



# Livestock Inspection Guide for New World Screwworm

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Figure 1. The fight against NWS. Graphic created by K. Hazlewood Spanyers.

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## Introduction

The New World Screwworm (NWS) is a parasitic fly whose larvae (maggots) infest and feed on the living tissue of warm-blooded animals. Unlike most common blow flies that target dead or decaying flesh, NWS larvae cause severe, expanding wounds that can lead to serious illness or death if left untreated. Livestock, wildlife, pets, and even humans can be affected, making it a significant public health and economic concern.

**On June 3rd, 2026, the [USDA confirmed a case of New World Screwworm \(NWS\)](#) in a three-week-old calf in Zavala County, Texas. With NWS now present in the United States, and more cases being detected everyday, livestock producers should remain vigilant and follow recommended inspection protocols (APHIS, 2026c).**

While producers may be concerned about the implications of reporting a suspected NWS case, prompt reporting remains one of the most effective tools for limiting the impact of an infestation. Early detection allows for rapid diagnosis, treatment, and response efforts that can reduce animal suffering, minimize economic losses, and help prevent the spread of NWS to other livestock, pets, and wildlife. Reporting suspected cases immediately benefits both the affected operation and the broader livestock community.

Early detection is critical to preventing the spread and impact of this pest. Regular and thorough inspection of animals, especially around wounds, navels, ears, and other vulnerable areas, is one of the most effective tools for identifying infestations quickly. This publication will provide an overview of the life cycle of NWS, equipment, supplies, techniques needed to conduct effective inspections, and how to take appropriate action to protect animal health and operations.



Figure 2. New World Screwworm adult fly. Image credit: © Judy Gallagher Creative Commons Attribution-ShareAlike 4.0 (International) – unaltered.



Figure 3. New World Screwworm maggot infestation in a hoof. Image credit: USDA

## Life Cycle

New World Screwworm life cycle in total is around 21 days. This can be altered due to environmental factors such as temperature and climate. Optimal conditions occur between 77°F and 86°F with relative humidity levels ranging from 30% to 70%. In contrast, prolonged exposure to temperatures below 46°F is generally lethal to the pupal stage, the developmental stage between the larva and the adult fly (Hairgrove et al., 2025; Machtinger & Alexander, 2025). Once adult flies mate, females seek out hosts to lay her eggs, typically a wound due to the attractive odor or the mucous membranes such as eyes, nose, and genital regions of warm-blooded animals (APHIS, 2025). By retaining sperm for fertilization, females can lay batches of 200-300 eggs at one time, and up to 3000 in her lifetime. After 12-24 hours, the eggs will hatch and the larvae start to burrow into the flesh, feeding on the live tissue (Knipling, 1960). Larvae move through 3 stages over 5-7 days. Larvae may not be seen in the wound for 3-4 days as they reside deep into the tissue. Developed larvae then fall from the wound to the ground, burrowing into the soil, transforming into pupa. Once in the ground, NWS is incredibly hard to combat because it is not visible and soil can buffer the temperature that would otherwise be lethal. Typically, after 6-8 days, an adult fly will emerge and start the cycle again, however this process can be extended up to 54 days (CDC, 2026). Males can mate within 24 hours of maturation. It takes females around 3 days to be able to mate and will only mate once in her lifetime, storing sperm to fertilize all future egg batches (Knipling, 1960; APHIS, 2025).

