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CC195 Revised 1969 Sorghum-Sudangrass Hybrids : A special Use Crop

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SORGHUM-SUDANGRASS HYBRIDS
A Special-Use Crop
P. Q. Guyer, P. H. Cole & W. J. Moline

Sorghum-sudangrass hybrids have won a place in cropping systems on many Nebraska farms and ranches because they fit well in special cropping situations. In Federal farm programs, these crops have not counted against the feed grain base if harvested as pasture, hay or silage. Residues of sorghum-sudangrass hybrids also make an excellent bed for seeding new stands of grass, particularly on sands. (See E.C. 68-179).

Other desirable characteristics include: Rapid growth—especially in mid-season; excellent drought resistance; good response to fertilizer and water.

Sorghum-sudangrass hybrids produce about the same total feed as sudangrass when used for pasture. When they are used for green-chopped forage, yields of sorghum-sudangrass hybrids usually exceed either sudangrass or forage sorghum; for silage, these hybrids usually have no advantage over forage sorghum. Sorghum-sudangrass is a difficult crop from which to make hay because it takes so long to dry.

**Uses of Sorghum-Sudangrass Hybrids**

Sorghum-sudangrass forages have been used as pasture, green chop, hay and silage. The use of these crops will vary with the needs of the livestock program and with Federal farm programs. Regulations regarding their use in government programs vary from year to year and compliance must be checked with local ASC offices.

**Summer Pasture**

Research shows that sorghum-sudangrass hybrids produce about the same total beef or milk as sudangrass per acre. They produce more tons of forage and are ready for grazing somewhat earlier than sudangrass. On the other hand, much of the forage produced is stalk and therefore lower in percentage of leaves.

Pastures should be subdivided and rotated during the grazing season. Plants should be 18" to 24" tall before grazing to reduce the chances for prussic acid poisoning.

**Winter Pasture**

Some sorghum-sudangrass hybrids make acceptable winter pasture for beef.

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cows. The quality of this feed will be higher if planting is delayed so that the crop does not reach maturity before frost. Tonnage of dry matter per acre will be lower but protein content of the forage will be higher and less lodging should occur if frost catches the crop in the flowering or milk stage of maturity compared to later stages of maturity.

Trampling and field losses will be lower if cattle are limited to areas which furnish only a week to 10-day supply of feed at a time. Only mineral and vitamin A supplementation should be needed when cattle are grazing immature forage. If the crop matures before frost, protein supplementation may be desirable for cows within 60 to 90 days of calving.

Green Chop

Sorghum-sudangrass is well suited to a green chop program. Under multiple cutting, these forages produce higher yields than either sudangrass or forage sorghums. Green chopping will reduce trampling loss common in pasturing and when the crop is harvested as hay. Its fast rate of growth makes it difficult to feed a uniform quality of green chop. When the crop is young and growing rapidly it may contain 20% protein or more per pound of dry matter and produce a highly succulent feed. On the other hand, as the crop nears maturity the protein may drop to 7% or lower and produce a coarse fibrous low quality green chop.

Silage

Because of high moisture content, sorghum-sudangrass hybrids should be wilted or mixed with dry feeds to make a most satisfactory silage. For high quality silage the moisture content must be reduced to 70% or less. Because this crop wilts slowly, especially in eastern Nebraska, and has a very rapid regrowth when moisture is adequate, wilting enough to make a satisfactory low moisture silage is often difficult. The amounts of dry material needed to reduce moisture to either 65 or 70% in the ensiled forage are shown in Table 1.

<table>
<thead>
<tr>
<th>Moisture in fresh cut forage %</th>
<th>Moisture Desired in Silage</th>
<th>Lbs. of dry feed (approx. 90% DM) to be added per ton of fresh cut forage.</th>
</tr>
</thead>
<tbody>
<tr>
<td>85</td>
<td>65%</td>
<td>830</td>
</tr>
<tr>
<td>80</td>
<td></td>
<td>550</td>
</tr>
<tr>
<td>75</td>
<td></td>
<td>360</td>
</tr>
<tr>
<td>70</td>
<td></td>
<td>180</td>
</tr>
<tr>
<td></td>
<td>70%</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td></td>
<td>330</td>
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<td></td>
<td></td>
<td>170</td>
</tr>
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</tr>
</tbody>
</table>

Hay

When cut at 30 to 40 inches in height and cured properly, sorghum-sudangrass hay can be of good quality. It may have nearly as much protein as alfalfa hay and as much energy as either good quality prairie or alfalfa hay. A hay conditioner is almost a must in harvesting these grasses for hay. Even then it will normally take several extra days for satisfactory drying.
Prussic Acid Poisoning and Nitrate Poisoning

The young plants and leaves of sudangrass, sorghum and sorghum-sudangrass hybrids contain a chemical that breaks down and is released as prussic acid (hydrocyanic acid). Its content in the plants can be affected by climate, soil fertility and plant maturity. Its presence should not deter producers from realizing the potential value of these annual forage crops.

To minimize the potential prussic acid problem, allow the plants to reach heights of 18 - 20 inches before grazing when turning cattle into pasture for the first time. Even then give them a full feed of hay before turning out to minimize hunger and slow initial intake of sorghum-sudangrass forage.

The nitrate content of sudangrass and related grasses can be high under a variety of growing conditions. While not usually a problem in pasture, nitrites can become important in a green-chop program. When in doubt, put the crop into the silo where the nitrate content is often reduced by 40 to 60%. Check with your county agent for further details about this problem.