

Technical Bulletin 326

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**NC STATE UNIVERSITY**

**New Bulletin Focuses on Switchgrass**

Switchgrass (*Panicum virgatum*) is a perennial grass native to the southeastern United States that can be used as a pasture, stored forage or biomass crop. A new technical bulletin developed by crop scientists at N.C. State University and the USDA's Agricultural Research Service summarizes the results of 26 independent research projects that focused on switchgrass—from its establishment and management challenges to its potential as a crop for grazing animals and biomass.

Based on their findings, the authors make recommendations for establishing switchgrass, managing it and selecting a cultivar based on use. The bulletin includes data on two improved cultivars developed jointly by the N.C. Agricultural Research Service and the USDA-ARS and released in 2006.

Switchgrass can be difficult to establish. Upland and lowland switchgrass cytotypes (or ecotypes) have different genetic characteristics. It's important to select an ecotype and a cultivar within a type based on the crop's location and intended use. Seed dormancy, insect

damage and weed competition often contribute to poor establishment. Crop scientist J. C. Burns and ten other researchers designed their studies to investigate these challenges.

The researchers used switchgrass plots located at N.C. State University field laboratories to test the effects of cover crops, insecticides and the herbicide atrazine on switchgrass cultivars. Seeds collected from established switchgrass stands received prechilling and plant-growth-hormone treatments. Germination tests revealed differences among treatments.

To investigate switchgrass as a forage crop, the researchers conducted yield trials and analyzed the cell wall content of different cultivars. Grasses were managed as pasture—or harvested from established stands and stored as silage or hay—and used in feeding experiments with grazing animals. Differences were detected in nutritive values among switchgrass cultivars and other forages, such as tall fescue and bermudagrass. The researchers also analyzed the yield potential of switchgrass ecotypes for use as biomass.



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Please send me \_\_\_\_\_ copies of *Switchgrass: Establishment, Management, Yield, Nutritive Value, and Utilization (TB-326)*.

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