Oklahoma Cooperative Extension Service
Division of Agricultural Sciences and Natural Resources - Oklahoma State University

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Issue

Agriculture News

MAJOR COUNTY EXTENSION

PEST ALERT: Asian Longhorned Tick

The Asian longhorned tick has recently been identified from cattle in Mayes County in northeast Oklahoma.

The Asian longhorned tick is of particular concern for livestock, especially cattle. Tick populations on cattle can become so numerous that the animals become stressed, lose weight, reduce milk production, become anemic, and in some cases, die. Animals should be monitored for any changes in behavior or body condition, and if changes are noted, should be inspected for the presence of the species. Of greatest concern regarding the Asian longhorned tick and cattle is the tick's ability to transmit the pathogenic Ikeda genotype of cattle theileriosis. Symptoms are similar to anaplasmosis and include fever, anemia, pale coloration of the mucous membranes, and weakness. At this time, the pathogenic Ikeda genotype of cattle theileriosis has not been documented in Oklahoma.

Asian Longhorned Tick

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Is it Time To Wean?

Mark Z. Johnson, Oklahoma State University Extension Beef Cattle Breeding Specialist

As of August 1, 2024 the Mesonet Oklahoma Drought indicates over 69% of Oklahoma is abnormally dry. Of that percentage over 25% of our state is rated in moderate to severe drought. One potential management solution to dwindling forage resources in cow-calf operations is weaning calves.

The average age of beef calves weaned in the United States is a little over 7 months of age. While calves can be weaned as early as 60 days of age, this comes with quite a bit of added management. Simply weaning calves one to two months early is a cost effective management strategy that saves body condition score (BCS) and allows thinners cows (falling below BCS of 4) to more easily recapture flesh before having their next calf. When the nutritional demands of lactation are removed by weaning there is significant reduction (15 – 20%) in the dietary energy needed by cows. Saving BCS on cows now comes with the potential benefit of improved cow productivity in the years that follow. Weaning earlier than normal is most beneficial in years when pasture forage is inadequate to support herd nutritional requirements. From the standpoint of range management, it reduces the risk of overgrazing and accordingly adds to the long-term health of the grazing system.

If you plan to wean earlier than normal to alleviate stress on cows and pastures, keep the following management practices in mind:

- The first two weeks post weaning are a critical time for calves to overcome weaning stress, maintain health and become nutritionally independent by learning to consume feed.
- Lower the risk of health problems and promote calf growth by giving proper vaccinations prior to weaning. Castrate and dehorn calves when giving pre-weaning vaccinations. This permits calves to deal with the stress of these management practices while still nursing.
- Get calves accustomed to a feed bunk and water trough as quickly as possible (if not prior to weaning). Creep feeding calves for a few weeks prior to weaning will ease the transition and get calves accustomed to concentrate feed. Maintain access to good quality, clean water at all times.
- Fence line wean if possible. This eliminates stress by permitting calves to remain in the same pasture where they are familiar with feed, water, shade, etc.
- The feed ration is critical because feed intake is initially low after weaning. It needs to be highly palatable, nutrient dense, dust free and include a complete vitamin and mineral supplement.
- After calves are over the stress of weaning they should begin to consume approximately 3% of their body weight in high quality feed each day. Feed intake variation or depressed appetite can indicate health problems.
- Shade is important if weaning during summer heat.

Management Strategies to Increase the Resilience of the Beef Cattle Supply

Paul Beck, Oklahoma State University Extension Beef Cattle Nutrition Specialist

In recent weeks I discussed the impacts of drought and climate disturbances on cattle numbers, cow fertility, and lifetime productivity of calves. This week I am covering some of the ways we can improve the resilience of our production systems to drought and other climate disturbances.

Matching Environment and Cow Biological Type

Research from the USDA ARS Southern Plains Experimental Range in Harper County Oklahoma from the late 1950's and 1960's indicated that the economically ideal stocking rate was 0.07 animal unit equivalents per acre. For the 1,000-pound cows common at the time this was 14.5 acres per cow. Since then the cow mature bodyweight has increased by 7 pounds per year, with current cow mature weights of 1,350 pounds. Where cows are still stocked at 14.5 acres per cow, the actual stocking rate has been increased by 25% to 0.086 animal units per acre. While cow size has increased by 350 pounds over the last 60 years, calf weaning weights have only increased by 66 pounds. With increasing resources (precipitation, fertilizer, feed, etc.) the potential for a ranch to maintain a larger cow with a higher level of milk production increases. As cow mature weight and level of milk increases costs, level of management, and risk also increase.

