

MOUNTAINS-TO-BAY GRAZING ALLIANCE



News & Notes from the Mountains-to-Bay Grazing Alliance

July 2017

The Summer Annual Manual

by Genevieve Slocum and Tracy Neff, King's AgriSeeds Inc.

Summer annuals have unique benefits, like filling a small space in the rotation with multiple cuttings of big yields. They also bring some unique challenges and considerations. Here's what you need to know.

Step 1 is waiting for warm soils.

These crops are adapted to hot climates and won't germinate consistently until soil is at least 65 degrees F. For most of the Northeast, this is late May at the very earliest, though there can be great variation across years. Watch out for a false warm-up in May—seeds that are in the ground and tricked into germinating early can die off in the seedling stage.

Harvest summer annuals to optimize not only quality and yield, but also manageability.

Many of the most productive summer annuals are grasses—millets, sorghums, sorghum-sudans, sudangrasses, and teff. These grasses are staples in wet hay and grazing scenarios and play a starring role in most summer forage mixes, providing highly digestible fiber. However, remember that they

are stars in yield because they grow several inches a day during the peak of summer. You should start harvesting most of these varieties between waist and chest height, or the growth may get ahead of you and become difficult to mow and dry. Grazing can usually start at knee height. If you start the grazing or cutting rotation soon enough, it won't be too tall by the time you reach the end.

Dry hay is possible but the options are limited. Teff is the best choice to dry for hay, but with good management, millet and sudangrass can work too, since they have the next thinnest stems. The more stemmy they become, the harder to dry, so cut millets and sudangrasses by waist height for dry hay. Millet is a little easier to dry than sudangrass, and dwarfs are easier still because they have a greater leaf-to-stem ratio. Sorghum-sudans have thicker stalks and hold moisture in their stalks, so they will typically not dry fast enough to make dry hay.

Conditioning and tedding several

times will be necessary to make dry hay out of these products. Wide-swathing (at least 80 percent of cutter bar width) is also highly recommended for rapid drying. Optimized rapid drying, especially in sunny weather, keeps sugars high in the plant, because the more it has time for respiration after cutting, the greater its loss of sugars and dry matter.

Dwarf varieties have many unexpected advantages. Brachytic dwarf varieties may look smaller, but they compensate with leafiness—the most digestible part of the plant and also the easiest to dry. Dwarf millets and sudangrasses are especially great for grazing because they can be grazed down a little shorter while still maintaining the excellent regrowth that is characteristic of these crops. Dwarfs also have reduced risk of lodging.

Take advantage of the great strides that have been made in digestibility. BMR, or brown midrib, is a non-GMO

(story continues on next page)

trait in sorghums and millets that started as a gene mutation and was incorporated and improved through generations of natural plant breeding. BMR millets have become especially popular in recent years, and even teff, which has not been developed as a BMR, is very high in fiber digestibility (about 8-10 points higher in TTNDFD, translating into 3 pounds of milk) and averages about 16 percent protein.

Decide if multicut is right for you.

Multicut or multigraze products include millets, sudangrass, sorghum-sudan, and teff. Whether you want to get all your tonnage at once or spread out the harvest over 2-3 cuttings over the course of the summer depends on your forage needs and equipment availability.

There are some excellent single cut forage sorghum products out there, especially long season dwarfs. Earlier non-dwarf sorghums tend to have more issues with standability. Often, these products are used at a higher seeding rate for a boot stage cut and wilt harvest instead of direct cut soft-dough stage harvest. Expect forage sorghum direct cut at soft dough to have about 10-12 percent protein—higher than corn silage, but lower than sorghum-sudan. Forage sorghum planted for intended boot stage harvest is advantageous because this is the point in the plant's growth that whole plant sugars are highest. After this point, the plant begins to send its resources into grain head production.

Understand what makes sorghum unique. Unlike corn, sorghums have adapted to extremely hot and dry climates. They have the ability to shut down their growth when conditions get too dry or too cool (they grow best at 70 degrees F to 90 degrees F). This can throw off your harvest planning, since these delays can cause it to shift its typical maturity dates.

Spoon-feed fertility. Give it about 1 pound of N/A/day, at planting and after every cutting. The goal is to avoid putting down too much at once.

They are luxury N consumers. Use caution during a rain following a



drought period. Along with the extra moisture, the plants will pull up extra N, and can't convert all this excess to protein right away, leaving you at risk of high nitrate content. Nitrates do not dissipate during ensiling if you cut too soon after this drought-ending rain, so wait at least a week.

