With Grain Sorghum - -

One Harvest, Two Crops

Frank Wiersma

Arizona grain sorghum producers may be able to enjoy the benefit of an extra ton per acre yield without the expense of an extra harvest.

Arizona areas below 2000 foot elevation have a longer growing season than needed to raise one crop of grain sorghum, but not long enough for two complete crops on the same field. However, grain sorghum is not a plant to let good sunshine go to waste and call it a year just because it has produced a mature crop. Given water and warm weather after harvest, it will start producing another crop from the established stalk and root system.

With this head start, it is possible to produce two crops of grain sorghum in one season. The second growth is not as productive as the first, but can add a ton per acre to the total yield. A few growers in Arizona have planted early and "double-harvested" with pleasing success.

There is a Problem, Though

There's a problem in harvesting, however, that can cause difficulties at combining time. The plant gets a bit eager and unless it is stressed to near the wilting point, the regrowth heads will appear before the first growth is dry enough to harvest and store. If the weather at harvest time is on the wet side, as it often is in July and August, a delay of only a few days is time enough for these green heads to reach nearly the same height as the mature grain. It is impossible then to combine and get all the ripe heads without cutting some of the green ones at the same time. This not only reduces the total yield potential by damaging the regrowth crop, but also cuts down on the quality of the harvested grain by the addition of these green kernels.

An alternative method of harvest which showed promise was tried at the Marana Experiment Farm this past season. The first crop of grain was not combined until the second one was also ready for the bin. This eliminated the difficulty of properly timing the first harvest, reduced harvesting costs to that of a single operation and permitted irrigation on a regular schedule.

Risky? Somewhat, no doubt. Nature may occasionally make a farmer wish he had his grain safely stored in a bin. In an area where bird damage is notably severe, field losses would be too great. The farmer who knows the history of the area and his land would consider these and other things in selecting a method of harvest.

Yields Were the Same

Under normal seasonal conditions, how does the yield and quality resulting from the two harvesting methods compare? These two considerations were studied in a test of harvesting methods at the Marana Farm. Half the field in the test was harvested as each crop became mature and the other half was not harvested until all of it was mature. If any yield losses resulted from leaving the first crop in the field, they were compensated by gains from other factors because the yields were the same regardless of method of harvest. Reduced harvesting damage and optimum moisture level through maturity made up for losses from birds, insects, and shattering in the once over late harvest.

The grain also retained its quality even though exposed to the great outdoors. Analyses of the grain for protein indicated the quality had not been affected.

Reduction in yield and quality do not appear to be considerations in selecting the alternative method of double harvesting suggested. If the risks in a particular area are not too great, a producer can enjoy the benefits of an extra ton per acre yield without the expense of the extra harvest.

Table 2.— Dry Matter Production of Sudangrass "Hybrids" and Varieties Cut at 24 Inches of Height to Simulate Grazing at Mesa in 1961. Average Yields of All Varieties Expressed as 100 Per Cent and Average Yield of All Hybrids in Per Cent of the Varieties Within Cuttings.

<table>
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<th>Cutting</th>
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<th>4</th>
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<tbody>
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