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## MOUNTAINS-TO-BAY GRAZING ALLIANCE

*Working with farmers to implement and improve grazing management and reduce feed costs*

July 2019



### Tips to Improve Stocker Performance on Your Pasture

by Matt Booher and John Benner, Augusta County Virginia Extension

**Fenceline weaning.** Although it's not a new concept, fenceline weaning is a practice that is not utilized by enough livestock producers. Fenceline weaning is a weaning management practice where calves are removed from their dams and separated into two different adjoining pastures where the calves are allowed to see, hear, and smell their dams.

It is important that the calves be given access to good quality grass pasture during this fenceline weaning period to maximize gains. Fencing between the pastures, preferably electric fence, should be substantial enough to keep the cows and calves separated and prevent nursing. The fenceline weaning period should last seven to ten days. After three days, the fenceline weaned calves usually reduce their vocalization and fence walking and start to concentrate on grazing.

When compared to abruptly weaned calves that are moved away from their dams, fenceline weaned calves suffer less stress, continue to gain during the weaning period, and are ready to "go to grass" after the ten-day fenceline weaning process.

Studies conducted at the University of California-Davis and the University of Idaho

showed that calves that were fenceline-weaned were 20 to 25 pounds heavier after ten weeks post-weaning when compared to calves that were abruptly weaned and moved away from their dams.

Fenceline-weaning is less stressful on the calves, the livestock producer and less of a noise nuisance to the neighbors.

**Develop a good animal health program.**

Keeping calves healthy is a big part of maximizing weight gain. It takes only one dead calf to really cut into your profits.

To reduce risk of losses be sure to provide calves with vaccinations against clostridial diseases and respiratory disease complex prior to or no later than weaning. Older calves should be properly boosted according to drug label directions. Fly-control, deworming, and implants all contribute to increasing daily gains.

**Optimize individual animal performance.**

You may have read a lot recently from grazing gurus about maximizing animal gains per acre as a way to higher profitability. This is done by selecting a stocking rate that maximizes gain for the herd while lowering individual

animal performance.

The problem with this approach tends to be that the costs incurred when running stockers is usually on a per head basis, which means that higher gains per individual animal mean more to your bottom line.

How can you optimize individual animal performance in a way that is economical? The first step is keep your stocking rate fairly low to enable higher animal selectivity and intake within the pasture. Animals that can select their diet and choose the higher quality forages and plant parts will have a higher level of nutrition.

In general, pastures in the western part of Virginia will support about one stocker per acre and maximize the gain per head. Stocking at this rate may reasonably give you an individual animal gain of 1.75 pounds per day on pastures that are not high in toxic fescue.

**Enhance water availability.** Water is often a limiting factor in animal performance on pasture. Livestock typically will not graze

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well beyond about 1,000 feet from the water source (a square field ten acres in size would be roughly 1,000 feet from a corner to the center of the field). This can cause overgrazing of pasture closest to water, reducing pasture productivity.

Conversely, pasture farther from water sees little grazing and soon becomes rank and mature. Both cases reduce calf performance by either limiting the amount of forage available to graze, or by lowering the nutritional quality of the pasture.

Many producers have added additional water sources by using temporary black polyethylene pipe run on top of the ground. Polypipe is typically inexpensive (\$0.40-\$0.50/foot depending on diameter) and need not be buried when only used seasonally.

It is often run on top of the ground underneath a fence line or buried to a shallow depth to keep livestock from messing with it.

Be sure to consider the distance and required flow rate when selecting the diameter of your pipe.

Also, be sure to supply the volume of water and recharge rate required for the size of your herd.

Check into full-flow valves, which are a big improvement over the cheap, restricted-flow float valves available at most farm supply stores.

When selecting a water trough, consider that the capacity of the trough can serve as a buffer in situations where water recharge may be slow. For 650-pound stocker cattle in the heat of summer, water consumption will likely approach 13 gallons per head per day. Consumption can vary from 2.5 to 6.5 gallons per visit to the water source depending on the number of visits and distance they are traveling.

**Keep an eye on post-grazing residual.** Post-grazing residual refers to the plant stubble that is left in the pasture after livestock have been rotated out of the field. Some of you are likely thinking, “sure”, that is important for proper pasture regrowth, but what the heck does it have to do with animal performance?”

About two-thirds of animal performance



depends on how much an animal can eat in a day. In the case of stockers, research has shown that when forage availability in the pasture drops below about 1,200 pounds per acre, bite size and intake will drop to levels that limit animal performance.

