

Switchgrass As A Forage Crop

MILAN, TENN.

While there has been a great deal of media attention on the merits of switchgrass as a biofuel feedstock, many are less familiar with the potential of switchgrass as a forage crop. At the University of Tennessee Milan No-Till Field Day, UT experts will discuss how the potential dedicated energy crop can also serve as an above-average forage crop.

Switchgrass, like a number of other native warm-season grasses (NWSG), can actually produce high-quality forage, says Dr. Gary Bates, UT plant sciences professor and Extension specialist. "Yields between 3 and 6 tons per acre can be expected, depending on rainfall, soil type, as well as other environmental conditions," Bates says. "The nutrient content can also be as high as 16 to 17 percent crude protein, if harvested correctly."

Dr. Pat Keyser, director of the UT Center for Native Grasslands Management, says two main characteristics make switchgrass attractive as a forage crop: high yields and summer production.

"Switchgrass grown for forage can produce up to twice as much as tall fescue on an acre of land," Keyser says. "Research in Tennessee has shown that, if grown exclusively for hay, 4-5 tons per acre are not uncommon." He further adds, if switchgrass is planted primarily for biofuels production, there is potential to harvest the early growth through haying or grazing, then managing the remainder of the season's growth for biofuels.

In terms of summer production, switchgrass is adapted to hot, summer conditions with peak growth during May through August. Since most cattle operations in the mid South use tall fescue as their primary pasture grass, there is limited forage production during summer. Dr. Bates says the limited production reduces the performance of cattle and may lead to overgrazing and weakened stands of tall fescue.

Switchgrass can provide good quality forage for grazing animals and also provide the opportunity to rest tall fescue pastures during a stressful time of the year.

Drs. Bates and Keyser say the first cutting of switchgrass should be made during mid to late May, when the plant is vegetative or first showing seedheads. Crude protein levels could easily range from 14 – 15 percent at this time of the year. A second hay harvest can be expected in late July or mid August.

Forage harvests should leave a minimum 8-inch residual height to ensure rapid regrowth and stand persistence. Removing the growing point and all leaves will result in delayed regrowth that will substantially reduce yield and, in the long run, stand vigor.

Because switchgrass has good nutritive value for cattle, Bates says the material could be removed through controlled grazing rather than haying. Research has shown weight gains of 1.5-2 lb/day can consistently be achieved. Initial entry into switchgrass in the spring should occur once the stand is 15 – 18 inches tall, or under rotational grazing, 24 inches tall. Stocking at lower rates or creep grazing calves will make it possible to begin sooner. Stocking rates of 3 – 5 steer per acre will probably be best under normal circumstances, with the higher numbers needed for the rotational grazing. Regardless, Dr. Bates says grazing switchgrass will require closer management of grazing pressure than lower growing forages such as tall fescue or bermudagrass.

This and other switchgrass research will be presented at the UT Milan No-Till Field Day. The event will be held at the UT AgResearch and Education Center at Milan beginning at 7:00 a.m. on Thursday, July 22. Admission is free and open to the public. For more information, including directions, visit the website: <http://milan.tennessee.edu> or call 731-686-7362. Δ