

David Hallauer  
District Extension Agent, Crops & Soils

### **Corn Disease Pressure Increases**

The confirmation of Southern Rust this past week in counties just southwest of the Meadowlark Extension District is a good reminder that we're not out of the woods yet when it comes to disease pressures affecting this corn crop. Even as Tar Spot pressure remains (mostly) low, isolated reports of increasing pressure from that disease have been noted as well.

Some fields have already seen a fungicide application. In those fields, scouting should restart 14-21 days post application as fungicide efficacy starts to wane. With any luck, protection will last until disease pressure will no longer affect yield, but scouting will be necessary to confirm as such. What's that stage? The R5 (dent) growth stage typically signals the end of any potential benefits of a fungicide application, but realistically, it's difficult to get much return on investment from applications even at the R4 (dough) stage (approximately 30 days post silking).

If you haven't applied a fungicide, scout frequently. Recent moisture events could have increased Tar Spot pressure, and the confirmation of Southern Rust in NEK means it could be in area fields as well. Disease development can occur quickly, so while a fungicide application isn't recommended in the absence of disease, it's good to at least have an idea of what you might use should the need arise. Fungicide efficacy ratings for both diseases can be found in a reference from the National Corn Disease Working Group found at the Crop Protection Network website at <https://cropprotectionnetwork.org/publications/fungicide-efficacy-for-control-of-corn-diseases>. Hard copies are available from our offices upon request.

Not sure if you have Tar Spot or Southern Rust? Tar Spot develops as small, black, raised spots (circular or oval) on infected plants, and may appear on one or both sides of leaves, leaf sheaths, and husks. It will not rub off. Southern rust produces orange pustules, primarily on the upper leaf surface. To help with diagnosis, physical plants or digital images can be submitted through any District Office. The Kansas State Plant Disease Diagnostic Lab is also offering free testing for both Southern Rust and Tar Spot. If you would like to submit samples, contact any District Office for shipping details. Even if you know what you have, disease confirmation reports are helpful as we continue to track these diseases.

Ross Mosteller  
District Extension Agent, Livestock & Natural Resources

### **Forage Analysis; What Numbers Do I Need?**

Following up on the purchasing hay article from last week, let us dive a bit deeper into conducting a proper forage analysis, with a certified testing laboratory. A fair number of forage samples come through the Extension office annually, with some folks knowing exactly what they want from a test and others asking “what do I need to test for?”. My intent today is helping to determine where to start in running forage analysis. Accurate testing always starts with proper sampling, something discussed in a past article and referenced with a guide on our website. Dr. Justin Waggoner provided a good article on this subject, the foundation of what’s shared here.

The basic components needed to evaluate a feedstuff or develop a ration are dry matter or moisture, crude protein, estimate of the energy content and the macro minerals, primarily Calcium (Ca) and Phosphorous (P). Energy levels are most often reported using Total Digestible Nutrients (TDN), Net Energy for Maintenance (NE<sub>m</sub>), Net Energy for gain (NE<sub>g</sub>) terms. These are the most basic numbers required, but labs offer many more tests and including additional analyses can give further insight into the quality of the feedstuff, which should improve the ability to predict animal performance, the primary reason to analyze feedstuffs.

The fiber component and related digestibility of the feedstuff, is something that is helpful and is recommended to be included while testing. This is reported as Acid Detergent Fiber (ADF) and Neutral Detergent Fiber (NDF). Not every packaged test gives these values, so take a look to see if they can be reported. NDF reflects the amount of cell wall contents and is associated with the corresponding bulkiness of forage, correlating directly with dry matter intake. The ADF number represents the amount of cellulose and lignin within the forage and is associated with the respective digestibility of the forage. In general, a higher ADF value the more likely the forage was at a greater maturity when harvested.

Additional considerations for testing would be other Macrominerals besides Ca & P, like Magnesium (Mg), Potassium (K), Sodium (Na), Chloride (Cl) and Sulfur (S). If the forage will be fed in combination with a byproduct feed such as wet distiller’s grain, including an analysis for sulfur can be especially beneficial. Additionally, if the forage is a known nitrate accumulator (sorghums, sudangrass, etc..) or may have been stressed due to drought, including a nitrate analysis should always be considered, especially if being fed to pregnant animals. The flip side is also true. If you want to test for nitrates, go ahead and run a full analysis to determine quality.

Most analytical laboratories have a number of different analysis packages which encompass the most common procedures or numbers that a nutritionist or producer needs to know about their feeds. These packages will typically include the basic procedures (DM, CP, TDN) and then add on specific analyses such NDF, or the Macrominerals. Some laboratories may group analysis packages by the type of sample (forage vs. mixed ration) or production purposes (dairy vs. beef) for example. Packages are good, just know what’s ran within each.

The objective of analytical testing of forages and feedstuffs is to improve our ability to meet the animal’s nutrient requirements and ultimately predict animal performance. The unmistakable best method of evaluating the quality of a feedstuff is feeding the animal and evaluating performance over a set period of time, under a specific set of conditions. Since that would not be cost effective or timely, analytically evaluating feedstuffs in a laboratory is the next best thing. Although it is not perfect, it is most definitely better than the “*this looks like really good feed*” method of evaluating feedstuffs.

July 12, 2024

Laura Phillips  
District Extension Agent, Horticulture

### **Applications for the Master Gardener Program Open Now**

The time has finally arrived for you to submit your application to our Extension Master Gardener Program. The Meadowlark District will be accepting applications for Extension Master Gardeners now until August 9<sup>th</sup>, 2024 for our fall training. You can find the application on our website or by stopping in at one of the Meadowlark extension offices.

