

David Hallauer  
District Extension Agent, Crops & Soils

### **Crown Pathogens in Corn**

It's still early in the corn growing season, but at some point – even through the end of the season - we might look at a stand and ask: why am I missing plants or why are some plants yellowing? Even worse: why didn't this farm yield like we hoped or what caused this lodging? With the myriad of factors that *could* lead to any of these issues, it can be difficult to pinpoint just one. Complicating things is the amount about crown rots we just don't understand.

One of the reasons we pay such close attention to soil temperature, utilize seed treatments and make sure we're planting in good conditions is because of diseases like crown rots. Caused by pathogens including Fusarium, Rhizoctonia, Pythium, or others, these diseases can affect corn plants early in the season with symptoms only noticed until much later. Seed treatments can do an excellent job of combatting them, but when conditions are right for a specific disease to develop (temperature/moisture/seed treatment/etc...), problems can arise.

Unfortunately, our understanding of crown rot pathogens is mixed at best. Early in the season, plants may be stunted, wilted, or have yellowed lower leaves. When plants are evaluated, they may exhibit brown/black root discoloration or dark brown crown tissue. These symptoms, however, can also be indicative of nutrient deficiencies or herbicide injury. Careful field evaluations are in order when stand issues arise.

One challenge with these pathogens is that they can infect plants early, but not show symptoms until later. So, while it's difficult to know the exact interaction of soil moisture or temperature or other variable that *might* predispose a plant to infection and disease development, we *do* know stress conditions tend to favor disease manifestation – whenever it may occur.

We're going to take growing conditions we get and manage the best we can, but that management *should* include early season scouting to ensure stand losses aren't an issue. It also means keeping in mind that later season issues might have started much earlier than we thought.

If early season stand issues do arise and you want to rule out pathogens, the KSU Plant Disease Diagnostic Lab can help. They can test to help determine if plant pathogens are a part of the issue, or if other factors need to be given greater evaluation. Contact any of our Meadowlark Extension District Offices if you want to learn more about their services and associated fees.

Ross Mosteller  
District Extension Agent, Livestock & Natural Resources

## **Incubating Eggs Successfully**

Walk into nearly any farm supply store in the spring of the year and the sound of cheeping baby chicks likely fills the air. If you keep a backyard flock of chickens, purchasing chicks from stores like this or directly from hatcheries, is a great way to replenish your laying flock, especially if you enjoy watching chickens grow and develop. If you want to take poultry raising to the next level, incubation of hatching eggs is another option to consider, just remember you'll get some roosters too!

Whether eggs come from your flock or an egg supplier you must start with fertile eggs, store properly and incubate them carefully. Handling, environmental conditions, sanitation, and record keeping are all important factors when it comes to successfully incubating and hatching eggs. A fertile egg is alive containing living cells that can become a viable embryo/chick. Successful hatches begin with undamaged eggs that are fresh, clean, and fertile.

Do not incubate eggs that are cracked, misshapen, soiled, or unusually small or large. Do not wash or wipe eggs with a damp cloth because this removes the egg's protective layer and allow disease and bacteria to enter. It can also spread bacteria from one dirty egg to others. Eggs should be set as soon after collection as possible. It is best to incubate eggs within 7 to 10 days of being laid. Hatchability decreases rapidly when eggs are stored for more than 10 days.

An incubator is basically a box that holds eggs while maintaining an appropriate temperature, humidity, and oxygen level. Popular incubator models often include automatic egg turners, humidifiers, and temperature controllers. Incubators come in forced air or still air versions. The temperature and humidity in a forced air incubator is more consistent. Regardless of incubator type, a successful hatch requires turning eggs and closely monitoring the temperature, humidity, and ventilation. The incubator should be placed in a room that has no drafts or direct sunlight with stable temperature and humidity.

Stored eggs need to warm to room temperature for 4 hours to 8 hours before setting in the incubator. Once the eggs are in the incubator, do not adjust the temperature or humidity for a few hours, unless the temperature exceeds 102°F. After 4 hours, make proper adjustments. The final temperature should vary only .5 degree above or below 99.5°F. Relative humidity should be set at 55 to 60 percent. If the incubator uses passive humidity control, daily add water to maintain correct humidity levels. If the humidity in the incubator is too low or too high, the hatch will fail.

