Summer Annual Grasses Are Dry Weather Pasture Option

NEWARK, Del. – "Recent dry weather may limit the availability of quality hay and summer pasturage this year," predicts University of Delaware extension agronomist Dr. Richard Taylor. This means that, in many cases, farmers with beef, dairy or sheep operations need to consider their choices for temporary pasturage or emergency hay or silage crops.

Summer annual grasses are one answer to the problem, Taylor says. These include the millets (pearl, proso, Japanese and browntop) and sorghums (grain and forage sorghum, sorghum-sudangrass hybrids, sudangrass and sudangrass hybrids). Pearl millet is more sensitive than the sorghums to cool temperatures at seeding, so it should be seeded only when soil temperatures remain above 60 degrees F. It also tolerates high humidity and plant pathogens better than the sorghums.

Summer annual grasses can be drilled, broadcast, sown in rows or sown no-till, the agronomist says. "The narrower the row spacing, the heavier the seeding rate should be." Heavier seeding rates up to 50 pounds per acre also encourage smaller stems, which allow for faster drying. Normal seeding rates range from 20 pounds to 40 pounds per acre. Rates should be at the high end of this range for large-seeded (and large-stemmed) cultivars, and at the low end for smaller-seeded species such as pearl millet.

"For grazing systems, wider row spacings will help reduce animal damage," Taylor says, "but seeding rates will need to be increased. If frequent harvesting is contemplated, research has shown that north-south row orientation may increase yields 10 percent over east-west rows."

Mechanical damage to summer annuals may reduce yields on some soils such as silt loams, he cautions. "If possible, during harvest, limit the number of trips with heavy equipment over an area. To prevent soil compaction, also try to avoid harvesting when the ground is wet."

Summer annual grasses will grow on moderately acid and infertile soils. But use soil tests to determine the amounts of phosphorus and potassium to apply. High forage yields will remove about 60 pounds to 100 pounds of phosphorus an acre and 150 pounds to 250 pounds of potash. For lactating dairy cows, severe milk-fat depression has been associated with high calcium and potassium soil test levels when cows are fed forages grown on such soil.

Summer grasses respond readily to nitrate fertilization. Fertilizing with up to 200 pounds of nitrogen per acre increases yields linearly. However, at higher nitrogen rates, split applications are essential for uniform growth and balanced plant nutrition, and to avoid nitrate toxicity.

"Several problems are associated with summer annual grass production," Taylor says. "These include potential nitrate poisoning and prussic acid (cyanide) poisoning.

"When nitrogen is applied too close to harvest, or when cloudy weather and/or drought conditions occur after heavy nitrate fertilization, excessive nitrates may accumulate in plants," he explains. "Sudangrass is known to have this potential. Nitrate accumulation is also greater from nitrate fertilizer than from ammonium sulfate or urea. After cloudy weather, several successive days of bright sunshine should reduce nitrate levels in plants unless drought conditions prevail."

Forage harvested for silage during periods favorable to nitrate accumulation or under heavy nitrate fertilization programs may cause toxic nitrogen dioxide to accumulate in the silo – a gas potentially fatal to the farmer and also harmful to livestock housed close enough to be exposed. Heavily fertilized silage should therefore be tested to determine its nitrate level. This enables the manager to blend various forage rations so as to dilute the nitrate to an acceptable level.

Potential for prussic acid accumulation is lowest in the millets, followed by Piper sudangrass, and then other summer annual grasses in the sorghum family. "Prussic acid levels increase rapidly with drought stress and are also highest in new growth," Taylor says. To avoid poisoning, graze green forage or chop for greenchop when sudangrass plants are 18 inches to 20 inches or taller, and sorghum types are 24 inches to 30 inches or taller.

"Don't graze new regrowth that develops after a frost or period of dry weather," he cautions. "Also, after a frost, let plants dry out completely before feeding. These grasses can be safely made into silage and haylage, since the time involved in the ensiling process allows for the release of the cyanide so that little if any remains in the preserved forage."

Do not graze horses on sudangrass or sorghum-sudangrass hybrids. These crops cause a condition in horses known as cystitis syndrome.

Finally, Taylor says one choice for grazing oats at 2 to 3 bushels per acre. Oats will grow better than the summer annual grasses during cooler fall weather.

Central 4-H Dairy Club

Jim Shaw demonstrated showing and clipping of dairy animals to members of the Central 4-H Dairy Club during a recent meeting at the farm of Jane and Rod Thompson.

Club leader Shirley Trimmer provided plenty of calves washed and ready to practice on. After Shaw's demonstration, each family worked on clipping a calf as if to prepare it for a show. Following this, Shaw gave individual advice and talked about how each group did.

The meeting will help members prepare for 4-H Roundup this month at the York Fairgrounds.

EPP Gets Jump

(Continued from Page C5)

activity if weeds are allowed to emerge before EPP.

EPP is most beneficial in no-till soybeans or sorghum, Martin says. However, some farmers are trying it in conventional tillage systems to reduce tillage trips and thus soil compaction. It may be an area of future growth for EPP applications, he adds.

"In a conventional system, a farmer may be able to use an EPP application, make one tillage pass and then plant," Martin says. "Early pre-plant herbicides are long-lasting, so at planting the herbicides have had sufficient time to control weeds.

"Early spring tillage does the most damage," Martin says. "It's wetter, you get more compaction, erosion, breakdown of the soil structure, and you're stirring up weed seed. For farmers looking at a way to cut costs, using EPP may be one of them. Plus, with the early spring rains, farmers won't be so rushed to get the crops in."

All of the advocates of EPP recommend trying it first on a small plot, leaving a test strip in the middle for comparison. Application of EPP is influenced by local weather conditions, soil texture and the organic matter in the fields, so advocates recommend that farmers consult their chemical dealer, custom applicator, local extension specialist and/or university for more information.