The primary benefits of pearl millet are that it does not contain prussic acid and is not susceptible to the sugarcane aphid. Dwarf varieties are available, which are leafier and better suited for grazing.

Pearl millet is better adapted to slightly acidic soils and soils with a lower water holding capacity than sorghum, sudangrass or sorghum-sudangrass hybrids. For more information on soil types see AGR-217: "Determining Soil Texture by Feel." A pH of 5.5 to 6.5 is required for maximum production. Phosphorus and potassium should be applied according to soil test. For more details on fertilizing warm season forages like pearl millet, see AGR-1: "Lime and Nutrient Recommendations." In the absence of a soil test, apply 60-80 lb/A of P\(_2\)O\(_5\) and 70-100 lb/A K\(_2\)O prior to seeding. Apply 60 to 80 lb/A of actual nitrogen at seeding and 40-60 lb after each cutting or intensive grazing if regrowth is desired. Do not apply nitrogen at the onset of drought conditions.

Pearl millet should be planted after there is no chance of frost when the soil temperature has reached at least 65°F. Pearl millet is more sensitive to cold stress than sorghum and may be killed by low temperatures in early spring when sorghum is not. It can be either conventionally or no-till seeded. Seed can be broadcast at rate of 25-30 lb/A onto a fine, but firm seedbed and then cultipacked to ensure good soil-seed contact. When seeding using a grain drill, reduce seeding rate to 15-20 lb/A. Seeding depth should be between ½ and 1 inch. Seeding depths greater than 1 inch should be avoided.

Pearl millet grows rapidly and will provide grazing in as little as 45 to 60 days. Unlike Sorghum species, there is no concern with prussic acid poisoning, so grazing can begin when plants reach a height of 18 inches. To avoid nitrate poisoning do not apply excessive amounts of nitrogen fertilizer. Do not graze drought stressed or slow growing plants. For more information on nitrates see ID-217: Forage-related Cattle Disorders—Nitrate Poisoning.

If regrowth is desired, do not graze shorter than 6 to 10 inches. Regrowth should be managed in the same manner. Pearl millet can be cut for hay, ensiled, or used for green-chop. Cut for hay or wilted silage once stands reach 30-40 inches.

Figure 1. Pearl millet in head stage.
Pearl Millet Facts

**Common Name:** Pearl millet  
**Scientific Name:** Pennisetum americanum  
**Origin:** North-central Africa  
**Growth Characteristics:** Erect, leafy, annual grass that grows 3-8 feet tall  
**Adaptation:** All of Kentucky  
**Major Uses:** Excellent summer grazing, can be used for hay and silage  
**Drought Tolerance:** Very good, better adapted to sandier soils than *sorghum* species  
**Soil Drainage:** Well drained to somewhat poorly drained  
**Weight per Bushel:** 45-55 pounds  
**Number of Seed per Pound:** 86,000  
**Seeding Rate:** 25-30 lb/A broadcast or 15-20 lb/A drilled  
**Seeding Date:** When there is no chance of frost and when soil temperature is at least 65°F  
**Seeding Depth:** ½ to 1 inch  
**Time to First Grazing:** 45-60 days  
**Expected Yield:** Hay—2 to 4 tons DM per acre, silage—6 to 12 tons/acre at 65% moisture  
**Soil pH:** Optimum pH is 5.5 to 6.5, better adapted to lower pH than *Sorghum* species  
**Fertilization:** Apply phosphorus and potassium according to soil test; nitrogen, 60-80 lb/A at establishment and 40-60 lb/A after each intensive grazing or cutting when regrowth is desired.  
**Seasonal Distribution:** 90% of growth in June, July, and August  
**Grazing Management:** Start grazing at 18 inches tall. Graze to a height of 6 to 10 inches. Manage regrowth in same manner.  
**Hay or Wilted Silage Management:** Cut when plants reach a height of 30-40 inches and leave a 6 to 10 inch stubble. Use mower-conditioner to crush stems.  
**Forage-related Disorders:** *Nitrate poisoning.* To avoid nitrate poisoning do not apply excessive amounts of nitrogen fertilizer. Do not graze drought stressed or slow growing plants. For more information on nitrates see ID-217: "Forage-related Cattle Disorders—Nitrate Poisoning."