

TIMELY TOPICS

OSU EXTENSION - NORTHEAST DISTRICT
September 2023 – Volume 43 – Issue 9



EXTENSION

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Home Grown – Hort Tips for September

Laura Payne, Horticulture Educator, Payne County

September is under-rated as an important time for landscape tasks in Oklahoma. This is the key month to begin preparing plants for the upcoming winter, which in turn sets them up for a successful spring. Here are some helpful tips on those areas along with some other suggestions for your September landscape:

- If you plan on applying fall pre-emergence to prevent pesky spring weeds like annual bluegrass, henbit, chickweed and several others, do it as soon as possible as these weeds will begin germinating with our first cooling rains. The proper product to use can vary depending on a particular application. Contact the Extension office if you need additional assistance. And always remember, these products will fail (or cause damage) if they are not applied properly. Always follow label directions.
- The window has closed for planting some fall vegetable crops. However, you can still plant spinach, leaf lettuce, mustard, radishes, rutabagas, Swiss chard, garlic and turnips.
- If you are not planting a fall vegetable crop, consider planting a cover crop. Cover crops build organic matter which in turn leads to improvements in water and mineral holding capacity, improved drainage; critical factors for plant health. OSU Fact Sheet #6436 *Healthy Garden Soils* is a good resource on cover crops.
- September is the month to resume lawn fertilization for cool-season grasses (i.e. shade) like tall fescue. This should also be the last month of the growing season to fertilize warm-season grasses like bermuda, zoysia or buffalo. See OSU Fact Sheet #6420 *Lawn Management in Oklahoma* for more information.
- Damage from *twig girdlers*, a common tree pest, can start showing up this time of year. While we usually don't see the actual insect, their damage is apparent. These pests chew off the ends of small tree branches, leaving an almost machine line pattern of consistency with the cuts. If you start finding branches on the ground with conical shaped cuts on the large end, this is your culprit. These insects don't really warrant control as it is extremely rare for them to cause significant damage. If you wish to reduce the presence of twig girdlers long-term, it can be helpful to pick up the fallen branches and dispose of them offsite.

Nematodes in Chickens

Barry Whitworth, DVM, Senior Extension Specialist, Department of Animal and Food Sciences

Nematodes (roundworms) are common parasites in chickens. With the modernization of commercial poultry production, many nematode infections have been reduced. However, free range and backyard flocks have issues with parasites because they are in constant contact with the outdoors. Fortunately, clinical illness is not usually a problem unless parasite burdens become severe. The most common roundworms causing issues in poultry are ascarids, cecal worms, and thread worms.

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Ascaridia galli species, commonly referred to as ascarids, are the largest nematode in poultry. The white female roundworms may measure over 4 inches in length. Ascarids are located in the small intestines of domestic and wild birds. The worms have a simple and direct life cycle. This means that the worm eggs pass in the fecal material of the parasitized birds. Birds are infected when they ingest feces or fecal contaminated food or water. Adult birds rarely have issues with ascarid infection, but chicks are more susceptible. In moderate infections, clinical illness is rare. However, heavy burdens of worms result in weight loss, weakness, and diarrhea. In severe infection, intestinal blockage may occur resulting in death. A rare finding with *A. galli* is the appearance of the parasite in a hen's egg.

Heterakis gallinarum, commonly known as the cecal worm, is the most common nematode found in poultry. Cecal worms, as the name implies, are located in the cecum. *H. gallinarum* usually does not cause any health issues in chickens. The life cycle begins when the roundworm eggs pass in the droppings of the bird. Birds become infected when they ingest cecal worm eggs. The eggs can be found in fecal contaminated feed or water. Also, the eggs can be ingested by earthworms which can be eaten by birds. The major problem with cecal worms is their eggs can be contaminated with the protozoan *Histomonas meleagridis*. *H. meleagridis* is the cause Histomoniasis or "blackhead" disease in turkeys and occasionally other species of birds. More information on Histomoniasis can be found in a previous article found in the June 2022 edition of OKFR magazine.