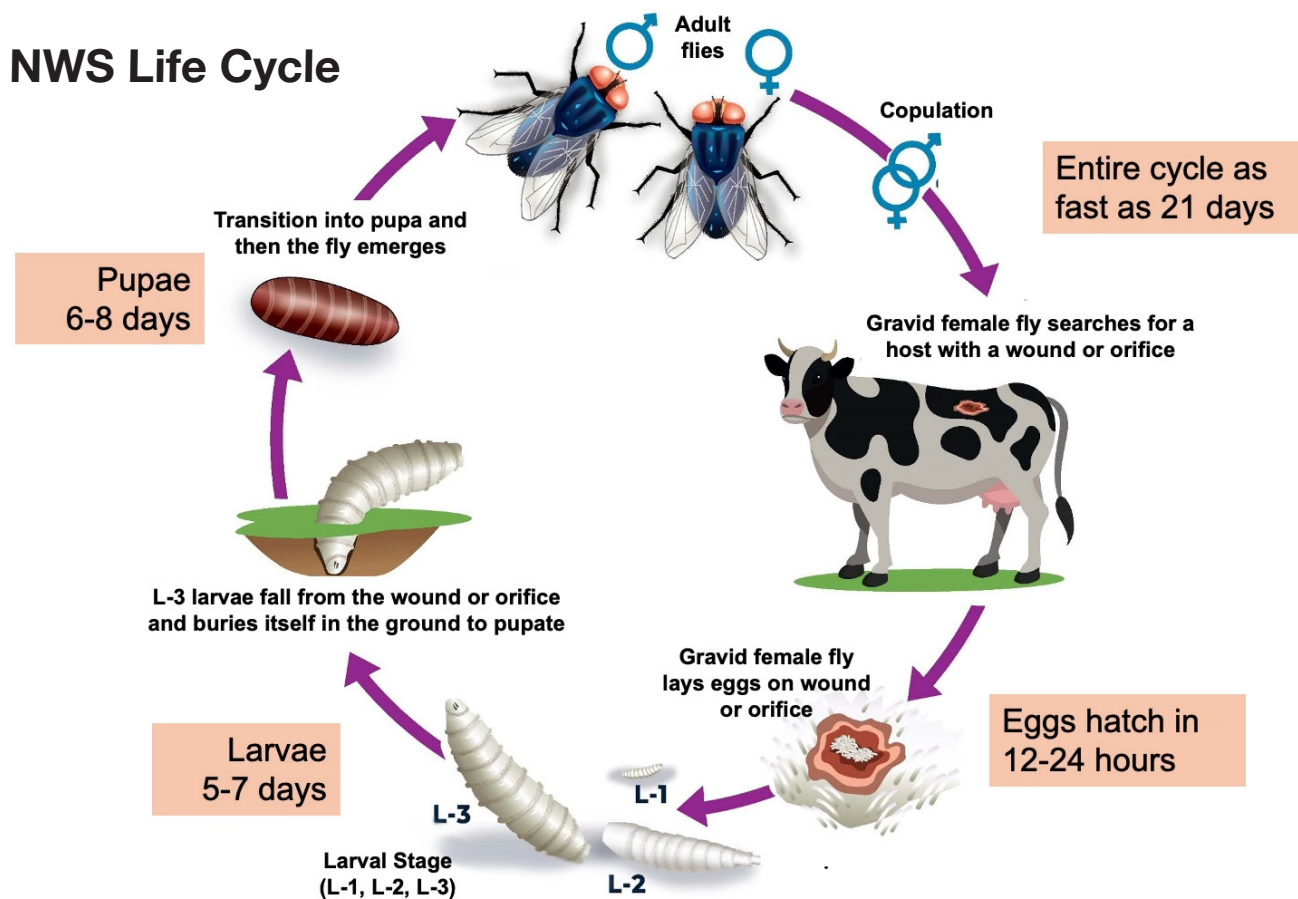


Figure 4. New World Screwworm life cycle. Graphic from U.S. Department of Agriculture Animal and Plant Health Inspection Service.

Depending on the habitat suitability and host density, NWS flies will travel anywhere from 1.9 to 12.4 miles in more warm and humid areas. NWS flies have been discovered to fly up to 186 miles in more arid climates (WOAH, 2013). In addition, wind may carry the fly farther than normal flight distribution and spread NWS to uninfested areas.

Due to these reasons, increased and regular surveillance of livestock is imperative to combatting the spread of NWS. Once the larvae fall off the animal to the ground and pupate, it is incredibly difficult to eradicate this pest. Once the fly is mature it may travel far and wide to find compatible habitat and hosts.

## Equipment & Supplies

Effective treatment of an active New World Screwworm infestation requires careful preparation and biosecurity measures. Whenever possible, place a tarp beneath the animal during treatment to capture any larvae that may fall from the wound. Larvae that reach the ground may survive and continue their development. While some

treatment locations may be remote and access to equipment may be limited, every effort should be made to follow recommended treatment and containment procedures. It is also advisable to keep NWS sampling kits and collection instructions readily available whenever possible.

