The Wisest Pursuit

MARSHALL COUNTY RESEARCH EXTENSION May/June/July 2021

Important Dates to Remember

June 8-9:	Tractor Safety Training	July 16:	Livestock Check In & Judging Contest
June 12-15:	4-H Camp	July 17:	Judging Exhibits & Swine Show
June 30:	Cat Show	July 18:	Beef/Rabbit Show
July 1:	District Horse Show	July 19:	Poultry/Sheep/Goat/Dairy Shows & Round Robin
July 8:	Pre-Fair Judging		
July 15:	Horse Show	July 20:	Livestock Auction

Marshall County Fair Book can be found at tinyurl.com/2021fairbook

Poison Ivy Identification and Control

Learning to identify poison ivy is vital if you wish to avoid the rash that accompanies exposure. Unfortunately, poison ivy can make identification difficult because it occurs in three forms: an erect woody shrub, a groundcover that creeps along the ground, and a woody vine that will climb trees.

When poison ivy climbs, it forms numerous aerial roots that give the vine the appearance of a fuzzy rope. The leaves of poison ivy also vary. Though the compound leaf always has three leaflets, the leaf margins may be toothed, incised, lobed or smooth. The size of the leaves also can vary, although usually the middle leaflet is larger than the other two. Also, the middle leaflet is the only one with a long stalk; the other two are closely attached to the petiole (leaf stem). The number of leaves gives rise to the saying: "Leaves of three, let it be!" Poison ivy is often confused with Virginia creeper or Woodbine. Each of these vines, however, has five leaflets rather than three.

There are three methods commonly used to eradicate poison ivy. These include pulling or grubbing out the plants by hand, cutting off the vine, and then treating the cut stump or the regrowth, and spraying the plants directly. The method used depends somewhat on the plant's growth form.

If the plant is growing as a groundcover, direct spray or grubbing the plant out is often used. If grubbing, wear gloves and a long-sleeved shirt. The soil must be moist for grubbing to work well. Wash the clothes and yourself immediately after you finish. It might also be a good idea to rinse the washing machine.

If the plant is in the shrub form, direct spray is the most common control method. If the plant is a woody vine that has climbed a tree, the preferred method is to cut the plant off at the base and treat the sprouts after they emerge. Some triclopyr herbicides also have instructions on treating a freshly cut stump directly. Triclopyr (Brush-B-Gon Poison Ivy Killer, Brush Killer Stump Killer) is most often used for poison ivy control. Other herbicides that can be used include glyphosate (Roundup; Killzall Weed and Grass Killer; Nutgrass, Poison Ivy and Vine Killer) or dicamba. Poison ivy is tough. Repeat applications may be necessary.

Mulching Garden Crops

June is a good time to mulch garden vegetables if you haven't done so already. Mulches provide several benefits including weed prevention, reduced watering due to less evaporation, and cooler soils that enhance root growth. Straw and hay are popular mulches in Kansas due to their availability. However, both may contain weed seeds that will germinate if the thatch layer is not thick enough. Grass clippings can also be used if the lawn has not been treated with weed killers. Add only a thin layer of clippings at a time and allow to dry for 2 to 3 days before adding more. A thick layer will form a mold that is almost impervious to water. A mulch layer one-half to three-quarters inch thick is about right for grass clippings, but hay or straw should be at a depth of 2 to 4 inches.

Tomatoes Cracking

Tomatoes often have problems with cracking caused by pressure inside the fruit that is more than the skin can handle. Cracks are usually on the upper part of the fruit and can be concentric (in concentric circles around the stem) or radial (radiating from the stem). We don't know everything about cracking but here is what we do know.

Tomatoes have a root system that is very dense and fibrous and is quite efficient in picking up water. Unfortunately, the root system can become unbalanced with the top of the plant. Early in the season it may be small in relation to the top growth resulting in blossom-end rot during hot, dry weather. Later it may be so efficient that it provides too much water when we get rain or irrigate heavily after a dry spell. This quick influx of water can cause the tomato fruit to crack.

Therefore, even, consistent watering can help with cracking. Mulching will also help because it moderates moisture levels in the soil. However, you can do everything right and still have problems with cracking in some years.

