I planted both white and red, side by side, and I can't say which is best, but rather believe I would prefer the white.—[H. M. Kelly in *Farmer's Review*.

I thought that the absurdity of growing artichokes as a field crop for profit had been exploded. Twenty-two years ago it had a similar notoriety, and a furor not excelled by the growing of the *Morus multicaulis*. I have no doubt that a great many of your readers will recollect both fevers; perhaps some to their cost. I once took charge of a place at Pittsburg, Pa., and my predecessor had planted seven acres of artichokes to feed hogs and to supply the market with it to feed the people. I can safely say that after digging, washing and preparing in the best manner to catch the eye, I never sold a bushel in market. I even gave them away to create a taste, but they would not bite, and we carted them back as we sent them. Has any one ever seen any of them in Washington or other large markets? People are not fools to buy such stuff. I have tried them on cattle and pigs, and they will eat them, but you have all your labour for your pains. If you wish something to absorb dry meal, they will answer as well as red-top strap-leaf turnips, but cost one hundred per cent. more than turnips. I have fed them for six weeks three times a day to hogs, weighing the hogs before and after. At the same time I fed another lot on strap-leaf turnips, and on the turnips they gained a little; on Jerusalem artichokes scarcely any at all.

It took me five years to exterminate them from the ground, but by so doing, it made this, and the peach trees on it, the best trees and ground, on the estate. I can eradicate five crops of Canada thistles easier than one of Jerusalem artichokes. Put them once into the ground, and rest assured they will eventually become the oldest inhabitant. I can recommend it to be grown by every dyspeptic individual, as twenty feet square of it will give him all the work he wants in trying to root it out. Farmers should avoid it as they would the plague.—[G. H., *County Gentleman*.

Common prudence will dictate that no crop should be taken from the land that leaves it in a worse condition than it finds it. If these things are duly observed there need be no limit to the amount of production but the capacity of the farm.—[Conn. Farmer.