At a minimum, equipment for sample collection and wound treatment should include disposable gloves, clean water, gauze, disinfectant, forceps or tweezers, and a collection container. As humans are also a host for NWS, it is important to cover any cuts and scrapes and be cognizant of flies landing on the body. If a squeeze chute is not available, ensure that adequate restraint equipment, such as ropes, are available to safely secure the animal during treatment, as infested wounds can be painful and animals may react during handling. Appropriate wound-cleaning and disinfecting products should be on hand. Treatment, prevention, and anti-inflammatory medications may be administered according to veterinary guidance when needed to improve animal comfort and recovery. Personnel responsible for disinfecting the surrounding environment should also have appropriate Personal Protective Equipment (PPE).



Figure 5. Equipment suggested for NWS inspections. Sprayer, gloves, tarp, tweezers or forceps, animal health products (treatment, preventative, and/or anti-inflammatory medicines and related administration tools), gauze, and disinfectant. Images compiled from Adobe and Canva stock and by K. Hazlewood Spanyers.

## Steps of Inspection

When inspecting an animal for NWS, the goal is to detect infestations early before larvae cause severe tissue damage. A systematic, head-to-tail inspection is essential. It is imperative to regularly and thoroughly check animals for any signs of wounds, sores, or abnormal behavior, like head shaking. Particular attention should be given to high-risk areas such as the navels, ears, mouth, tailhead, udder or sheath, castration, branding, or dehorning sites, feet, and any existing injuries, since these are the most common entry points for screwworm infestations.

As much as possible, the inspection should be calm, systematic, and hands-on, using appropriate restraint to minimize stress and excessive movement. Personnel safety is a priority. Ideally, animals should be handled in a squeeze chute to ensure safe and controlled examination. If a chute is not available, roping may be used as an alternative,



Figure 6. Active NWS infestation in a navel. Image credit: Mexican Secretariat of Agriculture and Rural Development, Senasica: National Service for Agri-Food Health, Safety and Quality

provided the animal is securely and safely restrained to allow sufficient time for a thorough inspection.

1. Restrain the animal in a chute or by ropes if equipment is not available (see section below for guidance on how to inspect animals without using a chute). To avoid facilitating the spread of larvae during transport, do not move animals long distances just to use handling facilities.
2. Place a tarp under the inspection area, ensuring it is large enough to capture any larvae or pupae that may fall from the animal, such as around the head area and on the sides of the chute to prevent larvae that fall from the animal reaching the soil. If you have to inspect the animal in a remote area, try to put the tarp under the animal if possible.
3. Thoroughly inspect the entire animal, paying special attention to the areas described below.
4. If larvae are present, scrape and pluck out all visible larvae. Make sure to look as deep into the wound as possible as NWS larvae are most likely to be the furthest into the wound.

According to veterinary instruction:

5. Remove hair and clean area around wounds.
6. Administer wound treatment and preventative larvicide to areas on the animal NWS was present ([link below in Environmental Disinfection](#)).
7. Administer preventative treatment to cuts and wounds that do not have larvae present.
8. Administer systemic anti-inflammatories and preventative medications.
9. Once all animals have been inspected, inspect and disinfect the area animals were held and restrained, such as the corrals, alleys, trailers, and/or chutes for larvae and apply approved pesticides to the area.

## Signs to watch out for:

- Abnormal behavior
- Head shaking
- Clusters of white eggs
- Maggots in wounds
- Foul smell
- Wounds that are not healing, persistently bleeding, or draining light-colored fluid

## Areas to Inspect

**Tailhead:** Lift the tail and inspect the tailhead, perineal area, and surrounding skin. Look for skin abrasions or fly activity (Figure 7).

**Udder or sheath:** For females, examine the udder, especially the base and teats, for cuts, discharge or fly presence. For males, inspect the sheath for swelling, discharge, injury or fly presence. These areas are prone to minor injuries that can quickly become infested (Figure 8).

**Castration site:** Check recent surgical sites for swelling, heat, discharge, or separation of tissue. Open castration wounds are among the highest-risk sites for NWS infestation. Look closely for maggots, foul odor, or excessive licking behavior.

**Navels:** Visually inspect the umbilical area for swelling, moisture, discharge, or foul odor. Carefully part any hair

and palpate the navel to check for heat, pain response, or open tissue. Fresh or poorly healed navels are high-risk entry points for NWS, so any abnormality should be noted and examined closely for larvae.