We have evaluated varieties for cracking during our tomato trials at K-State. It takes several years' worth of data to get a good feel for crack-resistant varieties but we have found some real differences. Some varieties crack under about any condition and others are much more resistant. The difference seems to be pliability of skin rather than thickness — the more pliable the skin the more resistance to cracking.

The old variety Jet Star has been the most crack resistant of any we have tested including the newer types. Unfortunately, Jet Star is an indeterminate variety that puts out rampant growth. Newer varieties with more controlled growth are often more attractive to gardeners. Mountain Spring, Mountain Pride, Mountain Fresh, Floralina, and Sun Leaper are smaller-vined types that have shown good resistance to cracking.

Watering Fruit Plants During the Summer

When temperatures exceed 90 degrees F, fruit plants lose water quickly. When this happens, moisture is withdrawn from the fruit to supply the tree. Stress from high temperatures, along with a moisture deficit in the root environment, may cause fruit to drop or fail to increase in size. The stress may also reduce the development of fruit buds for next year's fruit crop. If you have fruit plants such as trees, vines, canes, and such, check soil moisture at the roots. Insert a spade or shovel or a pointed metal or wood probe -- a long screwdriver works well for this. Shove these into the soil about 8 to 12 inches. If the soil is hard, dry, and difficult to penetrate, the moisture level is very low, and plants should be irrigated to prevent drooping and promote fruit enlargement. Water can be added to the soil using sprinklers, soaker hose, drip irrigation, or even a small trickle of water running from the hose for a few hours. The amount of time you irrigate should depend upon the size of plants and the volume of water you are applying. Add enough moisture so you can easily penetrate the soil in the root area of the plant with a metal rod, wooden dowel or other probe. When hot, dry weather continues, continue to check soil moisture at least once a week.

Strawberries have a shallow root system and may need to be watered more often – maybe twice a week during extreme weather. Also, newly planted fruit trees sited on sandy soils may also need water twice a week.

How Much to Water a Lawn

Homeowners usually want to know how much and how long to leave the sprinklers on. There are too many variables to give a solid answer. You will need to do some experimentation to determine what is needed for your lawn.

The key is to make sure water reaches about 8 inches deep. This can be checked with a wooden dowel or a metal rod (rebar or electric fence post). Pushing it into the soil will tell you how deeply water has reached as it will stop when it hits dry soil.

Start by watering for 15 minutes and check the depth of watering. If the soil is only moist 4 inches deep, then you will need to water another 15 minutes. Check again after the second watering to be sure moisture reaches your desired depth. Watch for runoff. If you see any before the soil is wet to the desired depth, you may have to water each area twice with some time in between to allow the water to soak in.

If there is still runoff before water reaches the desired depth, more waterings per week may be needed to make up for the shallow depth the water is reaching. On such lawns, core aeration during September would be highly recommended to help increase the rate at which the soil absorbs water.

That brings up how often should we water. During most of the growing season, once per week will be adequate. However, during extreme heat or on heavy soils where runoff occurs quickly, twice a week may be needed.

Tomato Leaf-Spot Diseases

Two common leaf-spot diseases will likely appear on tomato plants in late June. Septoria leaf spot and early blight are both characterized by brown spots on the leaves.

Septoria leaf spot usually appears earlier in the season than early blight and produces small dark spots. Spots made by early blight are much larger and often have a distorted “target” pattern of concentric circles. Heavily infected leaves eventually turn yellow and drop. Older leaves are more susceptible than younger ones, so these diseases often start at the bottom of the plant and work up. Mulching, caging, or staking keeps plants off the ground, making them less vulnerable. Better air circulation allows foliage to dry quicker than in plants allowed to sprawl.

Mulching also helps prevent water from splashing and carrying disease spores to the plant. In situations where these diseases have been a problem in the past, rotation is a good strategy. It is too late for that now, but keep it in mind for next year. Actually, rotation is a good idea even if you have not had problems in the past. But many gardens are too small to make it practical. If you have room, rotate the location of the tomatoes each year to an area that has not had tomatoes or related crops (peppers, potatoes, eggplant) for several years.

