

David Hallauer
District Extension Agent, Crops & Soils

Soil and Fertility Effects on Carrying Capacity

In our cool season grass production systems, fertilizer applications are a given. Brome and fescue respond to fertilizer – and suffer when it is lacking – so we soil test or come up with a good fertility management program and then apply annually accordingly. Most of the time that application gets us a nice response and we don't think much about it. Sometimes, responses may seem inconsistent and a deeper dive into what's going on might be needed.

Analysis of weather patterns is always a good place to start. There's a neat chart in our *Kansas Grazingland Management* handbook showing how 'front loaded' in the early part of the growing season of our cool season grass production systems are with almost 50 percent of the season's production occurring in the month of May. If conditions (moisture or temperature) trend toward the extreme and forage growth is affected, there's not a lot of room for recovery.

Weather isn't the only factor to consider, however. We know the previously mentioned fertility programs can be an issue, and a fertility program's interaction with soil can affect things as well. In that same handbook, there's a chart outlining average animal carrying capacities as a function of both soil depth and fertility level. A moderately deep soil with medium fertility (average soil/average fertility, so to speak...) might give you a carrying capacity (or yield) of around 1.2 animal unit months per acre (or AUMs – an AUM being the amount of forage consumed by 1000 pounds of animal in a month). Increase fertility to the high range and you might increase production by a third. Reduce fertilizer levels and production drops in half.

Soil depth is a big player as well. Deeper soils might provide 2.2 AUM/A whereas even a moderately deep soil – even within the same farm – might yield 50-60 percent of that. Start to increase fertility levels on a site and the difference becomes even greater. It's a good reminder that whether you're dealing with a grazing animal or putting up a site or hay, production differences *do* exist and they *can* be large.

Most of the time we have a pretty good idea of a site's overall productivity because we're familiar with it. If you are trying to enhance grazing management– or troubleshooting a lack of production – take a second look at the site to see if there are differences in soil depth that need to be considered. The USDA Websoil Survey (<https://websoilsurvey.nrcs.usda.gov/app/>) is a great place to start. Other grazing productivity sites might have some application as well.

Drop me a line for more information on the brome data from the *Kansas Grazingland Management* handbook. It's an interesting look at the differences we know exist across our forage acreages, with numbers to show how great those differences really are.

Ross Mosteller
District Extension Agent, Livestock & Natural Resources

Vaccine Handling and Storage

Vaccines are a normal part of standard procedures on most livestock operations. There are vaccines for young livestock, breeding animals and special health concerns. The highest quality vaccine may be of little value if not handled and stored properly. Even experienced producers may overlook key principles when preparing and administering vaccines and other animal health products. Product storage and handling is critical in ensuring that the efficacy of products has not been compromised.

Vaccines fall into two major categories; killed products which are generally more versatile and have a longer shelf life and modified live products who generally have a stronger immune response and very short window of time from mixing to administering. Modified live vaccines (MLV) must be reconstituted with a sterile diluent prior to administration. It is normally recommended that these products be used within an hour of reconstitution.

Either type of product should yield a good response when administered and handled according to label directions. Keeping products cool and out of direct sunlight is a common issue. Have you timed how long it takes you to process livestock? How long is the bottle or syringe being exposed to heat and UV light? You must especially exercise caution when handling and administering modified live products. Common handling techniques can render MLV products ineffective and even reduce the effectiveness of killed vaccines and other products. Maintaining a high level of efficacy is critical to establishing immunity in a majority of vaccinated animals.

Vaccine will have less than normal effectiveness if it has been stored improperly at any point it's lifetime. The starting point for success is purchasing vaccine from a reputable company, transporting to your refrigerator properly, followed by proper storage. Improper storage includes freezing, and/or exposure to heat or sunlight. Vaccines should be stored in a dependable refrigerator that maintains a consistent temperature (typically 35-45° F) as directed by the product label. Try to avoid storing animal health products in the refrigerator door and consider using a refrigerator thermometer to confirm temperature. Products that are out of date should be properly discarded.

Don't forget to handle the products appropriately while chute side. Chute side vaccine coolers work well for holding the vaccines during processing. These coolers have slots for holding syringes after they are loaded, and vaccines are placed inside the cooler to maintain temperature. These coolers can make excellent transport coolers when purchasing vaccines to keep the products at the recommended temperature on the way home. Vaccine coolers can be purchased ready to use, or can easily be constructed by converting small coolers for this intended purpose. Oklahoma State has a good factsheet with instructions for making an inexpensive vaccine cooler "[Chute Side Vaccine Cooler](#)" ANSI-3300.

The final consideration that often gets overlooked is maintaining proper records on the who, what, when, where, why and how of vaccine administration. It is also important to maintain a record of lot/serial numbers of products in the event of a recall or other situations that may arise. A quick and easy method of recording the lot and serial numbers while working cattle is to simply to take a photo of the information on the label with a cell phone camera. This information can be transferred to written or digital records at a later point, just remember to transfer!

Through proper record keeping, storage and handling, animal health products will be an effective piece of a comprehensive cattle health management program. K-State Research and Extension has a good comprehensive publication with more on this topic called "[Proper Handling and Administration of Cattle-Health Products](#)" MF-2603.

Laura Phillips
District Extension Agent, Horticulture

Spray Schedule for Fruit Trees

It can be a challenge to know how to spray fruit trees for pest control. Spray schedules will vary depending on whether the trees have fruit or not. Following are hints on what to spray this year for our most common fruit trees.

