**Fall Armyworm, October 1-7**

The fall armyworm, *Spodoptera frugiperda*, is a common pest of bermudagrass in east Texas. Larvae of fall armyworms are green, brown or black with white to yellowish lines running from head to tail. Four black spots aligned in a square on the top of the segment near the back end of the caterpillar are also characteristic. Armyworms are very small (1/8 inch) at first, cause little plant damage and as a result often go unnoticed. Larvae feed for 2-3 weeks and full grown larvae are about 1 to 1 1/2 inches long.

Once the armyworm larva completes feeding, it tunnels into the soil to a depth of about an inch and enters the pupal stage. The armyworm moth emerges from the pupa in about ten days and repeats the life cycle. The fall armyworm moth has a wingspan of about 1 1/2 inches. The front pair of wings is dark gray with an irregular pattern of light and dark areas.

Fall armyworm outbreaks in pastures and hay fields often occur following a rain which apparently creates favorable conditions for eggs and small larvae to survive in large numbers. Hay fields with a dense canopy and vigorous plant growth are often more susceptible to armyworm infestations than less intensely fertilized and managed fields

Look for fall armyworm larvae feeding in the crop canopy during the late evening and early morning and during cool, cloudy weather. During hot days, look for armyworms low in the canopy or even on the soil surface where they hide under loose soil and fallen leaves. The key to managing fall armyworms is frequent inspection of fields to detect infestations before they have caused economic damage. Once larvae are more than ¾ inch long, the quantity of foliage they eat increases dramatically. During their final 2-3 days of feeding, armyworms eat 80% of the total foliage consumed during their entire development.

The density of armyworms sufficient to justify insecticide treatment depends on the stage of crop growth and value of the crop. Infestations of more than 2-3 armyworms (1/2 inch or longer) per square foot may justify an insecticide application. If practical, apply insecticides early in the morning or late in the evening when armyworm larvae are most active and therefor most likely to come into contact with the insecticide spray. If the field is near harvest, an early harvest, rather than an insecticide treatment, is an option. Please contact the extension office to discuss insecticide options.

There are two upcoming events that will be of interest for beef and forage producers. The first is Cow Country Congress hosted by Triple Sons Farms on Friday, October 19th in Centerville, TX. Registration is by October 12th.This workshop will discuss a variety of beef cattle topics including low stress handling, disaster planning, and heifer selection. Information for this event can be found at <https://houston.agrilife.org/cow-country-congress/>. The second event will be pesticide certification and re-certification course at First Baptist Church in Livingston on November 16th. 5-CEU credits will be offered for applicators and registration is by November 2nd. For more information on both of these events please call the extension office.



**Matthew R. March, MNRD**

County Extension Agent- Agriculture & Natural Resources

Polk County | Texas A&M AgriLife Extension Service

602 E Church St Ste 127 Livingston, TX 77351

Phone: (936) 327-6828

**Walnut Caterpillar October 8-14**

A few weeks back a concerned homeowner came into the office with black caterpillars that were rapidly consuming the pecan tree in her yard. In just a handful of days the caterpillars had consumed a third of the leaves on her pecan tree. Her pest was the walnut caterpillar, *Datana integerrima,* which feeds on a wide range of deciduous trees including pecan, black walnut, English walnut, Japanese walnut, Persian Walnut, butternut, and hickory. The walnut caterpillar is native to the eastern United States including Texas.

The walnut caterpillar overwinters in the soil under and around host plants. During late spring adult moths emerge from the soil and will deposit a mass of 600 or more eggs on the underside of leaves. The female moths will only deposit eggs once during her lifetime. Larvae emerge from the eggs after 9 days and immediately begin consuming on leaves from host plants. The larvae feed for approximately 23 days in during that time will go through five stages called instars. Larvae do not build webs and will feed as a colony during the first four stages. During these stages there can be several hundred larvae feeding on a signal branch making them very obvious to see. Between the fourth and fifth stage the larvae molt as a group on the tree trunk leaving a patch of cast skins. During the fifth stage they feed as individuals throughout the canopy and will consume 80 percent of the foliage they will eat in their lifetime. In Texas, the walnut caterpillar can produce two or three generations per year depending on number of frost free days.