**Body:** Examine along the body for cuts, scrapes, or any other kind of wound or recent branding sites. If the animal is safely restrained, feel along the sides of the animal to help inspect through their hair. This is especially important to do if dealing with sheep with wool on. Also inspect in the flank region and under the front legs in the armpit area (Figure 9 and 10).

**Eyes:** Examine eyes for injuries, discharge or fly activity (Figure 11).

**Ears:** Lift and gently rotate each ear to inspect both inner and outer surfaces. Look for scratches, wounds, discharge, or head shaking behavior that might indicate irritation. Make sure to look under and around ear tags. Pay attention to the ear base where moisture can accumulate. In severe cases, larvae may be hidden deep in folds, so good lighting is important (Figure 12).

**Mouth:** Observe the lips and gums for wounds, cracked tissue, or salivation. If the animal can be safely restrained, gently open the mouth to check for lesions on the tongue, dental pad, and inner cheeks. Also, check the gum line and behind teeth. Any oral injury can attract flies, especially if feed-related injury is present (Figure 13).

**Nose:** Examine the folds of the nose. Larvae may be hidden deep in folds, so good lighting is important (Figure 14).

**Feet:** Lift each hoof if possible or closely observe weight-bearing and stance. Inspect interdigital spaces and the entire foot for cuts, moisture, swelling or fly activity. Foot rot lesions or abrasions provide ideal entry points for larvae and should be examined carefully (Figure 15).



Figure 7. Tailhead inspection. Image credits: Sarah King (cattle), Dennis Moroney (sheep).



Figure 8. **Udder and sheath inspection.** Image credits: Sarah King (cattle), Dennis Moroney (sheep).

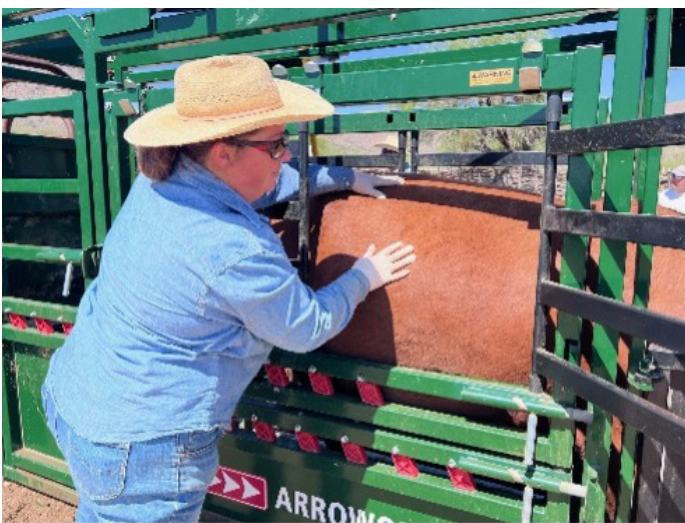


Figure 9. **Body inspection.** Image credits: Sarah King (cattle), Dennis Moroney (sheep).



Figure 10. **Inspection for brand and other body wounds.** Image credit: Sarah King.



Figure 11. **Eye inspection.** Image credits: Sarah King (cattle), Dennis Moroney (sheep).

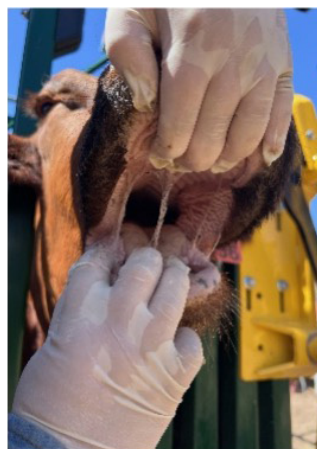


Figure 12. **Ear inspection.** Image credits: Sarah King.

Figure 13. **Mouth inspection.** Image credits: Sarah King (cattle), Dennis Moroney (sheep).