The set stage refers to incubation period up until 2 or 3 days before a hatch. Different species have different incubation periods, so know this time before starting. Most chickens have a +21-day period. Incubating different species together in the same incubator is not recommended, especially if the incubator is also used as hatcher. Set the small end of the egg lower than the large end in the incubator so the embryo can orient its head toward the air cell as it develops.

The hatch stage refers to final 2 to 3 days of incubation when chicks hatch out of the shell. Transfer eggs to a dedicated hatcher for the last 3 days to 4 days of incubation and do not turn them. If a hatcher is not available, remove the eggs from the turner and lay them in the hatching basket or place them on cloth or rough paper in the incubator. During this stage, decrease the temperature 1°F and increase the relative humidity to 65 to 70 percent.

Hatching requires great effort from the chick, with the entire process taking 10 hours to 20 hours. Eggs that are not hatched within a day or two after the predicted incubation period should be discarded. Do not help a chick free itself from the shell; chicks that cannot hatch on their own usually die. Once chicks successfully leave the shell, increase the ventilation in the incubator and leave them there about 24 hours or until their feathers are dry. When more than 90 percent of the chicks are dry, remove them from the hatcher. Move the chicks to a warm brooder and give them water and feed.

This is a very quick summary of the process of incubation and hatching taken from a good Texas A&M Extension publication on the subject: [Incubating and Hatching Eggs](#) I'd encourage you to view this publication to learn more.

Laura Phillips  
District Extension Agent, Horticulture

### **Poison ivy in many forms**

You may have heard the phrase “leaves of three, let it be” when looking out for poison ivy. While this is a handy saying, identifying poison ivy can be harder than that. While we mainly think of poison ivy as a shrub we see growing in garden beds or in woodlands, it actually comes in various forms: erect woody shrub, climbing woody vine and as a groundcover. To further complicate identification, the leaves of poison ivy can also vary. In the vining habit, aerial roots give the vines a fuzzy, rope-like appearance. These roots will be thin, hairy, and dense as they hold the vine to the tree. These vines will climb trees and go high into the air. As a groundcover, the leaves remain smaller, and are sometimes overlooked. This form of poison ivy is often confused with Virginia creeper or Woodbine (both of which have 5 leaves). Poison ivy can also be a low, upright shrub. These shrubs can appear in fields, pastures, woods or even the home garden.

There is also some variation in the leaves of poison ivy. Leaf margins may be toothed, incised, lobed or smooth. The leaves start out shiny and green, but over the course of the growing season turn red or yellow. This might make it sound impossible to identify, but there are a few key identifiers. The leaves, for example, follow the old saying and will always be in groups of three at the end of a stem. While the leaves vary, the middle leaf will have a longer stem and be a larger size. The other two leaves are closely attached to the petiole (leaf stem) and slightly smaller. In the summer and fall you may also see clusters of green-white berries. If you see a plant matching this description, you can assume it is poison ivy.

For vines, look for the hairy, aerial roots. Even after leaves die back in the fall, the vines can still cause an allergic reaction.

- To eradicate poison ivy, begin by covering your body with pants, long sleeves and gloves. Once finished, wash all your clothing and your body to remove any traces of the plant's toxins. In the ground cover form, direct spray or grubbing (digging) are common strategies for removal. Make sure the soil is moist before grubbing out the plants including the root systems.
- Direct spray is a common control method for poison ivy in the shrub form. Triclopyr (Brush-B-Gon Poison Ivy Killer, Brush Killer Stump Killer) is popular for poison ivy control. Glyphosate (Roundup; Killzall Weed and Grass Killer; Nutgrass, Poison Ivy and Vine Killer) or dicamba are also effective herbicides for this purpose. For woody vines of poison ivy, cut the plant off at the base and treat the emerging sprouts with herbicide when they appear.
- Repeat applications of herbicide are usually necessary, as this can be a tough plant.

