

# Maryland Grazing Research Benefits Livestock Producers

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KEEDYSVILLE, Md. — Research under way here at the Western Maryland Research and Education Center will benefit graziers and other forage-based agricultural producers in the Mid-Atlantic region.

A cooperative endeavor between two Maryland Cooperative Extension agents, the research project examines the performance of annual and perennial grasses under management-intensive grazing systems.

Don Schwartz, ag agent in Washington County, Maryland, and Stanley Fultz, dairy agent in Frederick County, have pooled their expertise and areas of interest to work together on the grass trials. They are trying to find a grass or a combination of grasses — not just limited to an annual and a perennial, but maybe a combination of both, that is more nutritious, durable, and maybe higher yielding — to fit into a system in this part of the country.

Many of the grass varieties are coming out of New Zealand and Europe, and they haven't been tested here under grazing conditions. So far most of the research on how the grasses perform has come from New Zealand and Oregon, according to Fultz, but what researchers know about how different grass varieties perform here has been limited.

Schwartz and Fultz are pioneering this kind of research here in the Mid-Atlantic region.

"All the forage work and grass variety work has been under a haying system, where they cut them four times a year," said Fultz. "Nobody on the East Coast is doing this kind of research."

The project at the research farm began in 1997 with annual ryegrass and has now been expanded to include four replications of each of 38 perennial and 18 annual varieties. The research will focus on three main areas: grass species performance, animal performance under a

management-intensive grazing system, and the performance of the system as a whole, explained Schwartz.

To estimate the yields, paddocks are measured with a pasture gauge equipped with a small computer. The model the researchers are using is called an Alistair George Pasture Gauge. The tip of the instrument that touches the ground has a small metal probe that sends out an electrical signal that measures the density and height of that stand of grass. This information is then plugged into an equation that calculates the available dry matter per acre of the stand. Gauges are available that range from very sophisticated computerized versions to lower cost manual systems, said Fultz.

Animals from the Central Maryland Research and Education Center in Clarksville, Md., are trailered in for grazing trials to monitor their growth and performance. Although dairy heifers are used, both agents say they work with a variety of livestock producers who are grazing their animals and can benefit from the research.

The bred Holstein heifers come in at an average weight of 1,112 pounds. They are monitored for weight and body condition score.

There is a five-acre piece to be mechanically harvested and a five-acre piece to be grazed. The perimeter fence used is a Natural Resource and Conservation Service-designed, 5-strand, high-tensile wire system. The grazed acres are divided into 5 one-acre paddocks and then further cross-fenced with one strand of polywire into half-acre paddocks to get better grass utilization. Stocking rates are 20 animals per half-acre per day.

The mechanical harvest of the forage is done in such a way that it mimics ideal grazing conditions. Each variety is harvested individually when it reaches a height of 6-8 inches and mowed to a 2-inch stubble height.

A well-attended pasture walk



Stanley Fultz, dairy agent in Frederick County, Maryland, talks with some producers about the field day at the Western Maryland Research Farm. Photo by Karen Butler



Some of the grass plots at the research farm.

conducted at the research farm last fall gave farmers the opportunity to see firsthand how the research is structured. No data will be released for several years because the researchers want to look at what the grasses will do from year to year,

under a variety of conditions, in an effort to benefit the producers.

In the meantime, producers can keep up to date on the project through pasture walks conducted by the extension service, and also through a fact sheet to be published.

## Feeding Cattle Hay

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trampled. However, excessive pasture destruction and muddy conditions in the feeding area could occur. If choosing one area, feeding on concrete or large gravel provides a solid foundation. Geotextile fabric and Flue Gas Desulfurization (FGD) coal-burning byproduct are new low-cost alternatives for creating solid hay-feeding areas, Boyles said.

"Which feeding system is best varies with the operation," he said. "But if large amounts of hay are being wasted, some sort of controlling access might have to be considered."

For more information about hay

feeding systems and wastage, interested people can contact their county office of Ohio State University Extension or Boyles directly at (614) 292-7669. Extension publications on the topic that could be helpful include Fact Sheet AEX-304-97: Using Geotextile Fabric in Livestock Operations and the section on hay feeding in Bulletin 872: Maximizing Fall and Winter Grazing of Beef Cows and Stocker Cattle. These publications are available on the Ohio State University College of Food, Agricultural, and Environmental Sciences' website (<http://ohioline.ag.ohio-state.edu>).

## Using MUN To Monitor Dairy Nutrition

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Well-managed pastures are high in total and rumen degradable protein. Total protein is often above 20 percent and sometimes over 30 percent in the spring and fall. Rumen degradable protein can be greater than 75 percent of the total protein.

Excess dietary protein that is not utilized efficiently in the rumen must be converted to urea for excretion.

This process requires energy and diverts energy from the production of milk. The nitrogen excreted in the urine becomes a concern from the environmental standpoint. In addition, excess or poorly utilized dietary protein is not good for rumen health and may decrease reproductive performance.

Most dairy producers feed supplemental grains with pasture; the rumen fermentable carbohydrate in the grain

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Stanley Fultz, far left, and Don Schwartz, standing next to him, conducted a field day this fall at the Western Maryland Research and Education Center in Keedysville, Md., to share the progress of their research with producers.