Emergency and Late-Planted Crops

Ralph Cline

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Recommended Citation
Cline, Ralph, "Emergency and Late-Planted Crops" (1966). SDSU Extension Fact Sheets. 1315.
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Emergency and Late-planted Crops

For that piece of land . . .

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. . . "that was too wet to be worked with the rest of the field."
. . . "that was blown out."
. . . "where the crop was frost killed."
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. . . "where early-planted crop failed because of drought."

Cooperative Extension Service
South Dakota State University
United States Department of Agriculture
Emergency and Late-planted Crops  

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by Ralph Cline, extension agronomist

Each year winter kill, frost, blow-out, drought, insects, etc. cause many South Dakota farmers to change well-made cropping plans. When plans have to be changed because of climate or failure to make the original seeding, four courses of action are open to most farmers:

1) Replant a short season emergency crop.
2) Replant, if possible, with the original crops.
3) Utilize the crop left by using alternate harvesting methods, such as harvesting small grain or row crops for hay or silage.
4) Leave the land as is.

USE GOOD PRACTICES

When replanting the old crop or seeding as an emergency crop, select good seed and prepare the seedbed in the normal manner. There is little reason for replanting or seeding when moisture is inadequate for germination and growth or when there is too much moisture for good seedbed preparation.

Adjust planting rates and fertilizer application of late-planted crops to fit the fertility level and the moisture supply of the soil.

One of the best methods of insuring quality livestock feed is to select an alternate method of harvesting crops. Most crops can be harvested as silage if pasture and hay seedings fail. All the small grains, sorghum, and soybeans can be harvested as silage or as hay.

LATE-PLANTED CROPS

The following crops may give satisfactory results when planted late if conditions are favorable for rapid germination and growth. Some are high risk crops in South Dakota because of natural climatic conditions. For instance, soybeans would be very risky in some areas. The millets, while they require very little moisture, are high risk crops because they are “middle of the summer” crops (with a shallow root system) that need frequent rains in July and August.

Sorghum

Sorghums can be grown for grain, forage or silage. They have an advantage over corn during periods of drought because they tend to become semi-dormant and “wait it out” until rain comes, then resume normal growth and development. In addition, they are able to withstand heat and grasshoppers. Hybrid sorghums are generally preferred to open-pollinated varieties because of their greater yielding potential. The development of grain and forage sorghum hybrids has done much to meet the pressure of more efficient production, much as hybrid corn did 35 years ago.

The sorghum crop is ready for silage when the grain is in the medium to hard dough stage, at which time the moisture and sugar content of the forage is best for a desirable silage. It is important to plant a variety which can be expected to mature sufficiently early to be ready for silage before frost. On a pound for pound basis, sorghum silage ranks about 85 percent as valuable as corn silage. Combine-type grain sorghums can be used for silage, but they usually yield only 50-70 percent as much as the taller forage sorghums.

Sudangrass or Sorghum-Sudangrass Hybrids

These quick-growing annual grasses are South Dakota’s best supplemental forage crops. They make high quality hay and are outstanding for July and August supplementary pasture. Under favorable conditions reasonable yields can be expected from seeding as late as August 1. If grazing is the major goal, Piper sudangrass is the first choice variety because of
its low prussic acid content. Let sudangrass make a growth of about 18 to 24 inches before grazing. Sudangrass is usually not considered a silage crop. If it is used for silage, however, harvest when the seed is in the medium to hard dough stage.

True sudangrass hybrids are those resulting from crossing two sudangrass varieties or strains. Presently there are only a few of these hybrids on the market. The true sudangrass hybrids have more tillers, finer stems, faster regrowth, and lower prussic acid than the sorghum-sudangrass hybrids. Under grazing, green chop, or haylage harvesting, the sudangrass hybrids produce as much dry matter per acre as many of the sorghum-sudangrass hybrids.

A combination of sudangrass and soybeans seeded together makes excellent silage and one of the best emergency hay crops under irrigation, in higher rainfall areas, or well-watered fields. They grow well together and are easy to harvest and cure. To obtain the most satisfactory results, plant soybeans first with a drill and then drill in the sudangrass when the soybeans are about 2 inches tall. Seed the sudangrass parallel to the soybean rows. There will be little injury to the soybean seedlings.

