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EC156 Producing Sorghums for Sirup

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W. H. Brokaw, Director, Lincoln

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Producing Sorghums for Sirup

Recommended Varieties

Varieties used must be early enough to insure maturity. Such varieties as Atlas and Kansas Orange would be recommended only for extreme southeastern Nebraska. For eastern and central Nebraska generally, the following varieties are suggested: Leoti, Rox (also called Waconia Orange), Early Sumac. For western Nebraska, locally adapted Red and Black Amber. Somewhat later varieties than those suggested may be used safely in the central and western areas if they are grown on irrigated land.

Seed preparation

Test seed for germination. Use good seed. For the control of kernel smut treat seed with copper carbonate at the rate of 3 ounces per bushel or with new improved Ceresan at the rate of one-half ounce per bushel.

Seedbed preparation and method of planting

It is best to work the ground a number of times during the month of May in order to destroy weeds. If the sorghums are to be surface planted, the land may be plowed early and later disked as required to control weeds. If the lister is to be used for planting, disking only is sufficient. Opening the furrows two to three weeks before planting will provide a warmer seedbed, and at the same time till help to stabilize the walls of the furrows, and thus reduce the chances of the seed or seedlings being flooded under by heavy rains. If weeds have started in the furrow at planting time, the lister cultivator may be used just prior to planting.

Planting

Plant late in May or early in June. Cover seed one inch deep. Press the soil firmly over the seed. If planted with the lister make broad shallow furrows to reduce the danger of flood damage. Plant at the rate of 4 viable seeds per foot. This will require 3 to 4 pounds of seed per acre if fairly good seed is used. Avoid thick stands since this makes stripping of the leaves more difficult and increases the labor of handling. Use regular sorghum plates. Test rate of seed drop before starting to plant. Where a considerable acreage is to be used for sirup, it may be advisable to have portions of the field planted at different dates. This facilitates harvest at the proper stage of maturity at milling time.

Cultivation

Follow methods common to corn and sorghum cultivation. If the lister cultivator was used before planting, the harrow may be used for the first cultivation after planting. Cultivate only as required to control weeds.

Time of Harvest

The best yield and quality of sirup are obtained from nearly mature sorghum. This is when the seed is in the stiff to hard dough stage. Heavily frosted sorghum is not suitable for making a sirup. Lightly frosted sorghum is satisfactory if harvested and milled immediately after the frost.

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Stripping

The quality of sorghum sirup is reduced if the leaves are ground with the stalks. Removal of the leaves is accomplished most economically while the stalks are standing. A sharp edged wooden paddle about 3 feet long, a two-pronged iron tool, or a pitchfork may be used to remove the leaves. The leaves near the top of the stalks need not be removed since this portion of the stalk will not be used. Stripping should be done just prior to harvest. In addition to stripping the leaves, it is important to remove also all branches and suckers. These are more immature than the main stalk and thus would lower the quality of the sirup.

Method of Harvest

Sorghum for sirup may be cut and bound by hand, or a corn binder or sled may be used. When twine is expensive or not available, binding may be omitted although this makes handling the stalks less convenient. The height of cutting does not seem to be of great importance except that where the stalks have deteriorated near the base such damaged portion should be left on the stubble.

Although under favorable weather conditions the bundles may be shocked or piled for a few days before milling, it is advisable from the standpoint of safety to mill the stalks as soon after cutting as possible. Heating or excessive drying of the stalks prior to milling reduces the quality and the yield of sirup. Setting the bundles on end causes the stalks to pick up soil which may contaminate the juice at the mill.

Topping

Sorghum seed is high in starch, minerals and acidity and must therefore be removed from the stalks since these impair the quality of the sirup. The same may be said of the upper portion of the stalk. The stalks should therefore be topped two to four joints below the head. This may be done near the mill, thus leaving the topped heads all at one place, or it may be done in the field just prior to loading.

Yield of Sirup

Six to eight tons per acre is considered a good yield of topped and stripped stalks. One ton of these should produce from 700 to 1200 pounds of juice. Depending upon the density of the juice, this amount should make from 8 to 20 gallons of sirup. Thus, an acre of sorghum might produce as much as 150 gallons of sirup.

Making Sirup

There are few persons in Nebraska who are thoroughly familiar with the entire process of making sorghum sirup. Furthermore, there are very few mills, evaporating pans, and other items of necessary equipment available within the state. It is likely that little such equipment can be purchased for some time. Under these circumstances it would seem wise for one inexperienced in making sorghum sirup to arrange for an experienced person, preferably one who has adequate equipment, to do the job. Those wishing to make a study of sirup making are advised to obtain Farmers Bulletin 1791 from their County Agricultural Agent or from the College of Agriculture, Lincoln, Nebraska.