Walnut caterpillars prefer mature foliage, thus infestation will not occur until late spring or after foliage has matured. Early detection is important so control measures can be applied before significant damage occurs. Signs of activity include localized areas of skeletonized leaves, colonies of larvae, foliage loss from larvae feeding, masses of cast skins on the tree trunk, fecal material on sidewalks, driveways, equipment, and ground.

During most years natural predators and parasites keep walnut caterpillar populations in check. On small trees, homeowners can achieve some control by removing egg masses from leaves and larvae from branches. For large trees, an insecticide application is the most practical way to prevent damage. Insecticides that are recommended for homeowners will contain spinosad or *Bacillus thuringiensis* as their active ingredient. These insecticides are selective for caterpillars and very safe to humans. To increase the effectiveness of insecticides, apply them when the larvae are small and ensure that the spray covers the entire canopy. Broad-spectrum insecticides can be effective but carry some risk for the applicator and may cause secondary insect outbreaks.

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**Black Rot in Cabbage, October 15-21**

By this time of the year are cool season gardens are planted and hopefully healthy and growing. Cabbage is a standard in cool season gardens and is a moderately easy crop to grow and will typically produce a plentiful crop. However, just like with any crop there are some insects and diseases that can cause detrimental impacts to your cabbage. I recall one such disease that almost wiped out my entire cabbage crop in my cool season garden a few years back. The culprit was black rot, which is a bacterial disease caused by the pathogen *Xanthomonas campestris*.

Black rot is a significant disease of cabbage and other crucifer crops worldwide which includes broccoli, cauliflower, Brussels sprouts, Chinese cabbage, kale, radish, turnip, mustard, rutabaga, watercress, and arugula. In cabbage it can affect any stage of growth and results in symptoms that resemble nutritional deficiencies. One of the most devastating impacts is the head of infected cabbage will remain small and quality will be reduced making in unfit for marketing. Symptoms begin with yellowing of the leaf margin which follows with characteristics v-shaped lesions. The leaf margins will eventually turn brown and die making the symptoms very noticeable. From this point the bacteria then continues through the leaf veins eventually spreading throughout the plant. In severe infections blacking of tissue occurs within the cabbage head, steams, and roots.

The pathogen most commonly enters the leaf via hydathodes on the leaf margin. Hydathodes are pores that extrude plant sap droplets early in the morning. Damage to the leaf from insect feeding, hail, or mechanical injury will also allow the pathogen to enter the leaf. The pathogen thrives in warm and wet climates, thus a warm and wet winter will result in a higher chance of back rot in your cabbage. The pathogen also can be found in water pores, which allow it to come in contact with other leaves and plants during watering. The pathogen will survive in the soil from year to year as long as cabbage plant debris is present.

Management after black rot is found is very difficult to impossible. There is no treatment for individual infected plants; however copper based products are effective in reducing spread from infected to healthy plants. Thus the best strategy to control black rot is prevention. This includes starting with clean seed and using clean transplants. You should hot water treat your seeds by soaking seeds for 25 minutes in 122oF water. If growing your own transplants ensure your greenhouse has been properly cleaned prior to starting transplants. One of the most effective prevention strategies is to rotate your cabbage and other crucifer crops. Because the black rot pathogen can survive in debris in the soil, it is important to rotate away from crucifer crops for a minimum of three years, especially if black rot has been a problem.

Hopefully you never have to deal with black rot in your cabbage crop. But, if you are unfortunate enough to have this problem remember prevention is the best management strategy. This includes clean seeds, clean transplants, and crop rotation.



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**Hog Control at Deer Feeders 22-28**

Now that we are in the second half of October deer fever is beginning to take hold amongst hunters. Form a hunters view there is nothing better than watching the first light wake up the woods on a crisp fall morning. During this time, hunters look intensely into the woods for the horns of a trophy buck or listen for deer moving through the brush. However, this almost magical moment is routinely ruined by the grunting and breaking of branches of wild hogs tearing through the woods towards your deer feeder, likely running your chances of seeing a trophy buck during that hunt.

As any hunter knows wild hogs are attractive to deer feeders and are a nuisance. Not only can they ruin your deer hunt, but they can cause damage to feeder legs and create a wallow that holds water making a muddy mess under your feeder. There are also other environmental impacts caused by wild hogs including habitat destruction, disease vectors, and predation of eggs of ground nesting birds. So what can be done to prevent wild hogs from being attracted to your deer feeder? Research has shown that an effective exclusion fence can be built around your feeder that can keep wild hogs out, but allow deer in.

