

Sorghum

General Information

Sorghum is an annual grass, native to Africa and first introduced in the United States at the beginning of the 17th century. Though sorghum was traditionally grown for its sugary syrup, it has grown popular as a livestock feed, primarily as silage. Closely related to millet, the sorghum family includes sudangrass, often used for green feed or manure; forage sorghum, a tall, thick-stemmed silage crop; sweet sorghum, a juicy, sugary sorghum that grows between 6 and 9' tall; and grain sorghum, which can be as short as 2-5' and is relatively easy to harvest with a combine. While most U.S. growers produce grain sorghum for livestock feed, it is an edible grain and is known as "milo" to many; milo is a staple food in many places in the world, and is becoming more popular as a food-quality grain in the U.S. as well.

Sorghum does well in warm, dry soils and although it grows quickly, it requires a long growing season and is not a perfect grain for the northeast. However, it is possible to grow sorghum here, and many varieties can be quite productive under ideal conditions. In appearance, sorghum is similar to corn, with coarse, grooved stalks and leaves. In droughts, sorghum tends to become dormant, but only wilts under the driest conditions.

Preparation & Planting

Sorghum is planted after frost danger has subsided, so seedbed preparation is possible in early spring, as long as the field is well-prepared and firm before sowing. For the best results, fall plowing is recommended. In the fall, soils should be tested and amended as needed; sorghum's fertility requirements are similar to those needed by corn, but sorghum can usually make use of potassium and phosphorous more efficiently. The soil's pH should be close to 6.0.



Before planting, soil temperature should reach at least 60°F (and possibly closer to 65-70°F), which generally occurs in early June in our area. Many growers recommend treating sorghum seed with a fungicide to avoid seed rot and blight and to increase germination rates. When using a grain drill, plant sorghum at 5-10 lbs per acre and at a depth of 1-1½" in moist soil. If broadcasting, increase the seeding rate and monitor the crop for lodging; sorghum's seed heads are large and lean easily, which is one reason some growers choose to plant in rows.

Cultural Practices

Sorghum is difficult to grow in the northeast because it needs average temperatures much higher than normal conditions in this region to maximize yield. Because sorghum can be slow to emerge and establish itself in a thick stand, weeds can be problematic. If planted in warm, well-prepared beds, sorghum generally competes fairly well, but mechanical or chemical weed control

may be necessary. Growers can use a row-cultivator or tine-weeder, or spray before the canopy has developed fully.

In general, disease is not a common problem in sorghum, although the crop can be damaged by northern corn leaf blight (see information on corn production). To avoid problems with disease, practice crop rotation, seed treatment and cleaning, and careful seedbed preparation. Insects such as corn earworms, aphids, and wireworms can cause damage in sorghum. Birds will likely wreak the most havoc—netting or scare tactics might deter birds.

Harvesting & Storing

Sorghum is difficult to harvest because it is a perennial plant, so even after its seed heads mature, the plant is still alive and green. Sorghum also has a waxy coating on its leaves and stems which may resist drying as well. This moisture can delay harvest times, necessitate swathing before



combining, increase the chances of bird or weather damage, and possibly endanger good crop rotation practices for a winter crop. Furthermore, because sorghum needs to be harvested with a high moisture content, it is often difficult to dry it adequately for storage (below 25% for high-moisture livestock feed, 13% moisture for food-quality grains). Grain sorghum does not need de-hulling, and can go from the combine to the seed-cleaner and be dried for long-term storage.

As with all grains, stored sorghum should be inaccessible to insects, rodents, and birds, and checked periodically for damage. Sorghum can be used as a cereal when cracked or coarsely ground or finely ground into very nutritious flour, which is often preferred by individuals with gluten sensitivities. Sweet sorghum is harvested and, while still green, pressed through a sorghum mill to extract the sugary juice, which is cooked down to make thick syrup, similar to the process of making maple syrup.

References:

Logsdon, Gene. 2009. *Small-scale grain raising*. White River Junction, VT: Chelsea Green Publishing.

Carter, P.R., D.R. Hicks, E.S. Oplinger, J.D. Doll, L.G. Bundy, R.T. Schuler, and B.J. Holmes. November 1989. "Grain Sorghum (Milo)." *Alternative Field Crops Manual*. Retrieved March 15, 2011. (<http://www.hort.purdue.edu/newcrop/afcm/sorghum.html>)

National Sweet Sorghum Producers & Processors Association. Retrieved April 5, 2011. (<http://nssppa.org>)

Vanderlip, Richard, et al. May 1998. "Grain Sorghum Production Handbook." *Kansas State University Agricultural Experiment Station and Cooperative Extension Service*. Retrieved March 15, 2011. (<http://www.ksre.ksu.edu/library/crps12/c687.pdf>)