Capillaria or thread worms, as their common name implies, are very small thin worms. They cannot be seen without magnification. Several different species of *Capillaria* infect chickens. Some thread worms have a direct life cycle. Eggs pass in the feces, and birds may be infected when they eat contaminated feed and water. Other species of thread worms rely on an intermediate host such as earthworms to ingest the eggs. Birds become infected when they eat the earthworms. These worms infect different areas of the birds which result in a variety of clinical signs. As with most parasites, the young are more susceptible to illness than older birds. Severe infections result in poor appetite, weight loss, diarrhea which may contain blood, and sometimes death. Low numbers of worms result in production issues such as poor weight gains, reduced egg production, and poor fertility.

Diagnosis of nematodes is not always easy. While microscopic examination of feces may confirm the presence of nematode eggs, it does not guarantee specific species identification. Diagnosis of nematode infection is usually based on clinical signs and unfortunately, demonstration of adult worms in a postmortem examination.

Control of nematode infection in chickens requires strict adherence to biosecurity, proper nutrition, and selective use of anthelmintics (dewormer). A key step in biosecurity is sanitation. Poultry facilities need to be clean and dry. Feed troughs and waters need to be cleaned daily to prevent fecal contamination. Protect birds from wild bird exposure. Overcrowding increases exposure to parasites. Keeping birds of different ages and/or different species in the same location leads to increase issues with parasites. Also, this may result in disease transmission such as occurs in blackhead disease in turkeys. Feed birds with a diet that provides the proper vitamins, minerals, protein, and energy. This ensures the immune system will function at its optimum. Lastly, dewormers should be used judiciously. Overuse of dewormers is expensive and can result in resistant parasites. Poultry producers should consult with a veterinarian on proper selection of a dewormer.

Nematodes are common in chickens. Fortunately, clinical illness is not common unless burdens of nematodes are severe. If producers adhere to strict control measures, this is unlikely to happen. For more information on nematodes in chickens, poultry producers should contact their local veterinarian or Oklahoma State University Cooperative Extension County Agriculture Educator.

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Nitrates in 2023

Earl H. Ward, Area Livestock Specialist

OSU Extension is here to help! Many calls have been coming in this year with reports of dead cattle or concern for the possibility of dead cattle. The drought continues to hit us in so many ways, and one of the worst ways is with the stress on plants that cause an increase in nitrate accumulation.

OSU Factsheet PSS-2903 “Nitrate Toxicity in Livestock” gives a list of several grasses and forbs that have a high risk of accumulating high levels of nitrates. Although there are several on the list, there is one that stands out in everyone’s mind, Johnsongrass.

OSU Extension Educators can test forages and forbs for the presence of nitrates using a test with diphenylamine acid. This test will only indicate if there are nitrates present but will not tell at what concentration. Concentrations of 3,000 ppm or lower are considered safe levels for livestock, but we would then need to send a random sample to our lab to test for the actual amount of nitrates present. The plants accumulate the highest concentration in the stalks, with lower concentrations in the leaves and then the seeds.

After visiting with several OSU Extension Educators, I began to wonder how many cattle have died this year due to this toxicity? A recent story was of heifers dying and some aborting after recently moving to a new pasture. The new pasture did not have any Johnsongrass in it, but the females must have picked up some Johnsongrass off the side of the road on their way to the new pasture. Another report said that even though the pasture had no Johnsongrass, cows had reached through the fence to feed on it and died in the fence.

Johnsongrass is a highly desirable plant for all species to consume and they tend to prefer it over many of our other grasses, but it comes with a big, neon caution sign. If your test comes back with elevated levels of nitrates, then the next question is how can you use it? That depends on the concentration. Typically, anything with 3,000 ppm or less of nitrates are safe for livestock to consume. Forages with 3,000-10,000 ppm cause some concern but can be diluted out to a safe level by using other forage/feed ingredients. There can be a point at to which the concentration is so high that it is not safe at all to use for feed for livestock and should be disposed of by either burning it or burying it.