Flexible Stocking

Flexible stocking is not a new concept; it is common practice by many ranches in harsh environments in the western U.S., but many producers have lost sight of this system as we become more specialized in our production. If we stock the ranch with the optimal number of cows for drought years, additional forage resources could potentially be used for an alternative enterprise during years of plenty. These alternative enterprises could be a stocker operation, custom grazing for other producers, or hay production. In drought years, we can cut back on the alternative enterprise and use the excess acres for maintaining the cowherd. This would make it possible for the ranch to keep from purchasing large quantities of hay at a high price or increased culling of the cowherd at a low price.

Improved Grazing Management

Research in Arkansas (Beck and others, 2016; doi: 10.2527/jas.2016-0634) looked at the effects of improving grazing management by integrating multiple strategies including rotational grazing, stockpiling bermudagrass, and planting a few acres of cool season annuals into bermudagrass pastures on cow-calf productivity and hay feeding requirements. During years with normal precipitation hay was only fed to cows in the pastures with improved grazing management during periods of ice and snow cover of the standing forage (less than 3 days per year) compared with 90 days in the continuously grazed pastures. During drought years cows in continuously grazed pastures were fed hay for 140-days, compared with only 40 days for cows in pastures with improved grazing management. Improving grazing management was able to reduce reliance on stored forages and improve forage stand persistence during drought conditions.

There are multiple ways we can change our management to improve our operation's resilience to drought. Integrating multiple alternatives may be the best way to counter the predicted changes in our environment to maintain long term sustainability.

EPA Issues Final Cancellation and Termination of Uses Order for Several Chlorpyrifos Products

The U.S. Environmental Protection Agency (EPA) is issuing a final order terminating food processing plant (food and non-food area) uses for Chemstarr's chlorpyrifos product "Chlorpyrifos 61.5% MUP" and food uses for Tide International's chlorpyrifos product "Chlorpyrifos 4 EC." EPA is also cancelling two Central Garden & Pet chlorpyrifos products "Equil Chlorpyrifos ULV 1" and "Equil Chlorpyrifos ULV 2." EPA published the Notice of Receipt of Requests from the registrants to voluntarily cancel or terminate uses for these product registrations on April 3, 2024, which was open for public comment until May 3, 2024. The Agency received two comments on this notice. After considering these comments, the Agency is finalizing its decision to accept the registrants' voluntary requests to cancel or terminate uses for these products. Any distribution, sale, or use of existing stocks of these products is permitted only in accordance with the terms of the final order and existing stocks provisions of the final order.

Chlorpyrifos is an organophosphate insecticide that has been used for many food crops, including soybeans, fruit and nut trees, broccoli, cauliflower, and other row crops, as well as non-food uses. In a final rule issued in August 2021, EPA revoked all tolerances for chlorpyrifos, which establish an amount of chlorpyrifos that is allowed on food. This action essentially stopped the use of chlorpyrifos on all food and animal feed. EPA took this action in response to an April 2021 order from the U.S. Court of Appeals for the Ninth Circuit for the Agency to issue—within 60 days—a final rule addressing chlorpyrifos tolerances, without taking public comment or engaging in "further fact-finding."

On November 2, 2023, the U.S. Court of Appeals for the Eighth Circuit vacated EPA's August 2021 rule revoking all tolerances. On February 5, 2024, EPA issued a Federal Register notice to amend the Code of Federal Regulations to reflect the court's reinstatement of those tolerances. At this time, all pre-August 2021 final rule chlorpyrifos tolerances have been reinstated and are currently in effect.

EPA expects to issue a proposed rule later this year to revoke the tolerances associated with all but the 11 food and feed crop uses identified in the Agency's 2020 Proposed Interim Decision. Based on the available data, retaining only these 11 food uses could decrease average annual pounds of chlorpyrifos applied in the U.S. by 70% as compared to historical usage.