Numerous sorghum-sudangrass hybrids are now available. They are warm season annuals that usually resemble sudangrass. They can be grown anywhere that sudangrass is recommended. Practices for growing sorghum-sudangrass hybrids are similar to those for sudangrass. However, it is usually best to use a higher seeding rate than for sudangrass because the seeds are larger. The sorghum-sudangrass hybrids are generally intermediate between sorghum and sudangrass in leaf width, stem size, and number of tillers per plant. They possess vigorous, early growth and fast recovery after being cut or grazed. They are generally later in maturity than Piper sudangrass, but earlier than most of the forage sorghums. Their chief advantage over standard varieties of sudangrass is their great yield potential. This greater yield potential is expressed when they are used for green chop, hay, haylage, or pasture. However, these hybrids may not be as suitable for pastures as sudangrass because of coarser stems and higher prussic acid potential.

Plant in rows for either pasture or other uses; this gives you a chance to control weeds and reduces the amount of feed that cattle trample when pasturing. Delay grazing until plants have reached a minimum height of 24-30 inches. Best results are obtained when the crop is grazed heavily enough to keep it vigorous and leafy until frost. For most rapid regrowth do not graze or clip below 6 inches high. Sorghum-sudangrass hybrids make reasonably good hay if cut when growth is about waist high and if a crimper or hay conditioner is used to speed drying. Sorghum-sudangrass hybrids can also be used for silage. They may exceed the regular forage sorghums or corn in tons of silage per acre, but may fall short of these two crops in quality of silage because of low grain content and high crude fiber content at maturity.

The South Dakota Experiment Station may not recommend any of the commercial sudangrass hybrids or sorghum-sudangrass hybrids for pasture use. However, any hybrid known to be low in prussic acid is suitable.

**Corn**

Corn normally gives good yields of forage when planted late at fairly heavy seeding rates. Plant short-season hybrids or early, open-pollinated varieties such as Minn. 13, Gehu, Rainbow flint, or Early white. Sometimes they can be planted as late as June 15 to July 1 and still make a reasonable crop. However, mature grain yields from late-planted corn are not to be expected. Flint corn has considerable grasshopper resistance. In some areas stockmen plant flint corn and utilize it by “hogging it off” in the fall.

**Soybeans**

Soybeans offer a good possibility for planting late and still yielding a crop. For replanting, use a slightly earlier maturing variety than that recommended for normal date of planting. Traverse, Grant, Chippewa, and Chippewa 64 are early varieties. Do not plant for bean production later than June 10, even if early varieties are used.

Soybeans make excellent hay. However, the hay is difficult to cure because of the large stems and leaf loss is always a problem. For hay or silage any variety available may be planted up to June 15 if moisture conditions are favorable. They may be seeded in rows or broadcast. Cut for hay or silage when the first pods are well filled.

**Millet**

Both the grain and foxtail or hay millets offer possibilities for emergency use in South Dakota. The millets have a shallow root system, and while they have low moisture requirements they need frequent rains. They cannot stand prolonged drought like sorghum.

Proso is a grain millet. It is rated nearly as valuable as corn for feed and is an excellent feed for cattle, sheep, hogs and poultry. However, it should be finely ground before being fed to livestock. It is not a hay crop and should not be grown for this purpose. Its coarse, hairy stems are poor feed whether cut early or late. It requires only 60 to 85 days to mature, so it can be planted as late as July 5 if moisture is favorable. Seed one inch deep in warm soil any time in June and as late as July 5. Proso millet holds its grain until maturity and then shatters badly if harvest is delayed more than a few days. Of the varieties recommended for South Dakota, Early Fortune and White Proso are the earliest. Under favorable moisture conditions, these varieties may be ready to harvest in 60 days. Others are Red Turghai, a medium-early
variety, which matures in about 70 days and Crown, a late-maturing variety that requires approximately 85 days to mature.

The foxtail or hay millets are finer stemmed and more leafy than the proso millets. They are later maturing, the seed is produced on a spike (as compared to the open, spreading panicle of proso), they shatter less easily, and dry more slowly than proso. The seed has a feed value about 83 percent of that of corn. It should be ground before being fed to livestock.

