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Finding Value in Switchgrass Today Through Cattle

By John Guretzky

Switchgrass has future potential in the Southern Plains as a dedicated cellulosic biofuels crop. In the near and intermediate terms, an economically viable use for switchgrass needs to be found. In May 2007, the Noble Foundation Agricultural Division successfully established a 30-acre field of switchgrass at the Red River Demonstration and Research Farm. Beginning in April 2008, we will evaluate the utilization and value of switchgrass for stocker cattle. Switchgrass may have value for stockers because of its early spring availability, high yields, perennial life form, wide adaptability and low fertilization requirements.

Second-year stands of switchgrass become available for grazing near April 15. To enhance growth and nutritive value, we recommend fertilizing switchgrass stands with nitrogen at 50 to 100 pounds per acre. Intensive early stocking with young growing cattle from April 15 through June 15 could take advantage of the early season period of rapid growth and associated young, high quality plant tissue. Under such management, we recommend that switchgrass not be grazed from July through November. The rest period will allow switchgrass enough time to recover leaf area and store energy reserves by fall. Alternatively, one could manage switchgrass with a continuous, season-long stocking at a moderate rate with beef cows from late April through September. Such management has been practiced for years on native range.

Regardless of management system, a key point to maintaining productive stands is to make sure leaf area is maintained. Grazing is detrimental to plants because it impairs their ability to capture sunlight or energy. Grasses must replace leaf area lost to grazing animals to grow and be productive. Switchgrass is particularly sensitive to the intensity and timing of defoliation. Delay grazing until switchgrass is 12 inches tall and do not graze it below 6 inches. Don't let cattle get ahead of the grass. Improper timing may result in removal of growing points and delays in further growth. If sufficient leaf area is maintained, the plant can grow with little need for stored energy in the roots. Stocking rate may need to be adjusted to keep the removal rate equal to the rate of growth.

If the plant is severely grazed and all leaf area is consumed, remove cattle from the pastures immediately. The grasses need time to recover the leaf area that has been lost. Energy stored within the roots must be used for this new growth. The plant must then rebuild the leaf area and cycle energy back to the roots to replenish these reserves before grazing again.

Retain at least 6 inches of leaf area on switchgrass by August to maintain its persistence over winter. Switchgrass needs to store energy in its roots to survive winter and initiate growth the following spring. The leaves won't survive the winter, but the roots will if they have energy stored. When spring comes, the stored energy helps the grasses build new leaves, fill up on sunshine and begin the process of growth and nutrient storage again.

After a killing frost in the fall, the dead leaf and stem residue may be baled off or left to decompose or be burned off in the spring. Although the grass is dormant and cattle aren't consuming it, switchgrass remains susceptible to damage during winter. Be cautious if feeding hay to cattle on switchgrass pastures during late winter and early spring. New leaves begin developing in early spring using energy reserves stored in the roots. If these leaves are grazed too early and the plant needs to develop new ones, the plant becomes susceptible to energy depletion and may weaken and die.



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