What does 1,200 pounds per acre of forage look like? It ends up being pasture that is about five inches tall.

The take-home message here is that we not only have to ensure adequate forage for stockers going into a field, we also have to ensure that we remove them from the pasture before they graze below an average of five inches.

This is a major shift from how we typically manage grazing for cows. You may consider rotating as frequently as every three to five days to ensure livestock are getting the intake to support the gains you are after.

There are many inexpensive electric fencing options available these days to help with a more intensive grazing rotation.

**Try to keep pastures vegetative.** A few years ago, we conducted forage quality sampling that followed ten pasture fields in the Shenandoah Valley throughout the entire growing season.

Like many pastures in our area, these fields had relatively few legumes and were dominated by fescue.

In our study, we hit a period from late-May to mid-August where the energy content of pastures tested at a level that would support less than one pound per day of gain on a 600-pound steer.

Unfortunately, this kind of seasonal slump in grass quality is the rule in most of Virginia.

We also sampled an area of pasture during this period that had been managed separately to keep the grass in a vegetative state.

This leafier forage tested better, enough to support gains of one pound per day. While this observation was interesting, it was not a great revelation. Almost anyone can tell you clipped pastures lead to higher quality forage.

The problem is that it can be very difficult to keep pastures in a vegetative state, especially when grasses are rapidly maturing.

It's a good idea to concentrate grazing on a reduced number of acres during this period as a way to keep up with excess growth.

Although it is not a cure-all, higher densities of livestock are more likely to graze off reproductive stems when they are still relatively palatable—in turn, forcing grasses into vegetative regrowth.

Some producers are having success by restricting the grazing rotation in spring to about 75 percent of pasture acres while stockpiling the rest for grazing in late-summer.

Another option is to mow or bushhog pastures to keep plants vegetative. This only works if there is adequate rainfall for regrowth afterward, but this can be helped by mowing earlier in the year than is typically practiced.

Seedheads are usually elevated above

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ten inches sometime in mid-to late-May (depending on location), and their removal kills the reproductive stem and stimulates vegetative regrowth.

At an average cost of \$15 to \$20 per acre, mowing as a management tool would likely be worth the potential increase in gains in a stocker scenario.

The other benefit of keeping pastures vegetative is that you minimize the amount of dead and dying tissue that occurs as plants age and shade out lower portions of the plant. Removing older growth leaves more room for new, higher quality leaves that are much more effective at photosynthesizing.

**Improve legume content of pastures.** A 600-pound steer seeking to gain two pounds per day needs a diet of around 68 percent total digestible nutrients and 10 percent crude protein.

Increasing maturity and hot growing conditions of summer cause grasses to increase fiber content, limiting their forage quality.

Even when kept vegetative, pure grass pastures simply lack the quality and rate of passage through the animal that is required for good gains on growing calves.

Adding legumes is a cheap and effective way to improve the nutrient content of perennial pasture. The goal should be to increase legume content to somewhere around 25 to 50 percent on a dry matter basis—which will actually look like 75 percent of your pasture is comprised of legumes when you see it in the field. We don't know anyone in the real world who has the time to measure the dry matter legume content of their pastures.

So, what is the best way to actually measure and track legume content? Studies have shown that pastures with 15 to 20 percent cover—using a step point method of measurement—will consistently provide a 0.5 pound per day or more increase in average daily gain over straight grass pastures.

Step point measurement is a method for measuring pasture composition, where you simply take large steps across the pasture and note the forage species encountered under every other step; for example, what the very



tip of your right boot lands on every time it hits the ground.

Take a hundred measurements across the pasture, noting each time you land on a significant legume (sorry, a white Dutch clover plant the size of a quarter doesn't count). If you've taken a hundred measurements, the number of legumes you noted is your percentage of legume content.

What are the keys for adding legumes to pasture? For starters, legumes have primarily tap roots rather than having fibrous roots like grasses. This makes them less efficient at exploring soil area for phosphorus. They therefore require a higher level of soil phosphorus than grasses.

Maintaining pasture soils that test at least medium plus (85 pounds of phosphorus per acre) is critical to establishing legumes. If you are not where you need to be with soil phosphorus, plan on applying about 45 pounds per acre of fertilizer phosphorus to increase your soil phosphorus level by ten pounds per acre.