If rotation is not feasible, fungicides are often helpful. Be sure to cover both upper and lower leaf surfaces, and reapply fungicide if rainfall removes it. Plants usually become susceptible when the tomato fruit is about the size of a walnut. Chlorothalonil is a good choice for fruiting plants because it has a 0-day waiting period, meaning that fruit can be harvested once the spray is dry.

Chlorothalonil can be found in numerous products including Fertilome Broad-Spectrum Landscape and Garden Fungicide, Ortho Garden Disease Control, GardenTech Daconil, Bonide Fungonil and others. Be sure to start protecting plants before these diseases are first seen if they have been a problem in the past. It is virtually impossible to control these diseases on heavily infected plants. If chlorothalonil doesn’t seem to be effective, try mancozeb (Bonide Mancozeb Flowable). Note that there is a five-day waiting period between application and when the fruit can be harvested.

You may wish to pick some tomatoes before they are fully red just before you spray if you use Mancozeb as the tomato fruit will ripen inside.

Differentiating Pasture Lameness in Beef Cattle

During the summer grazing months many producers run into issues with lame cattle. The effects of lameness may show itself by decreased fertility, weight loss, decreased performance, and increased labor and medicine costs. It has been estimated that 88-92% of lameness in cattle stems from the foot. Several issues could be the culprit, but we will review some of the common causes and the key differences between the clinical signs. It is a good idea to contact your local veterinarian to create a treatment plan for these conditions prior to the grazing season.

Lameness with Swelling: The first way to determining the cause of lameness is to observe obvious swelling. The swelling most commonly effects the lower limb, indicating the area of inflammation just above the hoof. It is important to distinguish if the swelling is symmetrical (equal on both sides of the foot), or asymmetrical (only effecting one side). Swelling may also be noticed effecting single or multiple joints in both calves and cows.

Footrot is a common disease process that occurs in pasture cattle. Footrot is a bacterial infection of the foot that manifests itself with symmetric swelling encompassing the lower limb just above the hooves. Upon closer inspection, producers will notice a crack in the skin between the hooves and a foul pungent odor. Injectable antibiotic treatment is typically very rewarding when treated in the early stages of the disease. With delayed or late treatment of cases, however, deeper structures of the foot (tendons, joints, even bone) may become involved. Delayed treatment often requires extended therapy, and leads to increased cull rates from the herd.

It is always important to closely inspect symmetric swelling cases in the pasture settings. Wire, bale wrap, or other foreign bodies can wrap around and entrap the lower foot causing very similar symptoms as footrot. If the swelling has a well demarcated line horizontally across the foot, further investigation is warranted. The entrapping foreign body must be removed.

Single sided or asymmetric swelling of the foot often indicates a more serious condition in cattle. This type of clinical sign is often the result of deep structure issues. Puncture wounds, sole abscesses, or chronic infections can cause single sided joint, bone, or tendon infections. Extensive footwork on a tilt table or under sedation is often indicated in these cases. Contact your veterinarian when these cases are identified.

Single or multiple joint swelling with lameness can also be observed in pasture settings. In calves this is often the result of septic arthritis. This is a bacterial infection of the joints. In very young calves it can be the sequela of naval ill, or from bacteria that gets into the blood stream. It is not uncommon to see this condition a week to 10 days following a bout of respiratory disease with some pathogens as well. Even with appropriate treatment, the inflammation in the joint often takes several weeks to resorb back into the body. Joint swelling in mature animals can also occur. Many times this is a result of an orthopedic break down. Torn cruciate ligaments in the stifles of breeding bulls, or hock damage from riding activity are examples of these conditions. Consult with your veterinarian for potential treatment or course of action if these situations occur.

Lameness with no noticeable swelling: Obvious lameness to one or more limbs with no noticeable swelling can often be challenging to diagnose appropriately. One of these conditions is called Hairy Heel Warts, also known as Digital Dermatitis, or Strawberry Footrot. These animals often display obvious lameness and will attempt to walk on the “tippy toe” of the foot. Upon closer observation you will notice wart like growths or bright red scab lesions below the dewclaws and above the heel bulbs of the foot. Topical treatment with an astringent or antibacterial solution is warranted for this condition.

