K-STATE Research and Extension | Meadowlark District

June 20, 2025

David Hallauer
District Extension Agent, Crops & Soils

Plant Analysis – Corn

While scouting for corn diseases, it's a good time to keep an eye out for other issues showing up as well. We're at that point in the growing season where fertility program differences might be showing up and for some secondary/micronutrients, plant analysis is a pretty good way to get information on how efficiently we're using applied nutrients.

Plant analysis can be split into two categories. Our window for diagnosing field problems is open all season whenever we see an issue and want to troubleshoot it, but we're often focused this time of year as we head into reproductive growth on nutrient monitoring.

When collecting, do so at random, avoiding areas with known issues (unless you want to diagnose the issue…) and collecting across the field or field area in question. If collecting prior to reproductive growth, collect the top fully developed leaves (those with leaf collars). If waiting until silk emergence (recommended), collect the ear leaves (below the uppermost developing ear). *Remember: if the crop is stressed, results might not tell the full story and sampling is not recommended.* Allow collected leaves to wilt overnight then place them in a paper bag or mailing envelope (avoid plastic bags or tightly sealed containers) and shipped for analysis. The K-State Soil Testing Lab as well as many other regional labs provide plant analysis services.

When choosing analyses, nitrogen (N), phosphorus (P), potassium (K), sulfur (S), zinc (Zn), chloride (Cl), and iron (Fe) are the ones most likely to be found deficient in our area. Questions about copper (Cu), manganese (Mn), and molybdenum (Mo) have arisen as well, and while widespread deficiencies of those micronutrients have not been found in the state, the K-State Soil Testing Labe *does* test for Cu and Mn as part of their plant analysis bundle.

Once you get a number, what do you do with it? Results are typically reported as a percentage or in parts per million (ppm) and are best utilized by comparing to sufficiency ranges. Even if results are at the end of the sufficiency range spectrum, it doesn't always mean the nutrient isn't available. Results can vary based on plant part sampled, weather stresses, hybrids, and even yield environment. The greatest concern is when a nutrient's reported value is *significantly* outside (below OR above…) sufficiency values. If results show these types of values, looking into the potential cause is warranted. Drop me a line for a list of sufficiency values or visit the KSU Agronomy eUpdate: https://eupdate.agronomy.ksu.edu/article/plant-analysis-for-testing-nutrient-levels-in-corn-597-5 for more information.

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Ross Mosteller
District Extension Agent, Livestock & Natural Resources

New World Screwworm

Having just attended the Beef Improvement Federations annual symposium in Amarillo, Texas, I'm walking away armed with a wealth of topics to discuss in news columns this summer. Additionally, the USDA just put out updated information on response to this threat on our southern border, so it seems timely to discuss New World screwworm (NWS) today. Texas is definitely on high alert!

So why all the attention for a pest that has been eradicated from the United States since the 1960's? Populations of NWS have recently been migrating northward in Mexico, coming with-in 700 miles of the US southern boarder causing alarm for beef producers in boarder states and suspension of imports of livestock from Mexico into the US since May. Trade disruption with a major partner in Mexico and the potential for this pest to reestablish in the states has created the renewed focus on this insect.

The New World screwworm (*Cochliomyia hominivorax*) is a parasitic fly native to the Western Hemisphere. It lays eggs in the living tissue of fresh wounds in warm-blooded animals. The name screwworm refers to the feeding behavior exhibited by the maggots as they burrow (screw) into the wound. These maggots and their feeding cause extensive damage by tearing at the hosts' tissue with sharp mouth hooks. The wound will become larger and deeper as more and more eggs hatch and larvae feed on the living tissue. This results in serious and often deadly damage to livestock, wildlife, pets, and in rare cases, humans if left undetected and untreated.

NWS has been successfully controlled through the release of sterile males, known as the sterile insect technique. This approach, along with regular active surveillance and livestock inspections, has been very successful in controlling populations. USDA's recent $21 million expenditure went toward renovating an existing fruit fly production facility in Metapa, Mexico, which will provide an additional 60-100 million sterile flies a week to stop the spread, on top of the over 100 million already produced in Panama. This will result in at least 160 million flies per week.

U.S. Secretary of Agriculture Brooke Rollins just announced the launch of an $8.5 million sterile New World screwworm fly dispersal facility in South Texas and rolled out a five-pronged plan to enhance USDA's current strong ability to detect, control, and eliminate this pest. Complete details can be found on the USDA website, but the essence of the plan is as follows.

1. Stop the Pest from Spreading in Mexico and Ensure Full Partners in Eradication
2. Protect the U.S. Border at All Costs
3. Maximize Readiness
4. Take the Fight to the Screwworm
5. Innovate to Eradication

While this is not a current, direct threat to livestock, pets and wildlife in Kansas, it is important to educate everyone about this risk and keep a watch for signs of infestation. The last time this pest was found close to the US mainland in the Florida Keys, it was believed to have been transported there on a pet, so vigilance around travel into Central and South American countries is paramount. Texas A&M AgriLife Extension has a good website dedicated to this topic: https://agrilifeextension.tamu.edu/new-world-screwworm/ The USDA site is: https://www.aphis.usda.gov/livestock-poultry-disease/cattle/ticks/screwworm

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Laura Phillips
District Extension Agent, Horticulture

No news article.

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Teresa Hatfield
District Extension Agent, Family and Community Wellness

May send at a later time.

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

Using Precautions with Summer Heat

Summer's hottest days are here with heat advisory being issued this week. Welcome to summer where hot weather is the name of the game. Many occupations must work outside including gardeners, farmers, ranches, lifeguards, road construction and many more. Here are some tips to help you if you need to be out during these hot summer days.

Wear lightweight, long-sleeved, light-colored clothing. Or a cooling vest and take short, frequent breaks in a shaded or cool area to stay cool while working outside. Technical cooling vests are essentially like wearing air conditioning. These cooling vests use specialized fabric and fibers to circulate cooking products to keep body temperatures low during hot days.

Use equipment with a canopy, such as a Rollover Protection Structure, known as ROPS, with a sunshade, if possible. Usually, the ROPS with canopies cannot be folded down, which in turn provides more safety for operators because the ROPS are always activated. Equipment that has an enclosed cab often comes with air conditioning and has a built-in ROPS. Both options provide safety from rollovers and can help prevent heat-related illness.

Everyone reacts to hot days differently, so it is important to listen to your body. Take frequent breaks, drink plenty of water and stay inside during the hottest part of the day.

Medication may also play a role in affecting one's body's ability to stay cool, making it harder to handle the heat. Before working outside this summer, check with your doctor to see if you're at higher risk for heat-related illnesses and whether you should take extra precautions due to medication.