Mississippi State University Extension Service

Agronomy Notes

AUGUST 2005

Soybean Rust confirmed in MS
By Dr. Alan Blaine

I wanted to take an opportunity to give you an update on Asian Soybean Rust. On July 13th, Dr. Billy Moore collected 15 suspect leaves from a sentinel plot in George County. Upon further examination (7/18/05) in the lab one leaf tested positive. Dr. Alan Henn visited the field on 7/19/05 and determined that the field was not yet producing active spores.

Based on this observation we made the decision along with the Department of Agricultural and Commerce to destroy the sentinel plot.

Additional observations across southern Mississippi, up through the Delta and in the central/eastern side of the state have turned up no additional positive observations as of today (7/22/05). Dr. Monte Miles heading up a USDA surveillance team was in Mississippi and Alabama this past week. He informed me that they sampled fields around the commercial field in south Alabama and found no other positive sites. In addition, he stated that activity in the grower field was virtually nonexistent except in one small pocket. Either the fungicide application or the hot weather are providing good results.

Dr. Miles was well pleased when I spoke with him this morning (7/22/05). He feels the innoculum potential is low and that it will have a hard time reaching troublesome levels in most of the United States.

Keep in mind that we are on the front line. As your crop reaches the stage for fungicides (not necessarily for rust) and it has a good yield potential, yield increases can be obtained by practicing good disease management.

Be sure to choose the proper material and timing. Regardless of the current situation, fungicides will make you money. This is a blanket statement, but over the long haul they will prove to be profitable. There are exceptions and in a worse case scenario they will at least break even.

We began spraying our Group 5's this week (7/19/05) and will finish up next week (7/25/05). We are going to continue to monitor the state twice a week for rust and will not be surprised if conditions

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change.

Timing is on our side; since rust has been watched since late February in Florida and has not yet reached a level of major concern, it is doubtful it will on this crop. Stay tuned but do not get so caught up in the rust whirlwind that you forget other pest management practices.

We have an above average crop. A couple of well timed rains can make this one rank right near the top. I know it has been a difficult crop, but we are closing in on the end. Stay on top of late season insects, diseases and irrigation needs. Know that we will continue to monitor rust, and please call if we can be of service. For further updates regarding rust, please visit http://www.sbrusa.net/.

Rice
By Dr. Nathan Buehring

This year the rice crop has turned out to be an expensive one due to weeds and additional pumping cost. This year's crop has been through a lot and we are getting closer to harvest. However, we still need to consider making an insecticide application for rice stinkbugs if they meet threshold levels. Last season we had relatively low stinkbug populations. I think this could be partially due to the above average rainfall and below average temperatures that we experienced in 2004.

Once the rice begins to head, scouting for stinkbugs needs to begin. I would begin scouting with a sweep net around the edges of the field and move towards the middle of the field. Sometimes stinkbugs can be found just around the edges of the field. If this is the case, I would recommend applying an insecticide around the borders. This will control the present population and keep them from building up to be a bigger problem. Also, fields that have escaped grass in them are more prone to have rice stinkbugs. Therefore, keep a watchful eye on those fields. As of today (7/21/05), we have already had to make some applications to early planted rice.

Stinkbugs are more detrimental towards yield during the first two weeks of heading because they are affecting kernel development. The current economic threshold for Mississippi is 3 stinkbugs per 10 sweeps during this time. If stinkbugs are a problem at this time, I lean towards the use of a pyrethroid insecticide. This will give you a couple of days of residual activity for longer protection.

As we move into the third and forth week of heading our economic threshold increases to 10 stinkbugs per 10 sweeps. During this time, stinkbugs are feeding more on mature kernels; therefore, a reduction in grain quality (pecky rice) becomes more of an issue.

Four pyrethroid insecticides are currently labeled and recommended for rice stinkbug control: Karate Z (1 gallon/50 to 80 Acres), Mustang Max (1 gallon/32 to 48 Acres), Prolex (1 gallon/62 to 100 Acres), and Proaxis (1 gallon/25 to 40 Acres). The old standby of methyl parathion 1/2 pound/Acre or 1 gallon/8 Acres can also be used.

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One last reminder about stinkbugs is to scout early in the morning or late in the evening. As temperatures rise through the day, stinkbugs will generally move down into the canopy. If you are scouting during the hottest part of the day, take that into account when determining when to spray or not to spray.

Forage
By Dr. Richard Watson

Small Grain Crops for Cool Season Forage Production.