Termination of Uses for One Chemstarr and One Tide Product

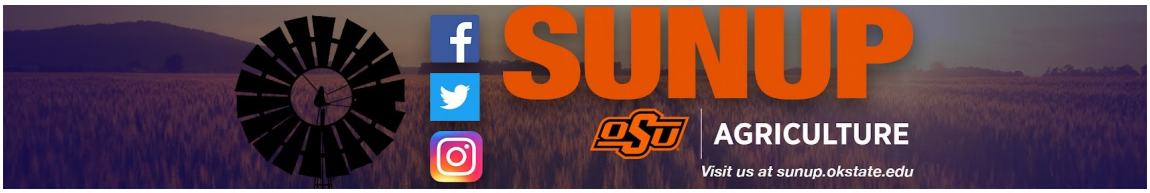
EPA's order amends the registration for Chemstarr's "Chlorpyrifos 61.5% MUP" (Reg. No. 81964-21) to terminate uses in food processing plants (food and non-food areas) and the registration of Tide International's "Chlorpyrifos 4 EC" (Reg. No. 84229-20) to terminate all food uses.

Sale and distribution of existing stocks of Chlorpyrifos 61.5% MUP (i.e., those products that have food processing plants on the label) will not be permitted after the final cancellation order is issued. Sale and distribution of existing stocks of Chlorpyrifos 4 EC (i.e., those products with uses being terminated) is permitted until April 30, 2025. Use of existing stocks of Chlorpyrifos 4 EC on food, food processing sites, and food manufacturing sites must be consistent with the product labeling and is permitted until June 30, 2025. Use of existing stocks of Chlorpyrifos 61.5% MUP and Chlorpyrifos 4 EC for non-food purposes is permitted until existing stocks are exhausted, as long as such use is in accordance with the labeling. After these dates, sale and distribution of existing stocks is prohibited, except for export consistent with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), or for proper disposal in accordance with state regulations.

Product Cancellation for Two Central Garden & Pet Products

EPA's final order also cancels the products Equil Chlorpyrifos ULV 1 (Reg. No. 89459-72) and Equil Chlorpyrifos ULV 2 (Reg. No. 89459-73). Since these products are only for non-food use, sale and distribution of existing stocks of these products is now permitted until August 7, 2025 (one year from publication of the cancellation order), and use of existing stocks is permitted until such stocks are exhausted, provided that use is consistent with the terms of the previously approved labeling on, or that accompanied, the cancelled products. Thereafter, sale and distribution of existing stocks of the product will be prohibited, except for export consistent with FIFRA, or for proper disposal in accordance with state regulations.

The final order is available at docket ID EPA-HQ-OPP-2022-0223 at www.regulations.gov. For more information, view the Federal Register Notice. The Agency has also updated the frequently asked questions about chlorpyrifos on its website.



Recently On SUNUP:

- **Eric DeVuyst,** OSU Extension agricultural economist, discusses the economics of a bale of hay.
- **Wes Lee,** OSU Mesonet agricultural coordinator, looks into how climate change has impacted rainfall in Oklahoma over the years. State Climatologist Gary McManus shows us how drought is expanding.
- SUNUP's **Kurtis Hair** packs his bags and heads to Scotland to follow a group of OSU students studying abroad and learning about agriculture in the UK.
- **Derrel Peel**, OSU Extension livestock marketing specialist, says there is still no clear indications to whether herd rebuilding has started yet.
- SUNUP previews the upcoming Regional Canola Meeting.
- We welcome **John Michael Riley** to the show! John Michael is covering crop markets for SUNUP.
- Finally, **Mark Johnson** discusses the role cover crops play in the cattle industry.

Oklahoma Agriculture Starts at SUNUP! Weekly Statewide Broadcast: Saturday at 7:30 a.m. & Sunday at 6 a.m. on OETA (PBS)

Stream Anytime: YouTube.com/SUNUPtv

Meet your Ag Extension Educator

Happy Fall! With all of the changes in the office. I felt I should officially introduce myself. I am Shelby Robertson, your dedicated Agriculture & 4-H Extension Educator for Major County.

My roots in agriculture run deep, having been an active participant in both 4-H and FFA until my graduation from Dodge City High School, in Ford County Kansas.

My interests are diverse, ranging from food science (specifically food and nutrition in Kansas), photography, horse, to sheep and cattle processing. I had the privilege of being part of the Ford County 4-H Council for eight years and the Ford County 4-H Exchange group for six years. These experiences allowed me to travel to Massachusetts and Wisconsin twice, providing me with invaluable insights into the 4-H programs in these states.

In the summer of 2019, I had the unique opportunity to work with Montana State University Extension to establish a 4-H program for the Fort Belknap Reservation, a time filled with wonderful memories.

I am a proud alumni of Northwestern Oklahoma State University, where I specialized in Agriculture and complemented it with a minor in Business.

