Virginia Cooperative Extension
Virginia Tech • Virginia State University

GRAZE 300
Virginia Cooperative Extension
Virginia Tech • Virginia State University

The Fenceline

August 31, 2020

Grazing Wet Soils

Matt Booher, VCE

The following information is from a new fact sheet published by Colorado State University, titled "Managing Cattle Impacts When Grazing on Wet Soils". https://extension.colostate.edu/docs/pubs/livestk/01634.pdf

Soil structure is an important factor that contributes to healthy, functioning soils. When grazing, trampling by cattle can impact soil structure by breaking up aggregates which results in compaction. At some level, compaction is present in most pastures, but can be exacerbated by grazing when soils are wet. The rate of soil degradation depends on soil type, plant litter accumulation, and soil moisture, as well as stocking density (i.e., animals per unit area) and grazing duration.

- Trampling on moderately wet soil causes pugging. The visible indentations caused by pugging generally affect the top 2 inches of soil and can cause direct damage to to plant crowns. Severe and continue pugging can lead to compaction at greater depths. It's important to note that soil compaction damage is not always visible at the surface and can occur at considerable soil depth (greater than 4 inches).

- Current research on mechanical compaction remediation (e.g., aeration, deep ripping, etc.) methods shows varied results. Without many remediation options for soil compaction besides time and natural processes, strategies to avoid or mitigate negative impacts should be a priority.

- Most detrimental effects on soil physical properties occur with initial trampling. Removal of stock from pasture during or shortly after heavy rainfall can significantly reduce trampling damage. One strategy is to move cattle to a designated sacrifice area, or to a pasture with sandy soil types where drainage is more rapid. Another strategy is to significantly lower stocking density (i.e., animals per unit area), which spreads cattle across a larger area of land to minimize impacts in one particular area. Moving cattle to new paddocks more frequently reduces the amount of time spent on one area and helps avoid pacing along fence lines that occurs when forage levels begin to decline Also, as available forage begins to decline, more soil is exposed allowing greater pugging to occur. Older stands in which the plants have grown together to form a sod or ones that simply have more surface residue present will help to mitigate this issue.

Research has identified soil moisture levels at which pugging and compaction occur for various soil types. Soil moisture meters as well as feel/visual techniques have been developed to allow better in-field evaluation of compaction risk. If you would like more information, see the fact sheet link at the beginning of this article.

Merck Veterinary Manual

Controlling Summer Pink Eye in Beef Cattle: *Part 1*

John Benner. Virginia Cooperative Extension, Augusta County.

One of the top health concerns that plague beef producers during the summer months is how to control, slow down or eradicate pink eye in their herds. Pink eye in beef cattle not only erodes the welfare of affected animals, but also results in discounts in the sale ring. According to research conducted at Oklahoma State University in the 1970's, incidence of pink eye could potentially reduce weaning weights by 33 lbs head. Furthermore, pink eye scars, even

after healed can cause discounts of cattle at sale, not to mention the costs of treatment. According to Iowa State University, these per head costs add up to over $150 million in total losses to the beef industry. I have long thought this number is an underestimation. Permanent prevention and eradication of the disease is difficult due to the biological nature and variation of the causative organisms. However, there are different methods that can be adapted to your operation that *might* be helpful in controlling or limiting the effects of the disease. Stay tuned for additional tips (if we can call them that) in Part 2 next week!

Fly Control – The face fly is the primary carrier of *M. Bovis* and other organisms that cause pink eye. Scientific literature has affirmed that a comprehensive pink eye control program should include face fly control. Diversity of control methods is perhaps the best weapon. This is done to prevent fly resistance to chemical control delivery mechanisms as well as the chemicals themselves. Often, I have heard of fly tags or pour-ons losing effectiveness after repeated use. Such evidence has also been seen in designed studies. If you have used a pour on pyrethroid for several summers and are noticing less and less control, consider implementing fly tags, or switching to a control compound with another active ingredient. Options include mineral treatment and feed-through compounds.