The last condition we see more commonly in newly arrived stocker calves, is called toe tip necrosis (toe abscesses). These animals often appear with shifting lameness of the back legs. They will usually stand in strange orientations to protect and get pressure off of the damaged toe. The rear, outside hooves are most often affected. Treatment of these consists of picking up the feet and using hoof testers to confirm the condition. Then the toes are slightly opened with hoof nippers to release the pressure. Without opening the toes, healing will not occur.

Lameness can be challenging to diagnose in a field situation, but understanding the subtle differences will help with proper and timely treatment. Visit with your veterinarian about any non-responsive lameness issues. Further diagnostics and treatment may be indicated

Potential New Soybean Pest: Soybean Gall Midge

There is a potential new pest for soybeans along the Nebraska border. Last year, I walked numerous fields near the Nebraska/Kansas border and luckily no soybean gall midge was found. The soybean gall midge was identified as a new species in 2018 and because it is a new species, we don't have all the answers yet.

Soybean gall midge appears to be following the Missouri River and has been working its way out from there. It has been found near the southern edge of Lancaster County in Nebraska, nearly 60 miles away. Please be on the look out for this new pest and if you have any questions or want myself (Anastasia) to come and check for it, let me know.

What to Watch for: Soybean gall midge infestations occurred in June. Field surveys in Iowa, Nebraska, and South Dakota found that heavily damaged soybean fields were often next to a field that had been planted to soybeans the previous year, no-till fields, and fields that were second year soybeans or more. In addition, plant death was greatest next to waterways and ditches with dense vegetation such as brome grass. Such observations suggest that gall midge may be overwintering in last year's soybean fields and moving to areas with high humidity prior to entering the soybean field. Plant samples from field edges with extensive damage also revealed large numbers of larvae in wilted or still green plants.

How to Scout Fields:

- Scout soybean fields when the third trifoliate leaves unroll (V3). Midges need fissures or cracks to lay the eggs into.
- Larval feeding and plant injury is usually restricted to the base of the plant. While walking near the edge of the fields push against the plant, if infected the plant should easily push over.
- Soybean gall midge larvae are clear and eventually turn bright orange as they mature.

- Look for discolored or swollen stems near the soil line. Infested stems appear swollen, turn brown and break off resulting in plant death.

Yield Losses: In heavily damaged fields, losses associated with soybean gall midge are inevitably due to the number of dead or dying soybean plants. Damage to the phloem and xylem of the plant is likely the result in yield reductions for surviving soybean gall midge infested plants. Additional losses are also anticipated due to the lack of stem strength, predisposing plants to increased risk of lodging if crop harvest is delayed. Yield loss estimates on a small sample of plants from a heavily damaged field indicate complete yield losses from the field edge up to 100 feet, with about a 20% yield loss 200 and 400 feet from the field edge.

(Soybean gall midge field injury in Lancaster County, Nebraska in August 2020)

Management Practices: As a new species, the road to finding successful management strategies is going to be long and difficult. Cultural control practices did not seem to make a difference, including variety selection, time of planting, row spacing, tillage or manure application. Insecticidal seed treatments did not appear to effectively suppress the midges. Studies with management practices such as planting date and soybean maturity group were evaluated. Soybeans were planted every three weeks beginning in late April through the end of June. Each planting date consists of four maturity groups (1, 2, 3, and 4). Dissections of random plants from each plot showed that all maturity groups within each planting date were infested with the exception of the late June planting date.

In general, no management intervention is needed for soybean gall midge unless notable yield losses occurred in an adjacent soybean field the previous year. Cultural tactics like mowing field borders or tillage have shown some potential, but further studies are needed to determine the role of these tactics in soybean gall midge management. Foliar applications were hindered during the 2020 season because of the long duration of adult emergence from last year's soybean, limiting their potential to protect yields. Additional strategies for management have been tested and some new strategies are planned for the 2021 season. For more information on current strategies, see the webinar on management on the soybeangallmidge.org website.

Be sure to like "Marshall County Extension Service" on Facebook for timely information.

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If you have any questions about how we can provide assistance, please give us a call.

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