Legumes also require a pH of around six for clovers, and 6.5 to 7 for alfalfa. Unless you soil test pH issues on a frequent schedule, we recommend shooting to always maintain pH in the 6.5 to 7 range regardless of whether you are planting alfalfa or clover.

With the way most farmers approach soil testing and amending, liming soils only to 6 to 6.2 (as is commonly recommended for clover) leaves too much opportunity for pH to drop below legume-friendly levels for an extended period of time before they are addressed.

Understand that legume lifespan is limited. Most red clovers will live around two years, while most white clovers average three years. Alfalfa in a pasture setting typically lives around five years.

One of the greatest factors limiting longevity of legumes in Virginia is root diseases. Selecting improved varieties with greater disease tolerance can add an extra year or two to the life of legumes in pasture. Simply selecting a "named" variety rather than generic "white Dutch" clover or "medium red" clover will usually provide benefits, but using data from forage variety trials will allow you to explore actual plant persistence, yield, and tolerance to grazing.

Realizing that legumes have relatively short lifespans means that you should develop a plan for monitoring legume content and reseeding when that content drops too low.

While alfalfa needs to be drilled-in for successful establishment, red and white clover can be successfully broadcast into pasture in winter. Frost-seeding clover seed works very well if done in early or mid-winter.

Many farmers often wait too long to frost-seed, and miss out on the freezing and thawing action of the soils that helps "plant" the seed.

The greatest factor in successful frost-seeding is the amount of residue present when seed is broadcast. Pastures that have been grazed down until soil is visible are by far the best candidates for frost-seeding.

Competition from grass must be controlled if legumes are to establish and persist. This is especially important during the spring and summer of legume establishment.

Lastly, limit herbicide usage. While we're sympathetic to the argument that we can't let weeds get out of control, our primary focus needs to be on maintaining high-energy forages and not on killing weeds.

Producers should be very strategic about herbicide usage: spot spray when possible, select herbicides with low persistence when applicable, know weed life-cycles and spray when they are most susceptible.

We recommend that really nasty perennial

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weed problems be dealt with swiftly using the highly-effective herbicides of the pyridine family—get back to a clean slate and then move forward with better agronomic practices that limit weeds and promote legumes.

The bottom line is that herbicide usage should be viewed as a tool in pasture renovation, not as an annual ritual.

#### Consider feed supplementation.

Supplemental energy and protein to calves on pasture can help economically maintain gains during the summer months when forage growth and quality drop off.

Selecting a fiber-based energy source such as corn gluten pellets, distillers grains, or other byproduct helps prevent the suppression of fiber digestion often seen with starch-based sources. Many byproduct feeds provide

supplemental protein as well, although protein is usually not as limiting as energy.

If labor is an issue, consider that a number of recent studies across the country have shown that feeding every other day can be just as effective as feeding daily.

**Take advantage of ionophores.** Ionophores (e.g. Rumensin, Bovatec) can be cost-effective tools for managing growing cattle on pasture. They work by shifting the microbial population of the rumen to enable cattle to pull more energy from forages.

Results include improved feed efficiency and weight gain. They have also been shown to hasten puberty in heifers. Most products are marketed in a supplement, mineral mix, or molasses block. Ionophores are not medically important for humans and so have not been impacted by the recent Veterinary Feed Directive. However, they are not approved under some natural marketing programs.

## New Website is a Resource for Graziers!

As part of a recent grant from the National Fish and Wildlife Foundation to the Chesapeake Bay Foundation (CBF), we just launched the Mountains-to-Bay (M2B) Grazing Alliance web page at [www.m2balliance.org](http://www.m2balliance.org) and have created a logo for the partnership.

The grant is intended to strengthen and expand the M2B Grazing Alliance, and enhance outreach and educational opportunities, with the goal of getting more producers to adopt rotational grazing into their farming systems.

The web page provides background on the M2B Alliance, including the membership and structure of the recently formed M2B Grazing Alliance Steering Committee. It is intended to serve as a clearinghouse of information including a list of partner organizations with links to their web pages, back issues of this newsletter, a list of upcoming events, articles of interest, funding opportunities, links to webinars and podcasts, etc.

Please check it out and if you have any suggestions or content to add, please email Beth McGee at [bmcgee@cbf.org](mailto:bmcgee@cbf.org).

## Recruiting for Interviews

Future Harvest CASA is seeking Virginia-based graziers for participation in individual, one hour long interviews.

These interviews are part of a NFWF-funded project and will focus on production and marketing practices and challenges in the region.