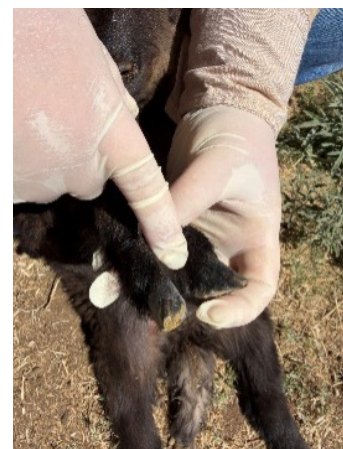
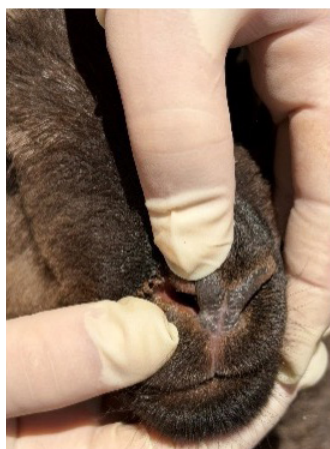


Figure 14. **Nose inspection.** Image credits: Sarah King (cattle), Dennis Moroney (sheep).

Figure 15. **Foot inspection.** Image credits: Sarah King (cattle), Dennis Moroney (sheep).

## Inspecting and Treating an Animal Without a Chute

Inspecting an animal in remote areas on rangeland where a squeeze chute is not accessible requires additional considerations. Roping and doctoring cattle in the field can be dangerous, especially with a compromised animal. Personnel safety is a priority. Inspecting and treating NWS can be time consuming, and roping can be an unideal method with severe infestation. In the case where roping is the only option, consider the following:

1. A team of at least 3-4 people on horseback who are capable ropers is ideal. There are many methods to rope and restrain an animal, one of the most popular for doctoring cattle is to get a rope on the head or both front feet, and a second on both back feet. This allows 1-2 other people to be on the ground, collecting samples, administering treatments, etc.

2. To ensure proper inspection, the animal will need to be rolled over and both sides inspected. This also helps with removing larvae that may have fallen to the ground while restraining the animal.
3. Follow the same inspection procedures for administering treatment and preventative measures as in the chute, so be prepared with injectable equipment (needles and syringes) when heading out to remote range areas.
4. Be aware of other animals that will have close contact with infested cattle during treatment. Horses and dogs used during doctoring can easily pick up NWS inadvertently. Carefully inspect work animals utilized while inspecting cattle.
5. Recognize your limitations. Roping is an acquired skill that not every operation has. More harm can be done to both the cattle and the spread of NWS

if personnel cannot properly rope, restrain, and inspect cattle outside the corrals without causing additional injuries. Seek help from qualified teams and individuals as needed.

## Collecting a Sample

The submission guidelines for New World Screwworm samples (<https://extension.arizona.edu/new-world-screwworm/submit-samples>) emphasize that rapid detection and proper sample handling are critical because the pest can cause severe damage by feeding on living tissue (UACE, 2025). Livestock producers and veterinarians are encouraged to monitor animals closely for suspicious wounds and collect samples when larvae are present. Ideally, photos of the wound should be taken first, then larvae should be carefully removed using forceps or tweezers, especially from deeper parts of the wound, where true screwworm larvae are more likely to be found. Multiple larvae of differing sizes (typically 14–18 total) are collected into two vials containing 70% alcohol to preserve them for accurate identification (Figure 16).

Once collected, samples must be properly labeled with key information such as animal ID, location (the more exact the better), and collection details, then sealed securely to prevent leakage. The more information provided, the more effective the evaluation and the response will be. Two separate vials are required so testing can be performed both at the Arizona Veterinary Diagnostic Laboratory (AZVDL) and the National Veterinary Services Laboratory (NVSL) in Ames, IA. Samples are submitted either by mail or in person to the AZVDL, after completing the appropriate submission form, and AZVDL will submit one of the vials to NVSL. Prompt reporting is strongly encouraged so authorities can quickly confirm cases and initiate a response if screwworm is detected. University of Arizona Extension agents and specialists are available to facilitate sample transmission to the AZVDL through county extension offices.



Figure 17. Treated foot infestation. Image credit: Mexican Secretariat of Agriculture and Rural Development, Senasica: National Service for Agri-Food Health, Safety and Quality.

