Grazing Sorghums to Optimize Production

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Sorghums are very heat- and drought-tolerant annuals originating in Africa. They are common summer plants offering seasonal feed for livestock and are used for grazing, hay, greenchop, and silage. Common grazing sorghums are sudangrass or sorghum-sudan hybrids, characterized by leafy forage, and are highly digestible at the vegetative stage. Sorghums used for grain production are known as 'forage sorghums.' They can have high yields and are grazed once the grain is harvested; they are more suited for greenchop and silage.

Sorghum sudangrass & cowpeas, mid-July, in Wisconsin.

Grazing sorghums fit a niche, especially in sandy soils prone to drought where cool-season plants have experienced a summer slump. As a true warm-season plant, unseasonably cold summers may affect establishment and production in the Midwest.

Characteristics & Management Considerations of Grazing Sorghums. Sudangrass is a sorghum resembling grasses for grazing. Compared to thick-stemmed grain sorghum, it has a relatively fine stem, tillers abundantly from the base (due to reduced stem size), and has a loose inflorescence, which is not as compact as grain sorghum. In sudangrass, grain yield is not significant and therefore not important. Sudangrass and hybrids are suited for heavy grazing with high stocking rates for short periods of time from late June/early July to late August/early September. Target management includes utilizing regrowth before allowing it to seed. Make sure to graze only after the plant reaches a minimum height. Sudangrasses or sorghum-sudan hybrids should not be grazed before 18" in height. Among all sorghums, prussic acid tends to be only half as much in sudangrass. Under warm summer conditions (75-80˚F) and in soils with a pH of 6.2-7.8, this plant produces extraordinary DM yields thanks to its warm-season photosynthesis, which, like corn, makes it very efficient and capable of producing high yields. Sorghums tolerate excessive heat and drought; growth rates exceed 1,000 lbs/ac/week.

Sudangrass and hybrid quality at vegetative stage is comparable to corn silage quality with similar available energy but substantially more protein. If allowed to set seed or if the sudan hybrid is used for silage, available energy will be 15-20% lower due to the lower grain-to-forage ratio of sorghums and the hard natural coating of the seed, allowing it to go through the gastro-intestinal track undegraded.

Seeding. Plant when soil temperatures are 64-68˚F. In the Midwest, this requirement may be a disadvantage in unusually cool years. Seeding depth should be ~1" for heavy soils, and 1½-2" for sandy soils. Recommended seeding rates are 40-50 lbs/ac if broadcasting, or 25-35 lbs/ac if using a drill. High seeding rates favor thinner stems, preferred for grazing. Consider water use equilibrium if using higher rates. They are usually seeded with buckwheat or cowpeas.

Potential Drought or Freeze Risk. In high-nitrogen soils or under drought conditions, sudangrass and hybrids can accumulate nitrates and may cause nitrate poisoning. They can also accumulate nitrates under prolonged cloudy conditions. In these cases, dilute forage with other feeds to avoid poisoning. They also have potential for cyanides or prussic acid poisoning if grazed early, or when frosted or wilted. This is especially important in the Midwest due to late-summer frost potential. In these cases, grazing needs to be postponed. The risk of cyanide accumulation declines as the plant matures.

Sheep Grazing Considerations & Horse Contraindications. If grazing sheep, be mindful that sorghum forage accumulates copper more than corn, which may be an issue. For horses, forage sorghums should not be used since they can develop a serious condition in the urinary tract known as cystitis syndrome.