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# Farmed Forages Fill Summer Grazing Gap

by James Ritchie



**I**t's not much fun to have the grazing season last longer than your grass does.

With grazing systems comprised mainly of cool-season grasses (brome, orchardgrass, tall fescue), mid-summer can be one of the more critical periods. Production and quality dip as hot, dry weather pushes forages into dormancy.

That means **when** forage grows may be as important as **how** much and how well it grows. Some producers bridge the summer gap by growing annuals such as sudangrass, sorghum-sudan hybrids or tall-growing pearl millets. These farmed forages grow rapidly and produce high tonnage — on relatively few acres — just when cool-season pastures go into a slump.

"Annual forages can produce hay or pasture with ample nutrition for either lactating cows or stocker cattle," says Dale Watson, University of Missouri Extension livestock specialist in Carroll County, Mo. Watson compared five different varieties of annual forages for two years, at two different locations. He notes that crude protein ranged from 14 percent to 19 percent, and total digestible nutrients (TDN) varied from 59 percent to 64 percent.

"Harvesting dates and rainfall need to be considered if these forages are to be harvested for peak nutritional value," says Watson. "These plants grow rapidly, and should be cut for hay at about 30 inches height."

On a per-acre basis, annuals are not inexpensive; they cost nearly as much to grow as an acre of corn. But these heat-tolerant forages are productive, yielding three tons per acre or more when harvested for hay or silage. If grazed, the usable tonnage is somewhat less, due to trampling and selective grazing.

"High nitrate levels can be a problem with all of these forages when their growth is interrupted by drought or some other condition," cautions Watson. "Also, the sudans and sorghum-sudan hybrids have some hazard of prussic acid poisoning. Prussic acid is not a problem with pearl millets."

Watson kept track of production costs and yields of the different annual forages he grew. Fields were plowed, disked twice and fertilized to soil test recommendations initially. An additional 50 pounds of nitrogen were applied after each of the first two cuttings.

The forages were drilled during the first week of June in both years. Three cuttings were harvested in mid-July, mid-August and mid-September. Watson notes that the forages made considerable regrowth between the last cutting and frost.

Here are the per-acre costs Watson charged his hot-weather forage crop: (Cost of seed ranged from \$12.08 to \$17.88 per acre, depending on the variety).



<b>Variable costs:</b>	<b>Cost/Acre</b>
Plowing	\$10
Disking (twice)	\$12
Fertilizer (90 lb N, 40 lb P, 100 lb K; plus 50 lb N after each cutting)	\$56.82
Lime cost (annual charge)	\$4
Drilling	\$5
Total variable costs:	\$87.82
<b>Fixed costs:</b>	
Land cost	\$50
Taxes	\$3
Total fixed costs:	\$53
<b>Total costs (less harvesting; seed cost)</b>	<b>\$140.82</b>

The annuals were mowed, raked, tedded and baled. Total forage harvested was weighed for dry-matter calculations. Core samples from representative bales were dried to a constant weight, as determined by using a moisture tester.

"The forages required nine days, four days and five days field curing time for the July, August and September cuttings, respectively," says Watson.

Average yields and costs per ton for the five forages compared are listed below (averaged for the two years of comparison):

<b>Forage Type and Variety</b>	<b>Tons/Acre</b>	<b>Cost/Ton</b>
FFR 110 Hybrid Sudan	3.32	\$69.94
FFR 201 Sorghum-Sudan	3.61	64.56
Trophy Sorghum-Sudan	3.24	69.88
Green Treat II Sorghum-Sudan	4.74*	49.05
Mil-Hy 300 Hybrid Pearl millet	3.71	65.14

\*One year's data only

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"We grew these forages in deep, well-drained soil and tilled seedbeds," says Watson. "But summer annuals have potential, even on land you can't plow. They can be interplanted with no-till equipment into cool-season grass sods, and either hayed or grazed through the hot, dry part of summer."

That's the way Troy Link manages hot weather annuals at Deeds Company, a stocker backgrounding operation in Randolph County, Mo. Link mows and bales early fescue growth, usually in late May, then top-dresses pastures with 50 pounds of nitrogen fertilizer per acre.

"We plant 20 pounds of hybrid sorghum-sudan per acre in 30-inch rows with a no-till planter," Link says. "We'll usually mow and bale the combination of sorghum-sudan and fescue regrowth in late July or early August. In a year with decent rainfall, we get three tons or more per acre."

As a pinch-hitting hot weather forage that doesn't tie up a lot of land, a summer annual has considerable potential. Whether these crops cut production costs or provide the most cost-effective way to bridge the mid-summer forage gap will depend on a producer's individual situation.

"In a complementary forage system, summer annuals can increase forage production and improve hay or grazing quality during the period when cool-season grasses drop off sharply in both quantity and quality," says Watson. "They aren't cheap to grow, but if gains on cattle grazing summer annuals are 50 pounds greater at the end of the summer grazing period, this should offset some of the out-of-pocket costs."

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