Peaches, nectarines and apricots: Often late frosts prevent fruit set on these fruits. Trees that are in full bloom, become much more sensitive to frost damage than those with buds still closed. Temperatures at 28 degrees and lower will harm buds that are in full bloom.

If there will not be any fruit, there isn't any need for being on a spray schedule. If there is fruit, use a product that contains captan or myclobutanil (Immunox, Fungi-Max, Fertilome F-Stop Lawn and Garden Spray) from now until about two weeks before harvest. Spray about every 10 days.

If a specific problem develops such as borers, peach leaf curl or gummosis on peach, see our listing of common problems at our "Common Plant Problems in Kansas" website. Look under "Peach" for possible problems and what to do about them.

Cherries: We often have good fruit on cherries without spraying. However, a wet period as fruit ripens can lead to problems with brown rot. Myclobutanil (Immunox, Fertilome F-Stop Lawn and Garden Spray, Fungi-Max) or Captan will give good protection. Cherry fruit fly may attack the cherries with the maggot causing damage to the fruit. Malathion (check label), Bonide Fruit Tree & Plant Guard or Sevin can be used for control. Apples: Apples are the crop most in need of a spray schedule. Unless you have disease-resistant trees, cedar-apple rust is a perennial problem. The larvae of the codling moth are the insect most likely to damage fruit. Control can be a challenge due to changing labels and an extended spray season. Look up the K-State publication "Spray Schedules for Growing Apples at Home" on online.

Pears: Pears are often able to escape damage without spraying. If trouble does arise, use the same recommendations given for apples.

You can find more information about pest control on fruit trees in the K-State publication "Fruit Pest Control for Home Gardens." You can also reach out anytime for more guidance.

Teresa Hatfield
District Extension Agent, Family and Community Wellness

Need Help with Your Medicare Choices?

As you approach age 65, you may start to think about your Medicare options. As the date approaches, you start receiving a lot of marketing information in the mail. For many, all this information is a bit much. Medicare can be complicated and confusing to understand. Medicare was enacted in 1965 by the federal government and has been changing ever since. There are many things to think about when choosing how you would like to manage your Medicare. Many new Medicare beneficiaries are entering new territory. Medicare is different from many employer plans, and you must understand how it works to make your most informed decisions.

Every new Medicare beneficiary has different circumstances surrounding their Medicare choices. Depending on these circumstances, you will make important decisions about when to enroll, what other insurance you might need, and what additional programs you might qualify for to help with the cost of Medicare. For example, what are the differences between original Medicare, Medigap, and Medicare Advantage plans? Not understanding the differences in the available plan options could result in costly mistakes. Understanding your options enables you to make an informed decision regarding your healthcare.

The Senior Health Insurance Counseling for Kansas (SHICK) program can be a resource for questions about Medicare. SHICK is part of the State Health Insurance Assistance Programs (SHIPs) across the U.S. SHICK provides free, unbiased, confidential counseling from trained community counselors. SHICK counselors are not licensed insurance agents; they do not offer legal advice and will not recommend any insurance product. As your Family and Community Wellness Agent, I am a trained SHICK counselor trained to work with Medicare since 2006.

If you are new to Medicare or want to understand more about Medicare, consider attending our online Medicare Options class. This class will be held via Zoom on May 22nd at 11:30 a.m. We will discuss Medicare basics, including Medicare Part A and B, Medicare Part C (Medicare Advantage Plans), Medigap plans, Medicare enrollment periods, help paying for Medicare costs, and changes to Medicare within the last few years. I find that there is a lot of misinformation out there about Medicare. People often get incorrect advice from friends or family, leading to costly consequences. The Medicare Options class is an excellent opportunity to learn more about Medicare before you make your first Medicare decisions.

Registration for the class is required. After you register, you will receive a link to an online class. To register, call 785-364-4125, visit <https://tinyurl.com/Medicare-Class>, or use the QR. If you have any questions, please get in touch with Teresa Hatfield at thatfield@ksu.edu.



Cindy Williams
District Extension Agent, Food, Nutrition, Health and Safety

Create a Rainbow on Your Plate

It is April and spring is in the air—and sky! Look up after a mid-day April shower, and you might just catch a glimpse of a beautiful rainbow. That rainbow probably doesn't have a pot of gold at the end of it, but we can achieve the true gold of good health if we remember to eat a rainbow every day!

When it comes to fruits and vegetables, eating a variety of colors---red, orange, yellow, green, blue, purple, and white---provides the best mix of nutrients for your body, not to mention being more pleasing to the eye. Recommendations regarding how much people need depends on age, gender, and amounts of physical activity. To learn more about your daily recommendations, visit www.choosemyplate.gov/MyPlate. Most Americans need to increase the amount of fruits and vegetables eaten every day. Remember, all product forms count---fresh, canned, frozen, dried, and 100% juice. Be eating more fruits and vegetables, your risk of chronic disease is reduced.

Ways to increase fruits and vegetables in your diet:

- Prepare fruits and vegetables as soon as you get them so they are ready to eat. Consider dividing into individual servings to they are easy to grab and go.
- Have veggies and low-fat dip for a snack.
- Add vegetables to casseroles, stews, and soups.
- Choose fruit for dessert.
- Add veggies to sandwiches.
- Enjoy a fruit smoothie for breakfast or as a snack.