Manta and German are the two recommended varieties of hay millet. Manta is the earliest and is best adapted to the low rainfall areas. It will mature in about 70 days; however, it requires only 50 days to mature sufficiently for hay. Seed 1 inch deep in warm soil any time in June and as late as July 10. German millet is about 2 weeks later than Manta; seed not later than July 1.

**Rape**

Rape is an excellent pasture crop for hogs and sheep. It grows rapidly and continues growth very late in the season. Be sure to plant the biennial kind; Dwarf Essex is a principal variety. Rape can be planted as late as July 20. Highest pasture yields are obtained when the seeding is allowed to make a growth of 10 inches or more before grazing.

**Buckwheat**

Buckwheat is better adapted to the cool, moist climate of the northeastern part of the United States than to South Dakota. However, it only takes 75 to 80 days to mature, and it may produce a crop in our state if seeded as late as July 10 and if weather conditions (cool and moist) are favorable for its growth. Buckwheat lodges badly; in South Dakota it is a common practice to mix seed of the two recommended varieties, Japanese and Silverhull. The shorter Silverhull supports the taller Japanese plants, and in turn the taller plants help shade the shorter Silverhull preventing heat injury.

There is only limited demand for buckwheat grain. Buckwheat can be used as a plow-down crop for green manure and as a weed-controlling crop. It is satisfactory for smothering weeds such as quackgrass, provided the seedbed is well prepared and the buckwheat is given a chance to get started ahead of the quackgrass.

**Winter Rye**

When it is too late to plant anything else, winter rye may be seeded for early fall pasture and, if conditions are favorable, it may make a good early spring pasture and later a crop of hay or grain. As an extra early spring pasture crop, no other plant is superior from the standpoint of earliness and abundance of grazing. When a grain crop is desired, grazing in the spring must be moderate and should be discontinued when the plants show a strong tendency to make erect growth. The earliest date to seed rye for early fall is July 15. If early fall pasture is not urgent, delay the seeding until September 15.

### Emergency and Late Planting Possibilities

<table>
<thead>
<tr>
<th>Crop</th>
<th>Use</th>
<th>Approximate Latest Date to Plant</th>
<th>Seeding Rate (Lbs. Per Acre)</th>
<th>Depth of Seeding</th>
<th>Ready for Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sorghum</td>
<td>Silage, Green Feed</td>
<td>June 25</td>
<td>8-12</td>
<td>1&quot;-1 ½&quot;</td>
<td>Grain-Med. to Hard Dough</td>
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<tr>
<td></td>
<td>Grain</td>
<td>June 15</td>
<td>3-6</td>
<td>1&quot;-1 ½&quot;</td>
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</tr>
<tr>
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<tr>
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<td></td>
<td>15-25 (Drilled)</td>
<td></td>
<td>Green Chop-Heading</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4-6 (36’-42” Rows)</td>
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</tr>
<tr>
<td>Sundangrass Soybean Combination</td>
<td>Silage</td>
<td>June 15</td>
<td>60 Soybeans (Solid)</td>
<td>1&quot;</td>
<td>Sundangrass-Heading</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>15 Sundangrass</td>
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<td></td>
</tr>
<tr>
<td>Sorghum-Sundangrass Hybrids</td>
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<td>July 1-15</td>
<td>10-16 (Drilled)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>6-8 (20’ Rows)</td>
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<td></td>
<td>4-6 (40’ Rows)</td>
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<tr>
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<tr>
<td></td>
<td>Seed</td>
<td>June 10</td>
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<tr>
<td>Millet</td>
<td>Grain Type</td>
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<td>20</td>
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<tr>
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</tr>
<tr>
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<td>5</td>
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<tr>
<td>Buckwheat</td>
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<td>July 10</td>
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</tr>
<tr>
<td>Rye</td>
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<td></td>
<td>Grain</td>
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<td>65-70</td>
<td>1”</td>
<td>Mature</td>
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Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture, John T. Stone, Dean of Extension, South Dakota State University, Brookings, South Dakota.