The information gathered in these interviews will help us create educational programming for producers.

Email [caroline@futureharvestcasa.org](mailto:caroline@futureharvestcasa.org) for more information.

# Mountains-to-Bay Grazing Alliance



# Graze 300 Virginia

by Carl Stafford

Graze 300 VA, a Virginia Cooperative Extension educational program, first used as the title of a grazing program held at the Rapidan Firehall, March 2005. Early March was chosen to show producers, most of whom were still feeding hay, another way to winter cattle. Besides the indoor program talking about grass and cattle, fencing and fertilizer, producers were taken to a nearby farm run by a profit-driven guy who figured out how to graze his cattle beyond the end of the growing season.

Today we find some 30 Virginia Extension Agents using this program as part of their effort with producers, helping them realize the potential economic benefit found from a longer grazing season.

The longest grazing season in our case studies (year-round), shows a profit, but not nearly as high as a grazing season of 300 days—about 50 percent more profitable by comparison. In Virginia, a number of large herd examples support this finding as does work by Dr Greg Halich in Kentucky.

You would think year-round would be best, but the stocking rate is so low the numbers never add up when compared to 300 days,

which supports a larger herd. And, as these animals are profitable and there are more of them, the total net return is higher when hay is fed for about 60 days.

Hay is the largest cost of any grazing operation; economists say 50 to 75 percent of total cost and the first place to start to improve profitability. During times of high prices, it matters little what you do and these days are behind us, so it's a good time to tighten up if you seek more profit from your grazing livestock. Feeding less hay is supported by stocking rates of multiple acres per cow and calf pair, and by timely rainfall, adequate soil fertility and a willing manager. In Virginia, three acres per pair will support grass accumulation; your region could be different.

With this kind of stocking rate, grass accumulates during the growing season and if it rains in time in early fall, grass will stockpile even more for the winter grazing days needed to get past January.

New Zealanders speak of a feed wedge, an inventory carried not in the barn but on pasture. Allowing the grass to get ahead of you is one way to put it, but instead of a

negative, it turns out to be positive when seeking more days of winter grazing.

Some worry this feed will not keep or will weather too much to be of sufficient nutritional value. Some grasses do not stockpile well, so graze these first. Fescue, a favorite of winter graziers in the United States fescue belt, has a shelf life compared to other grasses and supports winter grazing. In early winter it will make a dry cow fat and in late winter, she will maintain on it. Often, stockpile is the best feed on the farm, even when compared to most hay.

A short summary of Graze 300 would be to stock your pastures so that grass can accumulate, to have fencing that puts you in control of grazing intervals, to have water access in support of your management, and to plan on about 60 days of hay feeding. These things will allow you to carry more animals and accumulate more total net return from your grazing herd.

For more information visit <https://ext.vt.edu/agriculture/graze-300.html> to see our videos, to read more about the agents involved, and to see if this profit-focused approach to producing livestock is for your operation.

## Penn State University's Ag Progress Days Coming Soon!

Please join us for all things grazing this year at Penn State University's Ag Progress Days in Rock Springs, August 13-15, 2019.

See three Natural Resources Conservation Service (NRCS) demonstrations, focused on working farms, located in the Conservation Exhibit Area beside the J. D. Harrington Building. These demos will feature an active livestock watering system with ram and solar-powered pumps for grazing operations, a scaled manure storage and concrete loafing area to address animal concentration areas on your farm, and an open soil pit exhibit to show how soil health and its beneficial properties can impact your operation. All demos will be supported by NRCS technical staff to explain how these systems work and other ways to address your natural resource issues and questions.

[Live Pasture Management Demonstrations and Tours](#): This year, these demos will



feature Angus beef cattle and horses, and are sponsored by: Pennsylvania Grazing Lands Coalition, Penn State Extension, Ag Progress Days, and NRCS.

[Managing Equine Pastures and Drylots](#): This tour features a demonstration using horses with hands-on activities in equine pastures. Producers will leave with an understanding of pasture management for horses, do's and don'ts of sacrifice areas, and the tools needed to help improve equine operations. We'll walk the fields and talk about grass and weed identification, innovative pasture methods, and dry lot design for horses on limited acreage.

