

Millet

Introduction

“Millet” is a name that has been applied to several different annual summer grasses used for hay, pasture, silage, and grain. The millets most commonly cultivated in Kentucky, pearl millet and foxtail millet, are grown primarily as a forage for temporary pasture. If properly managed they can provide high yields of good quality forage in a short period, without the risk of prussic acid poisoning.

Pearl millet (*Pennisetum glaucum*) is higher yielding than foxtail millet and regrows after harvest if sufficient stubble is left. Dwarf varieties, which are leafier and more suited for grazing, are also available. Foxtail millet (*Setaria italica*) is a lower-yielding grass that will not regrow to produce another harvest. Because it is shorter and finer-stemmed, it is easier to harvest as hay. It can serve as a good smother crop to be used before no-till seeding of other crops, such as fescue or alfalfa. Foxtail millet is also used as a wildlife planting to produce food and cover for various wild birds.

Marketing

Millet is mainly grown in Kentucky for use as a forage. Because pesticides are generally not applied, millets could be grown organically for the organic livestock feed market. Some pearl millet cultivars have also been developed for their grain and show potential as poultry and livestock feed. Millet seed has



FOXTAIL MILLET

also been grown as wild bird feeds and could be marketed in birdseed mixes.

Production Considerations

Establishment and management

Foxtail and pearl millets are planted from the first of May until the end of July in Kentucky. Later plantings reduce harvests and total yields. Having two or more plantings at different dates helps with managing harvests. The seed can be broadcast and cultipacked, or seeded with a grain drill into a well-prepared, firm seedbed. Seed can also be planted without tillage by using a no-till drill. These millets need a good supply of nutrients to make high yields.

Pest management

There are no significant diseases or insect problems occurring on millet; however, birds can damage the grain. Summer annual weeds, such as foxtails and Johnsongrass, are extremely competitive with the millets. Killing weeds prior to planting and finding a

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clean seed source are essential in reducing pressure from weeds. Growing forages in narrow rows can also help suppress weeds. On the other hand, planting millet for grain in 30-inch rows makes inter-row cultivation possible.

Harvest

Summer annual grasses, such as the millets, must be grazed or harvested at the proper stage of growth for the greatest yield and quality. Grazing is best after the plants are at least 18 inches tall and before the seedheads appear.

Enough animals should be placed on an area to graze down the grass within a day or a week at most. Millet should be grazed down to about 8 inches in height, at which time the livestock should be removed. The residue may be mowed to a height of 6 to 8 inches to help promote more uniform regrowth. If pearl millet is mowed or grazed too closely, the rate of regrowth may be reduced and plants can be killed. Pearl millet will take about 4 to 6 weeks of regrowth before it is ready for the next harvest. Grazing can continue until frost is expected.

Silage or hay harvest should be made when heads are just beginning to emerge (boot stage). A conditioner must be used to crush the stems of pearl millet to ensure reasonable drying times for hay. Plants usually need to be cut and wilted before being chopped for silage.

Labor requirements

Labor needs per acre are approximately 1½ hours for production and 2½ hours for harvest. Labor requirements can vary based on forage management and harvest techniques.

Economic Considerations

Making money with livestock in Kentucky usually depends on a farmer's ability to grow his/her own feed. Buying forages, even for short



PEARL MILLET

periods of time, can make the difference between a profit and a loss. Using warm season grasses for rotational grazing is one way to meet the shortage of good quality forage that can occur during the hot months of July and August. Grasses similar to millet can be expected to return \$20 to \$90 per acre to land and management.

According to the Thomas Jefferson Institute in Missouri, yields of grain-type millet must increase before it is economically

viable. Yields are expected to increase, but it may be 5 to 10 years before viable markets are available for grain-type pearl millet. At that time, millet is expected to return comparable profits to field corn. Grain millet may also potentially be suited for birdseed production, in which case producers could expect potential returns to land and management of \$35 to \$60 per acre.

Selected Resources

- Forage Web site (University of Kentucky)
<http://www.uky.edu/Ag/Forage/>
- Grain and Forage Crop Guide for Kentucky, AGR-18 (University of Kentucky, 2007)
<http://www.ca.uky.edu/agc/pubs/agr/agr18/agr18.pdf>
- Producing Summer Annual Grasses for Emergency Supplemental Forage AGR-88 (University of Kentucky, 1996)
<http://www.ca.uky.edu/agc/pubs/agr/agr88/agr88.pdf>
- Alternate Field Crops Manual: Millets (University of Minnesota and University of Wisconsin, 1990)
<http://www.hort.purdue.edu/newcrop/AFCM/millet.html>
- Millet Production, Guide A-414 (New Mexico Cooperative Extension, 2003)
http://aces.nmsu.edu/pubs/_a/A-414.pdf

- Pearl Millet (Thomas Jefferson Agricultural Institute, Missouri, 2002)
<http://www.jeffersoninstitute.org/pubs/millet.shtml>
- Pearl Millet for Grain (University of Georgia, 2009)
http://www.caes.uga.edu/publications/pubDetail.cfm?pk_id=7172

- Pearl Millet: New Feed Grain Crop (1997)
<http://www.hort.purdue.edu/newcrop/proceedings1993/v2-198.html>
- Progress with Proso, Pearl, and Other Millets (Purdue, 2002)
<http://www.hort.purdue.edu/newcrop/ncnu02/v5-100.html>

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For additional information, contact your local [County Extension](#) agent