LONOKE COUNTY

Crop Update August, 2019

Corn

Southern Rust: Southern rust was first detected in Arkansas July 9th in Woodruff Co. with low levels in disease severity. Dry conditions will suppress the spread of southern rust as free moisture (dew or light rain) is necessary for spore germination and infection. When conditions favor disease, symptoms appear about 3 to 6 days after infection and by 7 to 10 days the pustules rupture to release rust spores.

Table 1. Guidelines on when corn would benefit from a fungicide to protect yield, **assuming** that southern rust is detected in the field and conditions favor disease development.

Beginning Corn Growth Stage	Southern Rust in the Field	Weather Forecast Favors Southern Rust	Benefit From a Fungicide
R1- Silk	Yes	Yes	Yes
R2- Blister	Yes	Yes	Yes
R3- Milk	Yes	Yes	Yes
R4- Dough	Yes	Yes	Maybe
R5- Dent	Yes	Yes	Unlikely
R6- Maturity	Yes	Yes	No

When can corn irrigation be terminated?
As we move into the month of August many corn producers are making decisions about irrigation termination. **Remember**: **When deciding to terminate irrigation, the goal should be to maintain soil moisture until maturity. Cutting off irrigation too soon can have consequences as kernels are still adding weight until full maturity.** An easy way to determine when corn irrigation should be terminated is by looking at the starch line in the middle of representative ears making sure to sample multiple areas within a field. The starch line starts at the dent of the kernel and moves downward. For **furrow irrigated** fields, if the starch line has moved 50% or more **and** you have good soil moisture, irrigation can be terminated. For **pivot** irrigated fields, the starch line needs to be 75% or greater down the kernel before irrigation is terminated since less water is likely applied during each irrigation.

Figure 1. Starch line has moved approximately 75% down the kernel and corn is approximately 7 days from maturity. With adequate soil moisture, furrow or pivot irrigation could be terminated on this field.

Rice

Blast
Proper flood depth is a critical factor in managing blast. On moderately resistant and moderately susceptible varieties, blast damage can be prevented or greatly reduced by proper irrigation. No thresholds have been developed for blast. However, proper flood depth of at least 2" and preferably 4" must be maintained from green ring through heading for this to be most effective. Even a temporary loss of flood caused by inadequate pumping capacity (trying to water too large a rice field, for example) or diverting water for soybeans can be disastrous with regard to blast. If blast lesions are found in a field, a deep flood should be maintained if at all possible, as this will reduce the disease potential and improve fungicide results when they are used. Applying fungicides (Quadris, GEM, Stratego) for blast prevention work best if applied twice. The first application at late boot and the second when the panicles of the main tillers are 50%-75% heading but when neck is still in the boot.

Kernel Smut and False Smut: Kernel smut or black smut infects panicles by replacing the kernel with black spores. When parboiled it turns the grain gray and significantly reduces the quality of the grain. False smut also infects the panicle and produces an orange spore ball. These spore balls are also collected during the harvesting process and drastically reduce grain quality. Proper Nitrogen management, selecting a resistant variety, or applications of propiconazole fungicides at early to late boot are important for reducing smuts.

Hybrid Rice Late boot Nitrogen Applications
Nitrogen applications to maximize hybrid rice yields and minimize lodging the N fertilizer should be applied at preflood and at the late boot stage. The late boot applications can increase grain and milling yield, but the main purpose is to reduce lodging. The optimum window to apply is between full boot and beginning heading. **WARNING:** Applications made before this timing may increase plant height, delay heading, and increase lodging. Applications made later than beginning heading can damage flowering panicles and lead to yield loss.

Rice Stink Bug
As more rice is starting to approach the heading stage it is time to start thinking about scouting for rice stink bugs. Time of the day to scout for stink bugs is important, and the optimal time to scout is between 8 to 11 a.m. and 7 to 9 p.m. Start scouting when rice is at 75% headed. During the first two weeks after rice reaches 75% headed if you are collecting, on average, 5 or more stink bugs per 10 sweeps this would be time to apply an insecticide. During the third and fourth weeks following 75% heading the threshold increases to 10 stink bugs per 10 sweeps to trigger an application.

Draining Rice
Recommendations for draining rice is 25 days after 50% heading for long-grain cultivars, 30 days for medium-grain cultivars, and 35 days for short-grain cultivars. In fields that are poorly drained earlier flood removal could be beneficial. Utilizing the rice DD50 program can help aide in late season management decisions such as timely draining and fungicide applications.

Soybean Irrigation
The two most difficult decisions on irrigation are 1) when to start and 2) when to terminate. Utilizing soil moisture sensor can be a useful tool to manage irrigation scheduling. Another tool to assist in irrigation scheduling is a web-based application called Pipe Planner using information about your field, well capacity, and polytubing. Pipe Planner will design a unique irrigation plan designed for your specific field. Pipe Planner also has help videos to get you started on saving irrigation costs http://www.pipeplanner.com/.