[Managing Livestock Pastures with Alternative Forages](#): This tour features hands-on activities with cattle on pastures. Producers will leave with an understanding of paddock fencing/watering system components, with in-depth discussion about field practices and evaluation of cover crop mixes by looking at root structure and soil health indicators. High stock density grazing will be demonstrated with a small herd of black angus cattle, and we'll talk about the use of alternative forages and diverse cover crops to transform mediocre fields into highly productive ones. We'll also talk about soil health principles for both cropping and livestock operations using a Rainfall Simulator demonstration.

\*Tour times: Tuesday, 12:30 and 2:30; Wednesday, 10:30, 12:30, and 2:30; Thursday, 10:30 and 12:30. If you miss the bus, feel free to walk up and join us! For more information on Ag Progress Days: <https://agsci.psu.edu/apd/about>.

## PENNSYLVANIA EVENTS

### Perry County Grazing Field Day

Friday, August 2  
Loysville, PA

The focus topic of this field day is managing grass to move toward increasing soil health. Contact Lauren Barlow at the Perry County Conservation District for more information: 717-594-3003.

### Northwest Project Grass Field Day

Friday, August 16  
Venango County, PA

The focus topics of this field day are stocking density, soil health, and grazing and nutrient management. For more information, visit [www.pennsoil.org](http://www.pennsoil.org).

### Southwest Project Grass Field Day

Thursday, September 19  
Washington County, PA

The focus topics of this field day are

pasture health and condition scoring, and fencing. For more information, visit [www.swprojectgrass.com](http://www.swprojectgrass.com).

### Pennsylvania Grazing Lands Coalition Meeting

Wednesday, October 9  
Mountain View Country Club  
100 Elks Club Road, Boalsburg, PA  
Contact Susan Parry at [susan.parry@usda.gov](mailto:susan.parry@usda.gov) for more information.

### Pennsylvania Grassland Evaluation Contest

Thursday, October 10  
Penn State University Ag Progress facilities  
Rock Springs, PA

The contest is an educational opportunity for Pennsylvania high school students enrolled in FFA and 4-H programs, or members of a high school-affiliated club. The contest is aimed at educating youth about the value and benefits of grazing and other conservation practices. For more information, visit [www.swprojectgrass.com](http://www.swprojectgrass.com).

## VIRGINIA EVENTS

### Summer Pasture Walk Wednesday, August 28

5:00 p.m.–8:30 p.m.

Dragonfly Farms  
3230 Ellisville Drive, Louisa, VA  
Attendees will learn how Dragonfly Farms has developed a forage-based beef production system to build an Angus cross cow-calf herd and provide grassfed and finished locally-produced beef to their clients in the region. Registration cost \$10. Visit [www.vaforages.org](http://www.vaforages.org) to sign-up.

### Kentland Farm Beef and Forage Day

Tuesday, September 17  
8:00 a.m.–5:00 p.m.

Virginia Tech's Kentland Farm  
5250 Whitethorne Road  
Blacksburg, VA  
This event will highlight current research projects at Kentland Farm as well as focus on grazing practices and pasture management. Speakers from Virginia Cooperative Extension, Virginia Tech, and industry will deliver workshops and demonstrations. Visit [www.vaforages.org](http://www.vaforages.org) for more information.

## MARYLAND EVENTS

### Growing our Future Harvest Conference

Thursday, January 16 through  
Saturday, January 18, 2020  
College Park Marriott  
3501 University Boulevard East  
Hyattsville, MD

Save the dates now for an extra special three days of deep-dive workshops, farm fresh meals, inspiring speakers, and farmer and foodpreneur learning and networking. Featuring farming luminaries and a full day of how-to farming and food intensives, and two conference days for advanced and beginning farmers, foodpreneurs, and educators. This once-a-year networking opportunity offers farmer-to-farmer chats; seed, book, and small tool swaps; a tradeshow; the Foodshed Photo Contest; and the Farmer and Foodshed Awards.

If you are interested in sponsoring the conference or becoming an exhibitor,

please send an email to [gail@futureharvestcasa.org](mailto:gail@futureharvestcasa.org).

Future Harvest CASA is seeking dynamic and innovative proposals for the conference! This annual gathering of our region's sustainable agriculture community showcases the ingenuity and passion of Chesapeake farmers and the collective efforts of food system educators, advocates, and community members working to build a sustainable future harvest.

Each winter, the conference brings together 600+ farmers, food businesses, and food system professionals. At the heart of the program are over 40 workshops.

Please complete the form by clicking here and Future Harvest CASA staff will contact you for more details.

Note: if you have multiple session proposals, please fill out a separate form for each idea. Submissions are due July 15.

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