Post-graduation, I served as the 4-H Program Assistant in Rush County, Kansas for three years. This was followed by a brief tenure in the banking sector before I returned to my passion for 4-H and Extension here in Oklahoma.

I am eager to meet each of you and look forward to enhancing our Agriculture and Natural Resources Programming. Should you find yourself near the courthouse or see me in town, please feel free to stop by for a chat. I'm always here to listen and assist.

Gardening Corner

Alternative ways to control insects in the landscape

One of the biggest concerns gardeners have in the landscape is controlling insects. Although some insects are beneficial for gardens, others can wreak havoc in a short amount of time.

Often, gardeners reach for the nearest container of insecticide in an attempt to control pests; however, there are more eco-friendly ways to keep pests away. This column will focus on mechanical control, which is the use of hands-on techniques, simple equipment and devices that provide a barrier. Next week will cover insecticidal soaps, oils and diatomaceous earth.

- Handpicking: This is the removal of insects and egg masses by hand. It is especially effective with foliage-feeding insects such as squash bugs, hornworms and bean beetles. While it does require physical labor, handpicking is the least expensive of all organic or natural control practices. A disadvantage is that handpicking must take place before insect damage is noticeable. Active monitoring is required before insect populations get too high.
- Exclusion devices: Nets, row covers and other physical barriers can help keep plants safe from harmful insects and birds. Paper collars placed around the stems of plants will help prevent cutworm damage. Additionally, proper fencing or barriers can help stop the spread of bermudagrass or prevent pets or wildlife from damaging the garden.
- Traps and attractants: Traps are used to trap enough insects to lower plant damage. Traps can also be used to monitor how many and what species of insects are in the garden. One disadvantage of using traps in the garden is they are non-discriminatory and will trap beneficial insects, too.
- Water pressure sprays: In some cases, a forceful stream of water will dislodge insects such as aphids and spider mites from foliage and plant stems. Gardeners will likely have to repeat this process throughout the summer because many of the insects are likely to return. Use this method only with sturdy plants to avoid plant damage. Also, this method could be problematic since frequent applications could increase diseases or cause root problems due to saturated soil.
- Insect vacuums: Insect vacuums can be used to remove certain kinds of insects from plants. These tools may contain a disposable cartridge lined with a non-toxic, sticky gel to which insects will stick when sucked up by the machine. Hand-held, battery-powered vacuums are available in stores or online.

Here are a few more environmentally friendly options that can help keep pesky insects out of the garden but aren't harmful to the beneficial insects who may call your garden their home.

- Insecticidal soaps: Just as a bar of bath soap or bottle of shower gel helps keep our bodies clean, insecticidal soaps will help control insect pests by penetrating the insect's outer coat cuticle or entering the respiratory system and causing cell damage or disruption. Several insecticidal soaps are available to control insects and mites and contain the active ingredient of potassium salt of fatty acids. These soaps sold for insect control will minimize plant injury. Certain brands of hand soaps and liquid dishwashing soaps can be effective alternatives but be cautious because there is an increased risk of plant injury. Don't use dry dish soaps or clothing detergents as they are too harsh for plants. A drawback to using soap-detergent sprays is their potential to cause phytotoxicity. Certain plants are sensitive to these sprays and can be seriously injured. There is a higher risk of plant injury with homemade sprays using household soap or detergent.
- Horticulture oils: These oils are petroleum-based products and contain certain fatty acids that form layers on plant parts to smother insects or provide a mechanical barrier to prevent plant damage. There are two types of oils, including growing season and dormant, and should be applied accordingly.
- Diatomaceous earth: Diatomaceous earth is composed of finely ground skeletons of fossil diatoms (a common type of unicellular phytoplankton). Sharp edges of the ground diatoms scratch the waxy or oily outer layer of soft-bodied insects, which causes them to eventually die from dehydration. Diatomaceous earth is considered a pesticide but is non-toxic to birds and mammals. On the downside, it can kill beneficial insects such as lady bugs. Also, it is less effective against pests in humid weather. It's important for gardeners to wear a dust mask when applying diatomaceous earth to plants. Keep in mind that the formulation of diatomaceous earth sold for swimming pool filters does not help control insects.
- Biological control: Gardeners may want to introduce natural predators to the garden, including ladybugs, lacewings or predatory beetles to help control pest populations.

All the methods outlined in this column have their own strengths and weaknesses. It's essential for gardeners to choose the most appropriate method based on specific pest problems, environmental factors and the plants involved.

Aphid on finger.

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AGRICULTURE

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