If you have any animals die, please contact your veterinarian first so they can determine the reason for death. If you are questioning the forages in your pasture, then please call your OSU Extension office to have it tested prior to grazing or baling it. Reference the OSU Factsheet PSS-2903 for more detailed information on nitrate toxicity and management.

Fall Armyworms

Brian Pugh, Area Agronomy Specialist

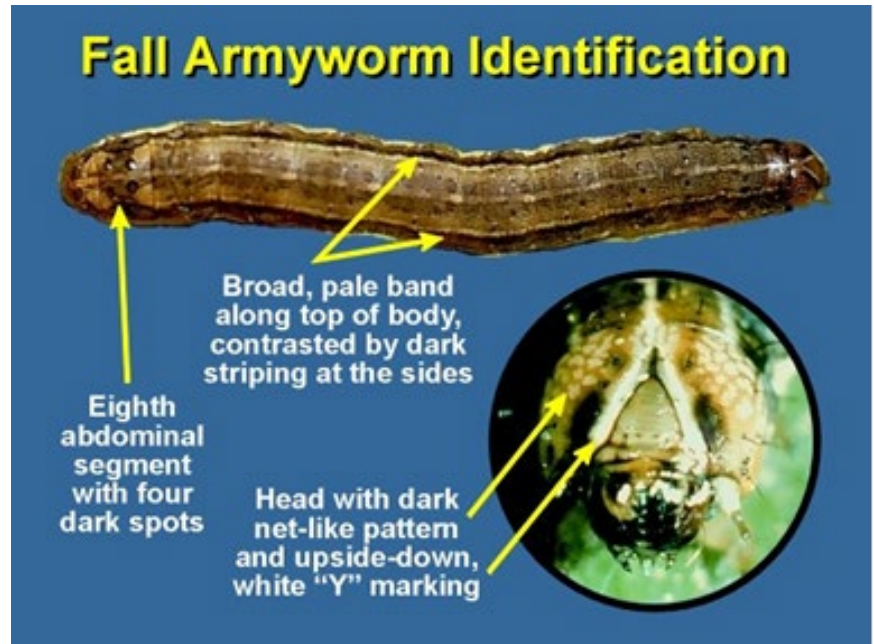
Fall armyworms are caterpillars that directly damage sorghum heads, fescue and bermudagrass pastures, seedling wheat, soybean, and residential lawns. There have been widespread reports of fall armyworm buildups across much of southeast and northeast Oklahoma.

Female fall armyworm moths lay up to 1000 eggs over several nights on grasses or other plants. Within a few days, the eggs hatch and the caterpillars begin feeding. Caterpillars molt six times before becoming mature, increasing in size after each molt. Newly hatched larvae are white, yellow, or light green and darken as they mature. Mature fall armyworms measure 1½ inches long with a body color that ranges from green, to brown

to black. They can be distinguished by the presence of a prominent inverted white "y" on their head. However, infestations need to be detected long before they become large caterpillars. Small larvae do not eat through the leaf tissue, but instead, scrape off all of the green tissue and leave a clear membrane that gives the leaf a "window pane" appearance. Larger larvae feed voraciously and can completely consume leaf tissue.

To scout for fall armyworm, plants from several locations within the field or pasture need to be examined. Examine plants along the field margin as well as in the interior. Look for "window paned" leaves and count all sizes of larvae. OSU suggests a treatment threshold is two or three ½ inch-long larvae per linear foot in wheat and three or four ½ inch-long larvae per square foot in pasture. An Auburn University entomologist developed an easy-to-use scouting aid for pasture by bending a wire coat hanger into a hoop and counting fall armyworms in the hoop. The hoop covers about 2/3 of a square foot, so a threshold in pasture would be an average of two or three ½ inch-long larvae per hoop sample.