Teresa Hatfield  
District Extension Agent, Family and Community Wellness

### **The Benefit of Moderate Weight Loss**

Sometimes, the thought of losing weight seems overwhelming, particularly if you have tried before and failed. Many people find that they start the weight loss journey and are successful at first, and then the weight loss stalls. It can be frustrating if this has happened to you. It also doesn't help that the American culture is obsessed with being skinny. However, this may be, you don't have to be super slim to be healthy. There is evidence that losing 5 to 10 percent of your body weight can make you a healthier, better you.

As you start to get older, it becomes harder to take off the pounds. Our bodies have changed throughout the years, making it harder for us to maintain muscle mass. We start to lose muscle in our 30s. Decreased muscle mass means that we don't burn as many calories as we used to when we were younger. The problem is that many of us still eat the same amount of calories. Women will also experience hormone changes, which also impact their weight. All this means is that we must learn how to balance the calories we take in with the energy we burn.

In my work with the K-State Research and Extension, I teach several classes that focus on the importance of exercising as we age. The right amount of exercise remains vital throughout our lives. Everyone should get at least 150 minutes of moderate exercise per week. Moderate exercise could include walking, participating in sports, yard work, house cleaning, gardening, swimming, and dancing. Be sure to make it something you enjoy doing. Consider including a buddy in your routine, either a human friend or a furry one. Be sure to make exercise a priority. Also, try to track your exercise and your caloric intake. Logging your activity helps you understand how much you are getting.

Fad diets and seemingly quick fixes usually do not result in long-term weight loss. Experts recommend you try to lose only 1 to 2 pounds weekly. This amount will allow you to meet your nutritional needs and safely lose the pounds. Paying attention to your portion sizes and using the MyPlate method is an excellent way to start. The MyPlate method recommends that half your plate contain a combination of fruits and vegetables. One-quarter should be whole grains, and one-quarter should be protein (lower in saturated fat from plant or animal-based). Choose dairy options that are low to no fat. Try to cook and eat most of your meals at home instead of eating out. Plan for meals and make a grocery list before you go to the store to avoid impulse items.

By making a small reduction in your weight, you can benefit your health. People who lose between 5 and 10 percent of their body weight see changes in blood pressure and blood glucose levels, lower cholesterol numbers, and a reduction in heart disease and some types of cancer. Weight reduction also helps reduce the chances of developing type 2 diabetes.

Please check with your doctor before you begin any weight loss program. Losing a small amount of weight gives you more energy, a better quality of life, and more freedom to enjoy life. By losing weight at a slower pace, you will be better able to sustain your weight over time.

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

### **Handling Food Safely on the Road**

Vacation! Oh, how we long for the eight-letter word every summer, when millions of us eagerly get away from school and work. We take to the road in cars or recreational vehicles; live on boats; relax on the beach or mountain vacation homes; and camp.

No matter where we go or what we do, there is a common denominator that runs through all of our summer travels and relaxation---it's called food!

The "road" to food safety, however, can either be a bumpy one or smooth---depending on what precautions are taken handling meals as we travel this summer.

First, some general rules, while traveling this summer:

- In hot weather (above 90°F), food should never sit out for more than 1 hour.
- Discard any food left out more than 2 hours (1 hour if temps are above 90°F).

Plan ahead...

- If you are traveling with perishable food, place it in a cooler with ice or freezer packs.
- When carrying drinks, consider packing them in a separate cooler so the food cooler is not opened frequently.

Pack Safely...

- Pack perishable foods directly from the refrigerator or freezer into the cooler. Meat and poultry may be packed while it is still frozen; it stays colder longer. Also, a full cooler will maintain its cold temperatures longer than one partially filled.
- Be sure to keep raw meat and poultry wrapped separately from cooked foods, or foods meant to be eaten raw such as fruits.
- If the cooler is only partially filled, pack the remaining space with more ice.
- For long trips to the shore or the mountains, take along two coolers---one for the day's immediate food needs, such as lunch, drinks or snacks and the other for perishable foods to be used later in the vacation.
- Limit times the cooler is opened. Open and close the lid quickly.

Make this vacation to remember because of the memories made, not because everyone was sick from preventable food mistakes.