Knowing seed size, planting depth, and timing is critical. This is important to seed germination and emergence. A small seed planted too deep is at risk of not emerging. Small seeds are frailer in terms of ability to absorb and retain moisture as well as in energy reserves to spring up out of the soil once they have germinated. With seeds the size of grains of table salt, teff is the smallest seeded summer annual and is very susceptible to being planted too deep (this is its Achilles heel and the major reason for teff complaints). It needs to be seeded just at surface level on very well packed soil—either with a Brillion seeder or broadcast and cultipacked into well-prepped soil. Sorghums and millets also need to be planted according to seed size and timed to get the seed into moisture at the depth it needs to be planted. Sorghum-sudans have an advantage here because they have larger seeds and can be planted 0.75 up to 1.5 inches deep. More caution is needed with the smaller seeded sudangrass, which can go in at 0.5 to 0.75 inches. Millet is the smallest of these, and should be planted 0.25 to 0.5 inches deep. Because of its shallow depth requirement, millet is among the riskiest for late planting—as the summer progresses, the soil dries out from the surface down.

Most summer annuals prefer well drained soils, but if your soils are a little on the wetter side, millet or teff can handle these conditions the best.

For mechanical harvest, these products need to be crimped for better drying. The stalks are thicker than traditional grasses and need to be crushed to aid in the drying process.

Higher stubble means faster regrowth. Non-dwarf products have their growth point higher than most cool season grasses, so leave at least a 6-8 inch residual. This will ensure that plants regrow from the stalk as opposed to solely from tillers. Dwarfs can be taken down to about 4 inches.

Watch out for prussic acid. As long as there is green tissue, sorghums, sorghum-sudans, and sudangrasses can accumulate prussic acid, or cyanide, with a killing frost. This is toxic to livestock and you should wait at least two weeks before grazing. If you're mechanically harvesting it, two-three weeks before feeding should be enough time for it to dissipate during fermentation. Millet has no prussic acid danger.

Roundup Ready varieties might be a handy idea for the farmer, but they don't exist here. Sorghums would cross-pollinate with their wild relative, johnsongrass, spreading herbicide resistance to a weed—not good.

Start small on products you have not grown before, and understand that mastering summer annual management is a learning curve.

Considerations for Managing Cool-season Pastures in Summer

by Alston Horn, Chesapeake Bay Foundation, and Matt Booher, Virginia Cooperative Extension.

What is the most important component in managing livestock on pasture? The forage! Obviously, without adequate forage productivity here and now there's nothing for livestock to graze. With the heat of summer upon us, however, our management needs to shift to a long-term focus on plant health. Here are seven tips to help your cool-season pastures withstand the stresses of summer and stay healthy and productive for a long time.

1) The main goal in managing grazing is to leave adequate residual (i.e. leaf area). This will encourage fast recovery and regrowth, maintain plant energy stores, and retain a healthy root system.

Let's say you've just rotated cattle off a pasture. Did you leave a proper amount of post-grazing residual? If the average height of the pasture when animals are removed is four inches or more, the answer is probably "yes."

Remember we are talking about an average; some plants may have been grazed to two inches and some to six inches. In a good rotational grazing system, the unfortunate plants that were hit a little harder will recover quickly with some rest. In a system where livestock remain in the same field for over a week, those plants that were grazed hardest will get grazed again and again.

2) In most pastures, clover usually gets hit hard, while the grass seems almost untouched. In this case, we would use common sense on when to move animals.

Since white clover and bluegrass store their carbohydrates and buds close to the soil surface, they are protected and can take a little closer grazing. Unless you are starting to get regrowth with animals returning to those patches of clover and bluegrass, we would



probably key more off the other grasses in this scenario. Leave livestock in a little longer until they hit some of those grasses, but not long enough to start grazing regrowth.

3) Keep in mind however, that more time on a field is generally not the solution to getting better grazing uniformity. The way to get uniform grazing is by increasing stock density. Graze with the largest group of livestock possible. That doesn't mean go get more animals; it means combine multiple groups into a single herd whenever possible. Stock density can also be increased by subdividing pastures with temporary grazing equipment like polywire.

4) Managing cool season pastures in more southerly regions like Virginia can be difficult. Unlike areas farther north, where there are extended ideal conditions for vegetative growth, our grasses can go from short and leafy to tall and stemmy in just a couple weeks during May and June. That makes them hard to keep up with and causes forage quality to tank fast.

This is when you need to identify those pastures to remove from the rotation and allow them to stockpile for hay or summer grazing. Fast-forward a month, and all of a sudden that rapid spring growth has come to a screeching halt. Overgrazing cool season grasses when they are stressed by summer heat and drought really

hinders the ability of the plant to rebound when favorable conditions return.

