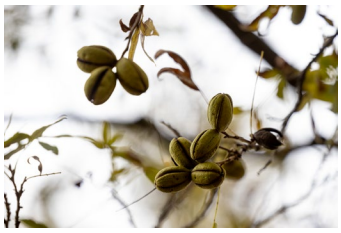
AGRICULTURE

July-September 2025

# Wagoner County Ag Quarterly Newsletter

## Fertility Management for Pecans

By: Laura Payne, Horticulture Educator
Payne County OSU Extension



Pecan trees can respond well to fertilization—if the soil is deficient in key nutrients. However, applying fertilizer unnecessarily can waste money and contribute to environmental issues such as nutrient runoff.

The most reliable way to determine what your trees need is through a pecan leaf analysis. For accurate results, leaf samples must be collected in July. While the process can be a bit tedious, following the correct steps is essential for obtaining a valid sample:

- Sample each variety separately. Native pecans in the same area may be sampled as one group.
- Select uniform, healthy trees for sampling.
- Collect 100 leaflets per sample. Choose the middle pair of leaflets from the middle leaf on a current season's shoot.
- Take leaflets from multiple parts of the tree. Avoid suckers and shaded limbs.
- Do not use galvanized containers or wear rubber gloves when collecting samples.
- Rinse leaflets by dipping them in clean water for one minute. Then lay them out (away from direct sunlight) until they are dry enough to crumble.
- Place dry samples in a paper bag and bring them to the County Extension Office.
- The cost for this service is $23.00, and results typically arrive within two weeks.

For more information on this or any other horticultural topic, you can



## Wagoner County OSU Cooperative Extension Service

**Lawrence Tomah**
**Wagoner County Ag Educator**

**Address**
30058 E 147th St. S.
Coweta, OK 74429

**Phone**
918-486-4589

**Email**
Lawrence Tomah
lawrence.tomah@okstate.edu

**Website**
https://extension.okstate.edu/county/wagoner/

**Social Media**
Facebook: wagonercountyextension

## In this issue

# Anaplasmosis: A Late Summer Threat to Cattle Health

By: Barry Whitworth, DVM, MPH, Senior Extension Specialist

Late summer and early fall are busy times for most cattle producers. Unfortunately, this is also when most cases of anaplasmosis in beef cattle are reported across many states. It's a critical time for producers to be vigilant and closely monitor their herds for signs of illness.

Anaplasmosis is a disease caused by *Anaplasma marginale*, a rickettsial, gram-negative bacterium that infects red blood cells. Its name stems from its tendency to reside on the margins of red blood cells. This pathogen is commonly found in ticks, wild and domestic ruminants. Although infections have occurred in sheep and goats, anaplasmosis is primarily a cattle disease. It has been identified in nearly every U.S. state, excluding only Alaska and Hawaii, and remains a global issue in cattle production.

Cattle may be infected with *A. marginale* in a variety of ways. The micro-organism may be transmitted when a tick that is infected with the pathogen feeds on a susceptible cow. Biting flies such as horseflies can carry blood containing *A. marginale* from one cow to another during feeding. Contaminated equipment used during procedures like castration, dehorning, or dirty needles can transmit the pathogen if not properly cleaned and sanitized between animals. Unborn calves may become infected in the uterus from infected cows. These calves are born persistently infected with *A. marginale.*

Once an animal is infected, clinical signs of the disease appear in 3 to 6 weeks. The severity of the disease depends on the age of the animal and virulence of the pathogen. In cattle less than 2 years of age, illness is rare or mild with very few cattle dying. Cattle that are 2 years or older tend to show clinical signs of the disease. Typical clinical signs include fever, anemia, weakness, respiratory distress, lowered milk production, abortion, jaundice, and death. Aggressive behavior is also associated with *A. marginale* infected cattle, so producers should be cautious when anaplasmosis is suspected. Cattle that recover often remain persistently infected and serve as reservoirs for the disease. These animals may show signs again if their immune system becomes compromised due to stress or secondary infections.

