

HOOF BEATS

“Helping to Support Grass-Based Agriculture for all Grazing Species”

Brought to you by:
The Garden State Grazing Coalition &
Grazing Lands Conservation Initiative

NRCS
54 Old Hwy 22, Ste 201
Clinton, NJ 08809



Pasture Fertility Basics

The following is an excerpt from “Pasture Pointers”, Summer 2000

Soil Testing

Just as it is important to apply fertilizers to your lawn, it is very important to properly fertilize pastures. Phosphorous, potassium and pH levels can vary greatly. The only way to accurately determine the soil nutrient needs of your pasture is to conduct a soil test. Soil test kits and directions on collecting soil samples for analysis are available at your local Extension office. The analysis report will document soil pH and fertility levels, and will provide lime and fertilizer recommendations.

Fertilizer Ratios

Fertilizer ratios indicate the percent of nitrogen, phosphorous, and potassium, by weight, in a particular fertilizer. Ratios are always given as the percent *nitrogen (N)*, *phosphorous (P)*, and *potassium (K)*. For example, a 10-10-20 fertilizer contains 10% nitrogen, 10% phosphorous, and 20% potassium. This means that 100 pounds of this fertilizer will actually contain 10 pounds of nitrogen (10% of 100 pounds), 10 pounds of phosphorous (10% of 100 pounds), and 20 pounds of potassium (20% of 100 pounds). Fertilizer is commonly available in the following ratios: 10-20-20, 15-15-15, 10-10-10, 5-10-5, 5-10-10, 10-20-10, 10-20-20, 20-10-10, and 46-0-0.

Pasture Nutrients - What is N, P, K?

Nitrogen (N) is critical for the maximum growth of cool season grasses in pastures. An adequate supply of nitrogen is associated with vigorous vegetative growth and a plant's dark green color. Reduced plant growth and a pale green or yellow color characterize nitrogen deficiency. Grass pastures that are being heavily grazed require approximately 150 pounds of nitrogen per year. The nitrogen should be split into three applications of 50 pounds each. Nitrogen should be applied in spring and fall. An additional summer application of nitrogen is warranted if summer rain continues to promote the growth of pasture grasses. Adequate *phosphorous (P)* insures greater crop quality, greater stem strength, increased root growth, and earlier crop maturity. *Potassium (K)* deficiency is characterized by reduced plant growth, poor stalk strength, reduced disease resistance, and reduced winter hardiness.

To Contact the Garden State Grazing Coalition:

www.nj.nrcs.usda.gov/programs/glci

Farm Philosophy

1. Take care of the grass and/or land and it will take care of you.
2. Cows work for us. We don't work for them.
3. Always breed and develop cattle that fit your own environment. Never try to change the environment to fit the cattle you want or have.
4. Always try to make all impacts positive.
5. Eliminate as many moving parts and tires as possible.
6. Always deal in a win-win situation, on all business ventures.
7. It's better to do nothing for nothing than something for nothing.
8. When diversifying, be sure that the parts complement each other.
9. Always keep the deadwood trimmed!
10. Be proactive in your community.
11. Be holistically minded, sustainably driven, and profit-oriented.
12. Last but no least, enjoy what you're doing.

As our mailing list grows by leaps and bounds, we are trying to eliminate all duplicates and mistakes. Please notify us if we have a mistake in your address, or if your operation is receiving multiple newsletters and mailings.

Also we would be happy to add a friend to our mailing list. If you have an addition, please contact us.

And finally, if you wish to be taken off our mailing list, please contact us.

For any of the above call Jill at 908-735-0737 x108, or e-mail at jill.koehler@nj.usda.gov.



USDA-NRCS
54 Old Highway 22
Suite 201
Clinton, NJ 08809

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD). To file a complaint of discrimination write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-750-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

HOOF BEATS is made possible by:

The Garden State Grazing Coalition
&
NRCS

To contribute to HOOF BEATS please contact Jill Koehler at **908-735-0737 x3**.

Edited by Jill Koehler
USDA-NRCS
State Grazing Land Specialist

Garden State Grazing Coalition

Our Mission

The New Jersey Garden State Grazing Coalition strengthens existing land stewardship partnerships and provides educational opportunities for producers, coalition members, and interested community members.

Cowboy Logic

Life is like a roll of toilet paper, the closer you get to the end, the faster it goes.

Grazing

Hot Topic in West Virginia

By Jill Koehler, NJ-NRCS Grazing Lands Specialist

As I sit in a room with 'renegade farmers' as well as the ag-business supporters, and lobbyists, I wish all of NJ graziers could be here to feel the energy and share in the passion of promoting grass-based agriculture through the Northeast.

My week began with what I predicted as a dry, business meeting, called the Northeast Pasture Research and Extension Consortium. But I was hugely mistaken. The name was right, but the content was anything but dry! The conversation was dynamic, the atmosphere was invigorating and the attendees were from all branches of agriculture. At last year's meeting in Binghamton, NY, this group identified 6 priority items. They are as follows...

- Determine the management strategies and costs of transition or conversion from row crops to productive and sustainable grazing lands and soils.
- Quantify the economics of whole-farm systems including the effects of breed selection, livestock diversification, and grazing management on animal and pasture health and well-being.
- Evaluate new forage species and improved varieties under grazing management and different climatic and soil conditions with emphasis on extending the grazing season.
- Determine the environmental impacts and profitability of alternative supplemental feeding strategies.
- Evaluate the production and management aspects of pasture-based animal products for their human health benefits.
- Evaluate the use of organic food residues as supplemental feeds in organic pasture-based animal systems.

