

PEARL

MILLER

TEXAS AGRICULTURAL EXTENSION SERVICE
G. G. Gibson, Director, College Station, Texas

PEARL MILLET

E. M. TREW, *Extension Agronomist*
Texas A. & M. College System

Description

Pearl millet, *Pennisetum glaucum*, or cattail millet, is a tall growing, warm-season annual grass. The plant has pithy, nonsweet stems that reach a height of 6 to 12 feet and often produce 10 or more tillers from the base. Mature seedheads are light to medium-brown, cylindrical, and usually are 6 to 12 inches long and 1 inch or less in diameter.

VARIETIES of pearl millet are Starr, Common, Texas No. 7 and Hybrid No. 1. Starr and Hybrid No. 1 were developed at the Georgia Coastal Plain Experiment Station. Compared to Common, Starr is shorter, leafier and later in maturity. Texas No. 7 was developed and released by J. R. McNeil, Spur, Texas.

Adaptation

USE of pearl millet is primarily as temporary summer pasture. Its use is suggested only on East and Central Texas soils where Sudangrass does not produce satisfactorily. Pearl millet consistently produces more forage than Sudangrass on sandy soils of low fertility in East and Central Texas and on severely eroded heavy soils of the Blackland and Grand Prairies. Sudangrass generally is more productive than pearl millet on loam and clay soils of medium to high fertility. See Table.

Compared to Sudangrass, pearl millet is coarser, slightly less palatable to livestock, produces forage of slightly lower quality and is less tolerant of severe drouth. It is not attacked by the leaf diseases that may severely damage Sudangrass in humid areas, and it does not become chlorotic or yellow under certain soil conditions as does Sudangrass.

PASTURES ARE A

Establishment

METHOD-OF-PLANTING greatly affects the length of the grazing season and the degree to which the forage may be utilized. Pearl millet should be planted in 36 to 42-inch rows. Row plantings generally produce longer than broadcast or close-drilled plantings, and livestock trample down less forage because they walk between the rows. Cultivation for weed control is possible with row plantings, and irrigation and sidedressing with fertilizer are easier.

TIME-OF-PLANTING usually is from March 20 to June 15. Pearl millet should be planted after danger of frost is past. Seedings may be made during the summer when enough moisture is available for germination and good growth. When moisture is likely to be available, plantings at 3 to 4-week intervals may be staggered from spring into summer to lengthen the grazing season. Each planting should be fenced for separate grazing.

SEEDBEDS for pearl millet should be clean, firm and moist. The soil should be as well prepared as for plantings of corn or cotton.

SEEDING RATES for pearl millet are 5 to 7 pounds per acre in 36 to 42-inch rows and 15 to 20 pounds for close-drilled or broadcast plantings. The seed should be covered $\frac{1}{2}$ to $\frac{3}{4}$ inch, depending on moisture conditions at the time of planting and the type of soil.

FERTILIZATION is necessary for good production on soils where pearl millet is recommended. A soil test is the best means of determining the grade and amount



Pearl millet often gives ample summer grazing on East and Central Texas soils that do not allow satisfactory production from Sudangrass. Note the typical size and shape of the seedhead.

needed. Fertilizer should be put down in the drill below and to the side of the seed in row plantings to get efficient use of the plant food and to avoid weed growth between the rows.

Management

CULTIVATION to control weeds should be done when needed. Weeds in the young stage also may be

AVERAGE HAY YIELDS FROM PEARL MILLET AND SUDANGRASS VARIETIES GROWN ON UPLAND AT FIVE TEXAS AGRICULTURAL EXPERIMENT STATION LOCATIONS.

Crop	Location				
	Kirbyville	College Station	Temple	Denton	Chillicothe
Pearl millet	1954-55-56	1955-56	1955	1954-55-56	1954-55
Common	5,070	2,230	3,780	2,680	2,390
Texas No. 7	4,970	2,130	2,890	2,760	2,230
Starr	4,600	2,270	3,990	2,400	1,230
Hybrid No. 1	5,320	2,370	5,610	3,690	2,670
Sudangrass	1954-55	1955-56	1955	1954-55	1954-55
Common	1,660	1,860	4,250	5,250	1,710
Sweet	1,700		5,600	5,330	2,440

CASH CROP — TREAT THEM AS SUCH

controlled by spraying with 2/3 pound of 2,4-D or MCPA in water, at times when these herbicides are least apt to damage susceptible broad-leaved crops.

GRAZING should begin when pearl millet is about 24 to 30 inches high. When growth begins to get ahead of the grazing livestock, some may be put up as silage or mowed. As the plants approach maturity they become coarse, woody and unpalatable. After a field has been grazed down, the livestock should be removed and the old stalks mowed. Then the plants should be allowed to make 20 to 24 inches of regrowth before grazing is resumed.

Pearl millet fields should be divided into at least four blocks to permit rotation grazing. Livestock should be concentrated on one block and the growth grazed down rapidly, after which the livestock should be moved to another block. Rotation grazing permits:

1. Use of a high percentage of the forage produced. By concentrating animals on a small area, they are forced to eat the forage available in a short time and less is lost by trampling and refusal.

2. Rest for the plants between grazings, allowing them to make regrowth and rebuild their root systems and vigor.

3. Use of the plants when they are palatable and nutritious. As plants approach maturity, they become less palatable and are lower in protein, minerals and vitamins.

4. Use of excess forage for silage. Blocks not needed for grazing may be utilized to furnish reserve feed.

5. Better livestock management.

6. A fertilization and irrigation schedule. Blocks may be watered and fertilized as needed while other blocks are being grazed.

FERTILIZATION of pearl millet should be primarily before or at the time of planting, except for application of nitrogen to stimulate regrowth. Pearl millet should be sidedressed with 30 to 40 pounds of actual nitrogen per acre each time it is cut or grazed, if the soil is moist and grazing is needed.

SILAGE made from pearl millet is of fair quality, but it does not yield enough forage to justify planting it for silage alone. However, when there is a surplus of grazing, it should be put up as silage. Cut pearl millet for silage when the first heads begin to show. Water must be added to the silage if the material is dry when cut, or if it is allowed to wilt following cutting. The silage should be well packed to prevent loss from spoilage.

HAY from pearl millet generally is low in quality. As the plants mature, they become coarse and tough. Because of the larger stems, pearl millet is harder to cure for hay than Sudangrass. In most cases, more desirable hay plants are available.

POINTS FOR PROFITABLE GRAZING

1. Use pearl millet where Sudangrass produces unsatisfactorily.
2. Plant in a well-prepared, clean, firm seedbed.
3. Plant when the soil is warm and moisture is available for germination and good growth.
4. Put down fertilizer before planting as indicated by a soil test.
5. When moisture conditions are good, several plantings may be made to lengthen the grazing season.
6. Plant 5 to 7 pounds of seed per acre in 36 to 42-inch rows. Plant 15 to 20 pounds of seed per acre close-drilled or broadcast. Cover the seed $\frac{1}{2}$ to $\frac{3}{4}$ inch.
7. Begin grazing when the plants are 24 to 30 inches high.
8. Divide the pearl millet planting into four or more blocks so that grazing may be rotated.
9. Growth beyond grazing needs should be put up as silage.
10. Mow as needed after grazing to remove old stalks.
11. Sidedress pearl millet with 30 to 40 pounds of actual nitrogen per acre each time it is grazed down, if the soil is moist and the grazing is needed.