It is crucial that you target smaller caterpillars (1/2 inches or less) for control for two reasons. First, the caterpillars do not cause severe damage until they reach an inch long, and secondly, smaller caterpillars are much more susceptible to insecticide control than larger caterpillars. A final reminder: we will not be out of the woods for a fall armyworm outbreak until we get a good killing frost, so don't let your guard down.



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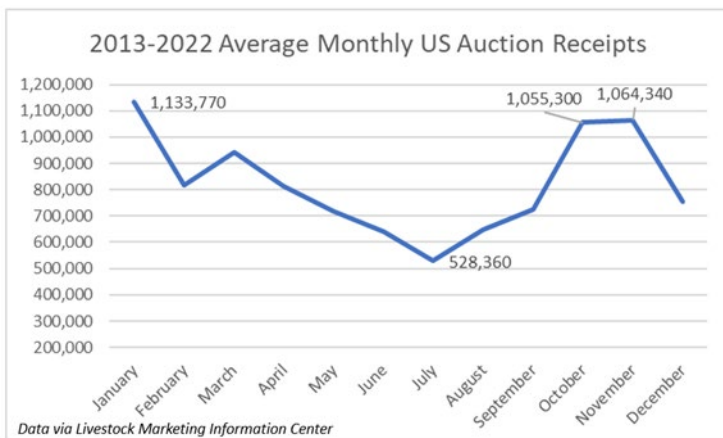


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Calf Marketing – Fall 2023

Scott Clawson, Area Ag Economics Specialist

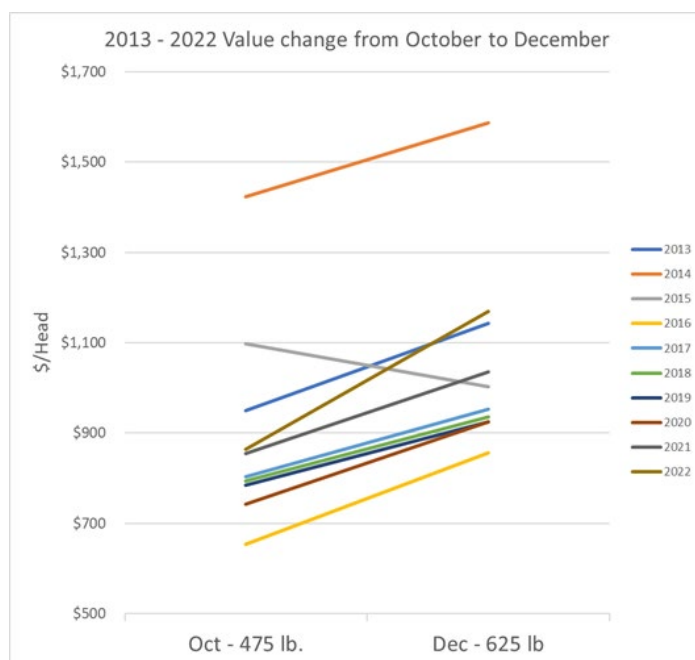
This time of year, several substantial decisions are made for this year's calf crop. Decisions on potential heifer retention are usually top of mind and figuring out how to market the rest of the calf crop. When do we sell them, do we background them, is there more money to be made? Like most things, it needs to be evaluated by how does this decision fit into our system.



The graph shows that most cattle are marketed in the October-November timeframe. To those of us in Oklahoma, that makes practical sense. We unload everything we can before we start feeding hay and supplementing for the winter. When looking at calves and cull cows specifically, we typically experience our lowest prices for the year in this timeframe. Why does our usual low point occur here? There are a multitude of potential reasons, but two primary ones are simple supply and weather/calf health. Since most cows in the US calve in the spring this leads to a glut of calves being weaned in the fall. Excess supply can pressure

prices. Also, the combination of high levels of calf stress and the temperature swings that time of year dampen the appetite of buyers as they plan for sickness, depressed gains, and death loss.