Our goal this year was to decide the action steps needed to be taken to make the goals a reality.

During my drive to Morgantown, WV, I rehearsed in my mind what NJ will have to offer to the meetings and what I would like to bring back. I think NJ's grazing is coming to life! Our acres left for agricultural production are running low, demand for a quality product is running high, leaving many traditional family farms curious as to what their future will bring. I wanted to bring back options to NJ farmers; options as to how we can conquer the masses, and make our agricultural products stand out better than the rest, options as to how to make a good living on less land and still make a profit and retain a good quality of life, options on how to educate the consumers of the importance and benefits of supporting the local farmer purchasing the locally grown products.

Many ag-professionals are seeing another round of adoption (of grass-based ag), especially in dairy producers. Proof that now is the time that grazing will be moving forward. We should recognize the opportunities and jump on them.

The common concern of all involved is that we can lose the battle with one swipe of the 'political pen'. The political power lies with the conventional/confinement ag industries. Discussions focused on selling the benefits of grazing to policy makers, promoting the environmental benefits as well as economic benefits.

A private-sector representative voiced his concerns, "we need to get what we can, but work with what we have. We each have a voice and we need to let it be heard"

As I head back north to New Jersey, my motivation runs high and my outlook on agriculture's viability in NJ is brightened. The web of support for grazing operations is there, we just need to spread the word of their existence. My wish is for another representative of the Garden State Grazing Coalition to attend in 2006 to share in the motivation and excitement of grazing.

Consortium Mission is "to link livestock graziers & federal, state, land-grant university, & private research & extension groups into partnerships that will identify, develop, coordinate, & promote pasture research & extension leading to economically, socially, & environmentally sound & sustainable grazing-based livestock production systems for the Northeastern U.S."

Precision Pays

Matt Sanderson, Research Agronomist; Al Rotz, Agricultural Engineer
USDA-ARS, University Park, PA

Measuring and allocating pasture accurately isn't necessarily easy, but it might add more to your bottom line than you would guess. Our research shows that a dairy producer can save up to \$48 per cow or \$80 per acre each year by more accurately measuring and budgeting pasture forage.

If pasture yield is overestimated, paddocks tend to be sized too small. That leaves more forage that can be harvested as silage or hay, but cows run short of pasture before they're moved to the next paddock, causing them either to need more feed in the barn or to produce less milk. If pasture yield is underestimated, paddocks are oversized. This leads to wasted forage and less for silage or hay. Either way, your profit is reduced.

Computer Model

We used a computer-simulated model to evaluate the cost of inaccurate budgeting. By intentionally overestimating or underestimating available forage when sizing paddocks in several grazing scenarios, we were able to compare the results against those we could achieve with perfect estimation.

In one scenario, we looked at a farm where grass pasture was grazed or fed as bale silage along with supplemental grain. Underestimating or overestimating the amount of pasture forage available by 10% caused an annual loss of \$6 per cow. With a 20% error, losses jumped to \$20 per cow.

In a scenario where pasture supplemented with alfalfa and corn silage, inaccurate pasture measurement affected the amount of forage added to rations. Underestimating pasture forage by 20% resulted in \$48 per cow less profit. Annual profit was about \$20 per cow less when we overestimated pasture forage by 20% in formulating the ration, or when we underestimated pasture yield by 10%.

Annual Costs

If we assume it takes about one hour per day to measure forage yield and make allocation decisions before and after moving a 100-cow herd, the annual labor cost (at \$8 per hour for a 175-day grazing season) is \$1,400 or \$14 per cow. For the situations we evaluated, a 10% error causes less economic loss than that, and even with the best measuring techniques, an error of less than 10% is difficult to attain. However, as the error level increases, the loss in profit becomes increasingly greater than the cost of regularly monitoring pasture yields.

Worth the Trouble

Although an hour a day may seem like a big chunk of time to spend measuring and allocating pasture forage, that time can be well spent because feed is a dairy or cattle producer's biggest expense. Regular measuring also keeps you tuned to fluctuations in pasture condition and potential problems you may need to address. This too, can help increase return.

This article appeared in the Fall 2004 issue of The Forage Leader, a publication of the American Forage and Grassland Council.

Measuring Tools

Tools for measuring pasture yield include pasture rulers, plate meters, and electronic gauges. With a pasture ruler, you simply measure canopy height and assume forage yield is directly related to it. Rulers are cheap, but generally not very accurate. Plate meters improve accuracy by accounting for both the height and density of the stand. They range in price from \$200 to \$400. Electronic gauges are more expensive, ranging in price from \$400 to \$1,300, but not necessarily more accurate. Dew, rain, and other factors can cause them to be erratic. Research has shown that plate meters are generally more accurate.

Regardless of which tool you use, it must be calibrated properly and locally. Calibrations supplied with plate meters and gauges are frequently developed with pasture species in other parts of the world. Research shows that these tools require frequent and site-specific calibration.

Once calibrated, the tool must be used correctly and consistently. Using a walking stick motion with a plate meter, for example, will generate errors. It's also important to collect enough readings to represent the entire paddock or pasture. Typically, 30 to 50 readings should be taken in a paddock of 1 to 2 acres, and more in larger pastures.