Should be of note that some hunters due want to attract wild hogs as they enjoy hunting them and the option of harvesting wild hogs for meat. If a hunter wishes to hunt wild hogs, but also wants to exclude wild hogs form feeders there is an option. A hunter could set up one feeder without an exclusion fence to hunt wild hogs and build exclusion fences around other deer feeders to hunt deer. However, this option will still attract wild hogs to your hunting property and you must take into account the other negative environmental impacts of wild hogs on your property.

Building an exclusion fence around a deer feeder is relatively simple. First you need to determine height of the exclusion fence. Panel height of 28 or 34 inches tall will keep wild hogs out, but allow deer in. However, fawns may not be able to jump over a 34 inch tall panel. If constructing a 34 inch tall fence, 28 inch tall slots can be cut into the panel to allow fawn access. The following materials and tools are needed for a 28 inch tall fence. You will need thee 60 inch by 16 foot utility panels, twelve 5-foot T-posts, wire clips, T-post driver, fencing pliers, and bolt cutter.

Steps to build the fence: 1. Use the bolt cutters to cut each panel length-wise exactly in half. 2. Place the utility panels end to end to form an approximately 28-foot-diameter circle around the feeder. Overlap the ends by one 4-inch square and push the cut end into the ground. 3. Fasten the ends together with wire clips. 4. Position the fence so the feeder is in the middle of the circle. 5. Drive steel T-posts on the outside of the circle in the middle of each panel and where they overlap. 6. Fasten the T-posts to the panels with wire clips. Make sure the panels are flush to the ground and leave no gaps that hogs might dig under.

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**Pumpkins, October 29-Nov. 4**

Nothing more represents fall and the changing of seasons then pumpkins. Pumpkins have become part of our culture rather it is creating jack-o-lanterns or taking the kids to the pumpkin patch for a family photo. Most pumpkins now are used for jack-o-lanterns, other fall decorations, or pumpkin pies. However, historically pumpkins where used as a food source and not a decorative item. Native Americans ate pumpkins roasted, boiled and stewed, and they roasted the seeds for food as well.

You can grow your own pumpkins for next fall, but it requires advance planning and dedication. To have pumpkins ready for the first of October, you’ll have to commit to planting them in June and keeping them growing throughout the summer months, which will require regular watering especially if it is a dry summer. Pumpkin varieties mature at 70 to 120 days, depending on growing conditions. But if you are late to start, July would certainly be your last month of the year to plant pumpkins for a reasonable fall harvest. Some smaller varieties of pumpkins can be planted as late as July to ripen in time for Halloween. Connecticut Field is a good large variety pumpkin for Polk County and ripens at 120 days. If you prefer to grow medium pumpkins recommended varieties would be Howden or Jack O’ Lantern, which ripens in 105 and 110 days respectively. Small varieties for Polk County would be Baby Boo, Jack Be Little, and Small Sugar all which ripens in 90-95 days. Triple Treat is another recommended small variety, but it requires 110 days to ripen.

When selecting a site for your pumpkin patch it should receive at least 8 hours of direct sunlight for maximum production. If shading will occur, make sure it is afternoon shade. Pumpkin patches need to be on flat ground or in raised beds in rows 6 feet wide with plant 3 to 5 feet apart in the row. Rot is a common issue with pumpkins and a barrier under ripening fruits to lift them off the soil will prevent rot. An old wooden shingle or a pile of pine straw would be ideal as they will not trap water. At harvest, cut the fruits from the vine, do not tear them. Leave a generous stem, also called a handle. Be careful not to injure the rind or break off the stem, as decay fungi will attack through wounds. Do not harvest pumpkins when the garden is wet and do not let harvested fruit get wet. Pumpkins can be stored for a very long time if handled correctly. To get the longest storage time possible, wash with soapy water to remove surface dirt. Then dip fruit in a dilute chlorine solution of 4 teaspoons bleach per gallon of water, or wipe with a clean cloth dipped in chlorine solution. Allow fruit to dry, but do not rinse until use.

Growing a pumpkin in Polk County is possible and can result in quite a fun experience for your family. This time next year you can be carving a jack o’ lantern from a pumpkin you grew.

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