5) If you are questioning whether to move them or let them graze another day...MOVE THEM! That inch of forage that you "waste" by moving them will pay you back many times over with faster regrowth through the rest of the grazing season.

6) Move livestock based on the growth and recovery of the plants, not on a schedule. Just because you could return to a given pasture after two weeks' rest in May doesn't mean that is enough rest in July. Evaluating pastures and moving livestock based on forage growth may put you in a position where there is nowhere to graze.

Have a contingency plan in place: graze the excess spring growth you've stockpiled, pull livestock into a sacrifice pasture, and feed hay, or plant a summer annual forage. Remember, the little bit of extra forage that you leave in the field is not wasted. Those plants will have stronger root systems, greater energy stores, and more leaf area to take off when the weather turns around.

7) Think about ways to add additional watering points during the summer months. Many producers have done this by simply running temporary, plastic pipe on top of the ground or buried to a shallow depth. While not freeze-proof, in most areas of Virginia this type of setup can be used from May through October.

More watering points will dramatically increase your grazing management options and help to distribute manure nutrients throughout the pasture.

Good soil fertility (especially nitrogen) is critical to get cool season pastures going again once summer is over.

Pennsylvania Grazing School Offered

A Grazing School with visits to two farms for hands-on instruction will be held August 25 and 26 in Lebanon County, Pennsylvania. Experienced grazers and other experts will also provide instruction on fencing, paddock layout, marketing, soil health, and plant quality, estimating dry matter and animal demand, stockpiling for winter, and other topics.

The Capital Resource Conservation and Development (RC&D) Area Council, Pennsylvania Grazing Lands Coalition, USDA Natural Resources Conservation Service, and Chesapeake Bay Foundation are sponsoring the school. It will be based at the Ono United Methodist Church, 9 Main Street, Ono, PA. For more details and to register, visit the Capital RC&D website at www.capitalrcd.org.

New Grazing Videos

The Capital Resource Conservation and Development (RC&D) Area Council produced video testimonies from successful grazers to showcase innovative techniques to improve soil health and pasture resilience, with multi-species forages, invasive species control and soil organic matter improvement. See www.capitalrcd.org/project.php?p=7.

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Maryland Events

SOIL, PASTURES, AND CROPS FARM WORKSHOP

November 2017

The Maryland Grazers are planning a two-day, on-farm workshop featuring Nicole Masters, a soil and farming expert from New Zealand. We will walk crop fields and pasture fields, while learning about soil health. Check the calendar section of the next edition of this newsletter for dates!

Pennsylvania Events

PENNSYLVANIA GRAZING SCHOOL

Friday, August 25 and
Saturday, August 26

Ono United Methodist Church
9 Main Street, Ono, PA

Learn from the experts about fencing, paddock layout, marketing, soil health, stockpiling, and other topics. To register, visit the Capital RC&D website at www.capitalrcd.org.

Virginia Events

SUMMER FORAGE TOURS FOR BEEF AND BOBS

Tuesday, July 18, 5:30–8:00 p.m.

900 John Randolph Lane, Randolph, VA

Wednesday, July 19, 5:30–8:00 p.m.

559 Thoroughfare Road, Brightwood, VA

Thursday, July 20, 5:30–8:00 p.m.

1632 Hewitt Road, Swoope, VA

Learn about the benefits of using native summer forages for both grazing and

wildlife habitat. Featured speaker will be Dr. Pat Keyser, Professor and Director of the Center for Native Grasslands Management. To register, visit the Virginia Forage and Grassland Council website at vaforages.org.

SHENANDOAH VALLEY AREC FIELD DAY

Wednesday, August 2, 12:00–6:30 p.m.

128 McCormick Farm Circle, Raphine, VA

Learn about summer annual forages, warm season grasses, and other grazing practices. Dinner will be served. For more information, contact Shenandoah Valley AREC at 540/377-2255.

VFGC SUMMER FORAGE TOUR

Wednesday, August 16, 6:00 p.m.

1055 Craigshop Road, Weyers Cave, VA

Learn how to maximize animal performance on summer pasture. Registration costs \$5 and includes dinner. RSVP by August 11 to Matt Booher at mrbooher@vt.edu or 540/245-5750.

2017 VIRGINIA GRAZING SCHOOL

Wednesday, October 18 and

Thursday, October 19

12065 Chatham Road, Vernon Hill, VA

Designed with beginning and experienced producers in mind, this two-day intensive course will teach you everything you need to know to better manage grazing. Register by September 25 to take advantage of the early registration fee. Contact J.B. Daniel at j.b.daniel@va.usda.gov or 434/392-4171 for more information.

Mountains-to-Bay Grazing Alliance Partnership