Table 2. General growth and daily water use relationships for soybean.

Crop Development	Water use (in/day)
Germination and seedling	0.05 – 0.10
Rapid vegetative growth	0.10 – 0.20
Flowering to pod fill	0.20 – 0.30
Maturity to harvest	0.05 – 0.20

Soybean Insects

Stink Bugs: There are three types of stink bugs found in Arkansas. They are the green stink bug, southern green stink bug, and the brown stink bug. Stink bugs will feed on stems, foliage, blooms, and pods. The most damage is caused when they feed on the developing seed within the pod. This leads to small and shriveled seeds. Scouting for stink bugs in soybean should begin at the onset of blooming (R1-R2) through physiological cutout (R7). Make sure to sample multiple places in the field and average the number of stink bugs collected following the thresholds pictured on the insert page from the University of Arkansas Insecticide Recommendations for Arkansas MP 144.

Worms: The soybean looper and the cabbage looper are both commonly found in Arkansas. The species are very similar in appearance but have drastically different control methods. The most reliable technique to identify larvae of the two species is examination of mandibles. Soybean looper larvae have mandibles with ribs terminating in an enlargement near the outer margins while cabbage loopers have ribs which extend to the outer margins of the mandible. The cabbage looper is easy to control with pyrethoroids, but the soybean looper is resistant to pyrethoroids. Thresholds to trigger a control application would be collecting at least 29 worms from 25 sweeps and at least 40 percent defoliation before bloom and 25 percent defoliation after bloom.

Corn Earworms: The number one insect pest of soybeans in Arkansas is considered by many to be the corn earworm. In cotton, this pest is referred to as the cotton bollworm. While in soybeans, it is often called the soybean podworm. It has an extremely wide host range and is a major pest of not only corn, cotton and soybeans but also grain sorghum and tomato (in tomato it is called the tomato fruitworm).

While small larvae feed on new, tender leaves and blooms, larger larvae can be found on any part of the plant and will feed on leaves, stems or pods but prefer blooms. Small larvae are off-white in color, but larger larvae can vary in color from yellowish-green to green, pink, brown or even black, each having longitudinal light-colored lines along the body. Compared to armyworms, they generally have much more hair over the body. The head is most often orange in color. When disturbed, these larvae usually curl up into a “C” shape.

Larvae, particularly small ones, are subject to high mortality from natural enemies. For this reason, pesticide treatment recommendations are generally aimed at medium and large larvae. The most vulnerable time for soybean fields to infestation by the corn earworm is during bloom (R2 growth stage), which usually coincides with the second field generation. Fields should be closely monitored at this time, particularly fields that are blooming and have not achieved canopy closure. Also, the treatment level for corn earworm is reduced for drought-stressed beans because the ability of plants to compensate is reduced in this situation. Studies have shown that, under normal conditions, when larvae eat one bean out of a pod, the other beans in the pod will increase in size to overcome the loss. The treatment level for corn earworm in soybeans prior to bloom is 40 percent defoliation. After bloom, treat when populations approach economic threshold. See insert.

Soybean Diseases

Frogeye Leaf Spot (*Cercospora sojina*)**:** Leaf symptoms begin as dark brown, water soaked spots and mature in lesions with tan or brown centers and a narrow reddish-brown to purple margin. Favorable conditions for this disease is warm (81-85F) and wet weather (heavy dew). Applying fungicides can be effective when applied as a preventative to protect new growth when environmental conditions are favorable, and should be applied when at least 9 frogeye leaf spots per leaf are present. Two common fungicides used to control frogeye leaf spot are Strobilurin and Triazole. Strobilurin resistant populations of *C sojina* were confirmed in 2012 in several Arkansas counties, thus all strobilurin fungicides (FRAC 11) are not effective on these resistant populations of Frogeye leaf spot. Triazole fungicides (FRAC 3) are effective on the strobilurin-resistant strains of *C sojina* and should be applied at R3-R4 growth stages. Planting high quality disease-free seed and implementing tillage practices that improve crop residue decomposition are additional ways to control this disease. Figure 2. Frogeye leaf spot lesions**.**

Aerial Blight: Aerial blight is also sheath blight in rice, so soybeans following rice with a history of sheath blight must be scouting for aerial blight of soybeans. Foliar symptoms typically occur in late vegetative growth stages following canopy closure start at the lower parts of the plant. Long 'web-like' strands of hyphae can spread on infected tissue. Applications of fungicides (e.g. Quadirs, Quilt, Froghorn) can help control this pest, and should be applied once first sighted in the field. Rotation of crops that are not host (corn or grain sorghum) to this disease is one way of control. More information on types of fungicides to apply can be found in the MP 154 **Arkansas Plant Disease Control Products Guide.**

Please call the Lonoke County Extension Office with any questions. 501-676-3124

Thank you,

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