Rotational Grazing Management—It is well known that horn flies, face flies and other nuisance flies will grow and develop in manure patties of grazing livestock. Being aware of this fact can help producers prepare for potential problems during summer rotational grazing. If cattle are being rotated back to a pasture they had grazed earlier in the spring or summer, producers should be

prepared to deal with any potential problems. Avoiding overgrazing and high levels of manure in small spaces could potentially reduce some fly population problems.

Clipping Pastures—The face fly is the most common vector for the disease and is the most prevalent source of eye irritation. However, tall and mature grasses and weeds can negatively affect grazing livestock by increasing eye irritation. Bush hogging mature pasture growth and tall weeds during the summer months will reduce this source of irritation. Producer observations have stated that clipping pastures low can be an acceptable practice even if some vegetative grass is also cut.

Vaccinations—Pink eye vaccines are a common preventative method. The variance in vaccine effectiveness is due to the variance in causative organisms; *Moraxella bovis*, *Moraxella ovis*, and *Moraxella bovoculi*, of which there are several strains of each. If manufacturer vaccinations do not prove effective, an autogenous vaccine may prove to be an economical option. However, clinical trials of pink eye vaccines have suggested that they are often ineffective, even when administered and boostered to label directions. An Iowa State University study of an autogenous pink eye vaccine did not demonstrate effectiveness in pink eye prevention. However, there are plenty of anecdotal observations to the contrary that state that pink eye vaccines can reduce the negative impact of an outbreak, and possibly help calves and cows heal faster. The best advice I can offer is to have a conversation with your veterinarian on the options of vaccines and how to administer them.

Disclaimer: Commercial products are named in this publication for informational purposes only. Virginia Cooperative Extension does not endorse these products and does not intend discrimination against other products which also may be suitable.

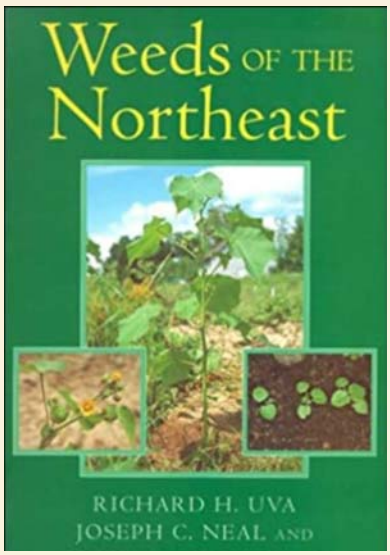
Managing Summer Annual Weeds in the End of Summer

Matt Booher, VCE

I've been getting lots of questions about managing summer annual weeds like pigweed, cocklebur, lamsquarters, perilla mint, stiltgrass, carpetgrass, Jimsonweed, ragweed, smartweed, etc. The truth of the matter is that there is not much to be done about the existing annual weeds out there except to try and keep them from going to seed if they have not done so already. Herbicides are not very effective on large annual weeds approaching maturity, and even if sprayed they may still produce viable seed if far enough along. In many cases, you may be just as well to leave mature annuals standing in place and let the frost clean them up later this fall.

If you must spray for annuals, first scout the field for biennial weed seedlings, perennials, or even evidence of mature biennial weeds that may have already gone to seed. This may prompt you to use a residual herbicide

that will have extended activity on germinating biennial, winter annual, and perennial seeds as well as young biennial and winter annual seedlings this fall. If all this talk about summer annuals, biennials, and perennials is confusing, it may be time to buy a good hard-copy weed guide to keep in your truck! In my experience, "Weeds of the Northeast" (yes, I know we are in the south) is about the best one out there, with lots of good photos and simple descriptions of weed life cycles.



Questions? Feel free to contact me.

Matt Booher, *Extension agent--Rockingham County*

540-564-3080 (office)

540-325-7503 (cell)

mrbooher@vt.edu