The next graph shows the difference in value per head, using Oklahoma average prices, for the last 10 years between a Med/Lg #1 steer sold in early October at 475 pounds and late December at 625 pounds. The most value was created in 2022 where that steer's value increased \$305/head and the low was 2015 where the calf decreased in value by about \$95/head. On average the value gained was about \$156 per year. This has not considered any premiums from participating in a Vac-45 program. Does that mean that we should be holding on to them all? It means that there is an opportunity that we should analyze further. This \$156 per head in added value has not accounted for the additional cost of carrying that calf another 60 plus days. Some sort of supplementation will be required over that period which will have a cost along with some other backgrounding inputs. Forage may also be a limiting factor. 2022 was a stark reminder that forage has a tremendous amount of value and is our operation's backbone in many cases. Any forage consumed by these calves would be displaced from the cowherd. Consider how the extra forage demand (calves retained another 60 plus days) will be handled in your system. With roughly 2/3 of a cow's annual cost being tied up in nutrition costs, we need to consider any possible impact on that front.



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Backgrounding calves in eastern Oklahoma is a sound opportunity to consider. It gives us a chance to add value via Vac-45 programs and takes us out of selling into our seasonal low calf market where supplies are high, and weather can create issues on high stress calves. Making a good estimate on cost and time is also important. Do we have sufficient time and facilities to manage these calves? What is my estimate on feed cost of gain? Lastly, many producers reduced cow numbers in 2022/23. Has that additional space freed up forage for more value-added practices? Contact your local OSU Extension Educator for more information.

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Value of Gain Calculation						
OK Weighted Average Report 9/1/23						
Weight	\$/lb	Value/hd	Added lb.	Added \$	\$/lb Added	
333	\$ 3.4824	\$ 1,159.64				
381	\$ 3.2379	\$ 1,233.64	48	\$ 74.00	\$ 1.54	
419	\$ 3.0900	\$ 1,294.71	38	\$ 61.07	\$ 1.61	
472	\$ 2.9688	\$ 1,401.27	53	\$ 106.56	\$ 2.01	
517	\$ 2.8792	\$ 1,488.55	45	\$ 87.27	\$ 1.94	
575	\$ 2.8399	\$ 1,632.94	58	\$ 144.40	\$ 2.49	
620	\$ 2.7224	\$ 1,687.89	45	\$ 54.95	\$ 1.22	
669	\$ 2.6056	\$ 1,743.15	49	\$ 55.26	\$ 1.13	
720	\$ 2.5447	\$ 1,832.18	51	\$ 89.04	\$ 1.75	
776	\$ 2.4891	\$ 1,931.54	56	\$ 99.36	\$ 1.77	
866	\$ 2.4162	\$ 2,092.43	90	\$ 160.89	\$ 1.79	
937	\$ 2.3504	\$ 2,202.32	71	\$ 109.90	\$ 1.55	
1024	\$ 2.2838	\$ 2,338.61	87	\$ 136.29	\$ 1.57	
Long Stocker Run		Short Stocker Run		Heavy Stocker Run		
<i>Starting</i>		<i>Starting</i>		<i>Starting</i>		
333	\$ 1,159.64	333	\$ 1,159.64	620	\$ 1,687.89	
<i>Ending</i>		<i>Ending</i>		<i>Ending</i>		
1024	\$ 2,338.61	517	\$ 1,488.55	1024	\$ 2,338.61	
<i>Total Gain</i>	<i>Δ Value</i>	<i>Total Gain</i>	<i>Δ Value</i>	<i>Total Gain</i>	<i>Δ Value</i>	
691	\$ 1,178.97	184	\$ 328.91	404	\$ 650.72	
VOG		VOG		VOG		
\$ 1.71		\$ 1.79		\$ 1.61		

* very light test on lighter calves



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