## Treatment

When dealing with a suspected or confirmed NWS infestation, it is important to be in contact with your veterinarian at all stages. They will be able to assist in inspections and provide guidance on treatment options (Figure 17). The FDA has conditionally approved or authorized off-label use in some medications for the prevention and treatment of NWS. Extra-label use is only legal through a valid Veterinarian Client Patient Relationship (VCPR). The current approved medications are listed on the FDA website (<https://www.fda.gov/animal-veterinary/safety-health/new-world-screwworm-information-veterinarians>; FDA, 2026). Some of these medications are only available through a veterinarian, so establishing a VCPR before an infestation occurs is a good way to be prepared. As always, withdrawal times must be followed if the animal is producing milk or will be taken to slaughter. These times may vary with the conditional approval compared to normal drug usage.

## Environment Disinfection

Once NWS larvae reach their final stage in the animal, they fall to the ground and pupate. From here, they transform into a fully mature adult that can then mate and reproduce. It is important to prevent larvae from reaching the ground as much as possible. Using a tarp during inspections will aid in this and make it easier to spot larvae that have fallen off the animal. Once an inspection is over, look over the area where the livestock were held and search for larvae. Remove any larvae and dispose of them



Figure 16. Arizona Livestock Incident Response Team (ALIRT) NWS Surveillance Kit. Image credit: Dr. Betsy Greene.

by squishing them, immersing in 70% alcohol, and then thrown away sealed in Ziploc bag or burned. The area also needs to be disinfected for any larvae that may have been missed or already started burrowing in the ground. Spray the area with a larvicide to kill any remaining NWS, the approved pesticides for control of NWS are listed on the APHIS webpage (<https://www.aphis.usda.gov/livestock-poultry-disease/cattle/ticks/screwworm>; click on “How It’s Treated” and click on the list link after “There are pesticides to potentially use against NWS.”; APHIS, 2026a). This includes cleaning and spraying any equipment used during inspection such as chutes, alleys, and trailers. When using these products, it is important to follow all label instructions regarding dilution, applications, and personnel protection.

Animals that die during an NWS infestation may still spread the pest. Larvae can survive for a few days on carcasses, complete their development, fall off the carcass to the ground, and pupae successfully. It is important not to leave the carcass or transport it off the premises as this can spread NWS to uninfested zones. Report the carcass and either freeze or burn the carcass (following local and state regulations) as outlined in the USDA NWS Playbook, (APHIS, 2026b).

## Biosecurity

One of the most effective ways to prevent the spread of NWS is by movement restriction. If NWS has been confirmed, an approximate 12-mile (20 km) quarantine zone will be established as described in the USDA NWS Playbook (APHIS, 2026b). Animal movements out of this zone require visual inspections and systemic treatment, with an associated treatment window lasting 3 to 14 days. After this time an additional inspection is required by a certified veterinarian prior to movement outside of the quarantine zone. These measures prevent infested animals from going to non-infested areas and the possibility of larvae falling from wounds, pupating, and starting the cycle again. State level rules may also be applied in addition to federal regulations. It is important to maintain the biosecurity of the operation to aid in this effort. Monitor who and what travels onto the property. This includes people as well as animals like stray pets or wildlife. This can be a difficult task for remote rangelands, but increased surveillance will aid in combatting continuation of the NWS life cycle by larvae reaching the pupae stage. Ask anyone who comes onto your property if they have been in an infested zone and if they would clean and disinfect their equipment before entering your property. Contact the respective agency personnel if animals outside of operation control are exhibiting signs of NWS, such as the Game and Fish Department for wildlife and local Animal Control for pets (Figure 18).



Figure 18. NWS infestation in buck deer. Image credit: USDA.

## Conclusion

New World Screwworm is a pest that can cause major damage to livestock and even result in death of the animal through wounds and infections if left untreated. Regular and thorough inspection is key to catching infestations early. Because NWS is a pest with proven control strategies (e.g., sterile flies) early detection is important for treating animals and reporting suspicious cases is essential for preventing further spread and eradication of NWS. Using proper equipment and livestock handling techniques during inspections will ensure personnel are kept safe and animals do not further injure themselves, providing more attractant wounds for NWS flies. A thorough head-to-tail inspection should be conducted to identify and treat any open wounds or other potential egg-laying sites with products approved for New World Screwworm prevention and control. With these steps in place, early detection through inspection of livestock will help combat the spread of New World Screwworm, protecting animal health and supporting the maintenance of running operations.

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This information has been reviewed by University faculty.

[extension.arizona.edu/pubs/az2208-2026.pdf](https://extension.arizona.edu/pubs/az2208-2026.pdf)

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