Diagnosing the disease is normally based on history, clinical signs, and finding the micro-organism on a stained blood smear microscopically. Additional blood tests may be used to confirm the disease.

Treatment can be challenging, especially if clinical signs are severe. Treatment with tetracycline is helpful if initiated early in the disease, but maybe of little value in the latter course of the disease. In cows that are not eating, B vitamins and rumen inoculants may stimulate appetite. Blood transfusion maybe needed in cows with severe anemia, but the stress of the transfusion may result in death. Also, cattle with clinical signs of anaplasmosis need to be isolated since they harbor large numbers of *A. marginale.* It's important to note that treatment often reduces symptoms but does not eliminate the pathogen from the body.

Eliminating *A. marginale* entirely from an infected cow is generally not practical. Additionally, clearing the infection would make the animal susceptible to re-infection. Therefore, producers should focus on prevention and control. One option is to maintain a herd with *A. marginale* so that young animals are sure to be exposed to the pathogen. A vaccine is available, though its effectiveness is debated. Consult your veterinarian before use. Feeding tetracycline can reduce clinical signs but doesn't protect all animals equally. Tick and fly control are important in eliminating transmission. Lastly, cattle producers should keep their equipment clean and disinfected as well as change needles frequently. (continued on page 3)

## Anaplasmosis (continued from page 2)

Anaplasmosis continues to pose a threat in Oklahoma. Producers should stay alert during late summer and fall, monitor cattle for signs of illness, and act quickly when disease is suspected. Cattle producers need to work closely with their veterinarian to develop a tailored prevention and control program. The local Oklahoma State University County Extension Agriculture Educator is also a valuable resource for more information on managing anaplasmosis in your herd.

References

Ierardi R. A. (2025). A review of bovine anaplasmosis (*Anaplasma marginale*) with emphasis on epidemiology and diagnostic testing. *Journal of veterinary diagnostic investigation : official publication of the American Association of Veterinary Laboratory Diagnosticians, Inc*, *37*(4), 517–538.

## Notice of Price Change for OSU Soil Testing Services

We appreciate your continued trust in OSU Soil, Water, Forage Analytical Laboratory (SWFAL) testing services. Over the years, we have been committed to providing accurate, reliable, and timely soil analyses to support your agricultural, lawn, and garden needs.

Due to the rising costs of laboratory supplies, equipment maintenance, and operational expenses, SWFAL will be implementing a price adjustment for our soil testing services became effective Jul 1st, 2025, this change is necessary to maintain the high standards of quality and service you have come to expect from them. This is the first price increase since 1995.

New Pricing Structure:

· Routine Soil Test: $15.00

· SubSoil Nitrate -N Analysis: $4.00 (Separate sample with the submission of Surface soil)

· Nitrate-N or Ammonium-N $5.00

· Nitrate-N and Ammonium-N $6.00

· Secondary Nutrients $5.00

· Micronutrients $5.00

We remain committed to supporting your soil testing needs through accurate soil assessments and expert guidance. If you have any questions about fertility, please don't hesitate to reach out to the Wagoner County OSU Extension Office.

*Note: Perplexity.ai wrote this section after providing information on this topic. Edited from its original version by Lawrence Tomah.*

## Vaccine Cooler

Cattle vaccines need to out of the sunlight and within a certain temperature range. Modified Live Vaccines (Biological Products) should be kept at 35 degrees to 45 degrees Fahrenheit Commercially available coolers that could be cost prohibitive If you run just few head of cattle and still want to use vaccines that require the mentioned parameters. Without having to open and shut a cooler every time you need to administer the vaccines Oklahoma State University Extension has an answer for you as in our factsheet ANSI-3300 https://extension.okstate.edu/fact-sheets/chute-side-vaccine-cooler.html. It costs some time and about $25. With just a few materials and some tools. Contact your local extension office for more information.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## Wagoner County Fall Free Fair

**August 25 - August 29, 2025**

Find the calendar of events, fair books, rules & more at
https://extension.okstate.edu/county/wagoner/wagoner-county-fair/

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