The Extension Master Gardener Training will cover all the basic horticulture topics that you need to know to improve your gardening skills and help others with their gardens. We will meet every Thursday from 1:00pm to 4:00pm to learn about everything from plant pathology to soil fertility. Each lesson is taught by a different expert at K-State, allowing us to tap into a wide range of expertise.

These lessons are delivered over Zoom, and we will hold watch parties at our Seneca, Holton, and Oskaloosa offices, as well as at the Delaware Township Library in Valley Falls. All lessons will be recorded and posted online for those who cannot make our normal meeting times. We will supplement these lessons with hands-on activities and community service work.

If you are interested in growing your gardening skills, meeting with other gardeners, and giving back to your community, then submit your Extension Master Gardener application today!

Teresa Hatfield  
District Extension Agent, Family and Community Wellness

### **Simple Home Modification to Prevent Falls**

Falling is not a normal part of getting older. However, if you do take a fall, it is more likely to cause injury. More than 25% of people over 65 fall every year, and once you have fallen, you have twice the risk of falling again. You can make some simple modifications to make your home a safer place.

#### **Lighting**

Check the lighting in each room of your home. Replace burnt-out light bulbs. Place nightlights in bedrooms, hallways, and bathrooms. Do you have working flashlights that you can place throughout your house? Make sure to check the batteries. Do you have light switches at the top and bottom of the stairs and at the ends of the hallways?

#### **Keep Walking Areas Free of Clutter and Other Tripping Hazards**

Keep walking pathways free of clutter and tripping hazards; this includes picking up shoes, books, magazines, toys, or pet toys. Check to see if any electrical cords are in the way; if so, secure them so they are not a fall hazard. Secure throw-rugs and carpet to the floor. Fix broken, loose, or uneven steps.

#### **Bathroom Modifications**

Consider putting a non-slip rubber mat or self-stick strips on the tub or shower floor. Also, consider placing a non-slip mat outside the shower. Install grab bars inside the tub and next to the toilet. Install an elevated toilet seat to make it easier to sit and stand. Use a shower seat or chair if you need more support.

#### **Kitchen Adaptations**

Make sure cooking items that you use frequently are stored within easy reach. If you need a step stool, get one with a bar to hold on to. Never use a chair as a step stool. Use non-slip flooring materials or apply non-slip treatments to existing floors.

#### **Bedroom Safety**

Make sure the light near your bed is easy to reach. Clear the path from your bed to the bathroom. Put a nightlight in the pathway to the bathroom. Make sure your bed is adjusted to allow easy access and maneuverability. Your feet should be able to touch the floor when sitting on the edge of the bed.

#### **Additional Fall Prevention Strategies**

Remove the wheels from the furniture. Mark doorway entrances. Place fluorescent tape on the edges of the top and bottom steps. Keep your cell phone with you as you move from room to room. Use heavy furniture that will not tip if used for support.

Implementing these tips can help you have a safer home. If you are interested in more fall prevention tips, contact Teresa Hatfield at the Meadowlark Extension District at 785-364-4125 or [thatfield@ksu.edu](mailto:thatfield@ksu.edu).

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

### Pickle Pointers

**Why Do Cucumbers Get Bitter?** A bitter taste in cucumbers is the result of stress that can be caused by a number of factors including heredity, moisture, temperature, soil characteristics and disease. Most often this occurs during the hot part of the summer or later in the growing season. Two compounds, cucurbitacins B and C, give rise to the bitter taste. Though often only the stem end is affected, at times the entire fruit is bitter. Also, most of the bitter taste is found in and just under the skin. Bitter fruit is not the result of cucumbers cross pollinating with squash or melons. These plants cannot cross pollinate with one another.

Pickling bitter cucumbers will not remove the bitter ness. Bitter cucumbers may be saved if the stem end is removed and the cucumber is peeled.

**What Makes Pickles Soft?** There are several reasons why pickles become soft. They include:

- Vinegar is too weak. Use vinegar that is at least 5% acidity.
- Blossom end of cucumbers not removed. The blossom contains an enzyme that causes softening. Remove at least 1/16<sup>th</sup> inch.
- Jars of pickles not processed properly. They need to be water bath processed or steam canned properly for safety.
- Hard water contains minerals that cause softening. Use softened or distilled water instead. Alternatively, boil hard water and let it sit 24 hours to let sediment drift to the bottom, then use the water.
- Use pickling varieties of cucumbers and pickle them within 24 hours of harvesting.

**Avoid Making Sun Pickles.** The internet abounds with untested, and potentially unsafe canning recipes. With sun pickles, you fill a jar with cucumbers, add salt, and then fill with cold water. Apply the lid and ring. Then the jar is allowed to sit in the sun each day until the water turns from clear (at the start) to cloudy (in the middle of the process) and then clear again (at the end). According to the recipe, when the water becomes clear again, the pickles are ready to use.

This type of recipe is **not safe**. The recipe presents a risk of illness linked to three major foodborne pathogens: E. coli O157: H 7, Clostridium botulinum, and Listeria monocytogenes.

Why is this recipe so unsafe?

- The ratio of salt/water/cucumber is not defined. The precise ratio of these ingredients found in tested recipes allows good bacteria on cucumbers to grow and produce acid (and a safe product), and prevents pathogens (the harmful bacteria) from growing.
- The temperature inside a jar sitting in the sun could rise above 72°F, too high for proper fermentation. High fermentation temperatures to spoilage or allow pathogen growth.