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SUDANGRASS COMPARED WITH PEARLMILLETS AND FOXTAIL MILLETS  
AS A SUMMER ANNUAL PASTURE CROP IN INDIANA  

Prepared by R. C. Pickett, L. H. Smith and W. L. Whitehead

ADAPTATION:

Sudangrass has proven itself the best all-round summer annual pasture crop for Indiana compared with foxtail millets, pearlmillets, Sorghum alburnum and other possible emergency or supplemental crops. Sudangrass came from Sudan, Africa, and is a close relative of all the common grain and forage sorghums. It grows until killed by frost. Like corn, it responds to warmth, moisture and fertility. Under these conditions, weeds are no problem.

VARIETIES:

Sudangrass varieties differ in maturity, height, leafiness, size of stem and leaf disease resistance.

Greenleaf is recommended for the entire state. It is a juicy-stalked, leafy variety that is more disease resistant than the Sweet, Piper or Common varieties, which were grown prior to release of Greenleaf from the Kansas Experiment Station in 1953. Greenleaf produces higher pasture and silage yields because of more green leaves.

Piper is an early, dry-stalked variety with good seedling vigor and excellent growth, but its susceptibility to leaf blight lowers its quality.

Sweet Sudan has a sweet, juicy stalk, but is extremely susceptible to leaf blight. It is not recommended.

Common sudangrass varieties are gradually disappearing from the seed market. They are early, have a low proportion of leaves, dry stems and extreme susceptibility to leaf blight.

Many other varieties have been tested and found unadapted to Indiana conditions.

HYBRID SUDANGRASS:

The prime use of sudangrass is pasture. But new hybrid crosses point toward production with a two- or possibly a three-cut system. These hybrids now compete with corn and sorghum silage yields.

The possibility exists that these hybrid sudangrass silage yields will increase beyond our present expectation with the rapid development of improved breeding techniques.

CULTURE:

Sudangrass produces the best pasture if seeded between the middle of May and June and may be seeded in July if a pasture emergency exists. Sudangrass should be grazed down rapidly for quick recovery. For this reason several seedings should be made on successive dates and then the cattle rotated by means of electric fences from one field strip to another. Sudangrass should be grown primarily for pasture since corn or forage sorghum will outyield it for silage.
Seedings should be made 1/2 to one inch deep at the rate of 30 pounds per acre. Fertilization required is similar to that for corn. A high yielding pasture will use 100 to 150 pounds of nitrogen per acre.

Rotation with winter annuals, such as wheat and vetch, is an excellent practice on the hilly land of southern Indiana. These winter annuals can be seeded in the sudan stubble after the last grazing in early fall. Then the sudangrass can again be planted following the harvest of wheat and vetch for silage in May or early June. Such a practice has a two fold purpose—erosion control and the production of high quality pasture and silage feed.

**MANAGEMENT:**

Sudangrass along with the rest of the sorghums contains a substance that may cause prussic acid poisoning. The substance is concentrated in the younger growth. Also there are species and varietal differences of which sudangrass is lower than other sorghums. Therefore, management precautions include: (1) use certified seed; (2) delay grazing until the growth is about 18 inch; (3) feed hay or grain to livestock before grazing, and (4) avoid grazing drought-damaged or frosted pasture where high prussic acid regrowth will be eaten first.

**INSECT PROBLEMS:**

Chinchbugs are very damaging to sudangrass. They will attack from adjoining small grain fields. Spray treatments may be necessary in dry years, when the natural enemies of chinchbugs are fewer. The corn leaf aphid and other insects occur rather widely in sudangrass but do not affect its productivity.

**SUDAN MIXTURES:**

Associated crops such as soybeans have been planted with sudangrass in the past, but sudan has produced the most pasture when seeded alone.

**COMPARISON WITH PEARMILLETS, FOXTAIL MILLETS AND SORGHUM ALBUM**

Pearmillets come next to sudangrass as an annual pasture crop and are best adapted to the southeastern part of the United States. Tests have been conducted with the better pearmillets in Indiana during the past four years. In these tests, Gahi-1 has given excellent single cut yields compared to sudangrass in southern Indiana and on sand in northern Indiana. Relatively little second growth came from these trials.

Pearmillets growth in wet cool seasons is disappointing; it does best on dry soils during warm seasons. Prussic acid does not develop in pearmillet and diseases have not attacked the leaves. Chinchbugs are a damaging insect during dry years. The seed is smaller than sudangrass; therefore, 10 pounds of seed are enough per acre.

Foxtail Millets have been inferior to sudangrass in yield and regrowth in Purdue trials.

Sorghum Alum is a natural Johnsongrass-sorghum cross that is classed as a prohibited noxious weed and cannot be sold in Indiana. Many states have grown it since 1949. Indiana tests began in 1956. It is a coarse, dry or pithy-stemmed grass compared to greenleaf sudangrass. Yields in tonnage compare with sudangrass, but because of more stems it is less palatable. Plowing usually kills Sorghum alum and none are overwintered to date in Indiana test plots.