While we endure the heat and humidity of another Mississippi August, it is time to give some thought to our cool-season forage needs. Before too long we will need to begin cultivating a seedbed or preparing our summer pastures for annual ryegrass planting. Because of its rapid establishment and high nutritional quality, annual ryegrass is by far the most popular cool-season annual grown in Mississippi. However, there may be situations where the use of an alternative annual forage crop may be needed to either replace or enhance the productivity of ryegrass. These situations may include heavy soil types that are not ideal for ryegrass growth, or where there is a significant risk of fungal diseases, such as blast, affecting the productivity of our ryegrass stand. Alternatives to annual ryegrass include small grain crops such as wheat, oats, and cereal rye. These small grain crops can be used as pure stands or as mixtures with annual ryegrass. The small grain crops typically have a shorter growing season than annual ryegrass (November-April vs November-May respectively), and total annual yield may be slightly lower than annual ryegrass. However, the small grain crops can often provide better winter forage growth as they are typically more tolerant of wet and cold weather than annual ryegrass. The small grain crops are also resistant to Blast, which can devastate annual ryegrass pastures when the disease and certain weather patterns are present, as was the case in Fall of 2004.

Which small grain to use?

There are some differences in the suitability of different small grain crops for different soil and climatic conditions. In general, cereal rye is more tolerant of acidic soils than wheat and oats, whereas wheat is more tolerant of wet heavy soils than cereal rye or oats. Oats may also be less tolerant of winter freezing and may suffer significant winterkill in the north end of the state. Given the wet soils and/or low pH problems in Mississippi, cereal rye and/or wheat are likely to be the most productive.

Establishing a small grain crop for forage

The methods for establishing small grain crops are much the same as annual ryegrass. While a prepared seedbed and grain drill will provide the best change of a good stand, small grains can also be successfully broadcast over perennial summer pastures.

While there are some differences in the seed sizes of small grains, a general seeding rate of 90-120 lb/acre is recommended. When using conventional tillage and a seed drill, you can use the lighter rate of 90 lb/acre, as seed placement is generally better for germination and establishment. Ideally the seed should be sown at a depth of 1-2 inches. Where seed is broadcast either on a prepared seedbed or to overseed an existing summer pasture, the higher rate of 120 lb/acre will result in a better stand. As with annual ryegrass, it is important to maxi-

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mize seed-soil contact by overseeded clipping pastures as close as possible. It may be necessary to scratch up the ground with a light disking where the bermudagrass or bahiagrass sod is too thick for the seed to fall to the soil. Sometimes animals can be used to tread the seed into the ground while keeping the summer pasture short enough to remove competition. However, make sure that the animals are removed before or shortly after germination to allow the crop to establish. Seeding at the correct time is another important factor in establishing a small grain crop. Recommended seeding dates for small grains used as a forage crop are usually 3-4 weeks earlier than seeding dates for grain production, or four to eight weeks before the average first frost date. Table 1 shows different recommended seeding dates for small grain crops in Mississippi.

Table 1: Mississippi seeding dates for small grain crops used as forage

Region	Seeding dates
North and Central MS	August 15- September 15
Delta	August 20 – September 25
South MS	September 1- October 1
Coastal MS	September 15- October 15

Adapted from Larson 2005.

While small grains are effective as a pure crop, they can also be utilized effectively in a mix with annual ryegrass and/or annual clovers. Mixing with ryegrass will extend the growth season of the crop through May and will act as an insurance policy if your ryegrass is affected by blast in the fall. When seeding with ryegrass, use 60-90 lbs/acre of seed mixed with 20-30 lb/acre of ryegrass seed.

Fertilization of small grain crops for forage

As with any forage crop, it is important to soil test and follow the solid test recommendations for lime, phosphate and potash applications. Like most cool-season grasses, the small grain crops are very responsive to nitrogen (N) with liner yield responses up to 200 lb of actual N/acre. Usually split Fall (2 weeks after establishment) and early Spring (February) applications, totaling 150 units/acre, are more than enough to achieve good forage yields.

Grazing management of small grain crops

The management principles for small grain crops are much the same for all cool-season grasses. The aim should be to maximize utilization and regrowth potential by careful rotational or strip grazing. The first grazing should occur when the plants are at least 8-12 inches tall and firmly anchored in the ground (this can be tested by pulling a handful of leaves to make sure that the leaves tear off before the plants are uprooted). Post grazing residuals should not be less than 3-4 inches to encourage regrowth and the rotation length will vary from 14-28 days depending on growth rate (i.e. each section of pasture will get 7-14 days rest before being grazed again). With some small amount of supplemental feeding (e.g. hay, etc.), and good fertility, an acre of small grains should be enough for two lactating cows, or four dry cows, or three 500 lb. stocker cattle if good grazing management is employed. If the winter is particularly cold and the plants stop growing, the rotation will need to be slowed to 50-80 days and the level of supplemental feeding should be increased to take the pressure off the forage crop. During times of slow growth the small grain crops can also be limit grazed for 2-3 hours a day, which will ensure a longer period of utilization of the crop and can help prevent pugging damage if your pastures become wet. In spring it will be difficult to keep on top of the rapid forage growth and a fast rotation or continuous stocking will be necessary to prevent the plants from maturing and setting seed. It may be necessary to section off an area to ac-

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cumulate the excess growth for hay or silage production. Small grains should be harvested for hay or silage at the boot or early head stage and the quality is generally similar to annual ryegrass.

Small grain crops are another option in providing valuable cool-season forage production. However, like all forage crops they require the right management and stocking policy to maximize the utilization and profitability of these crops. For more information on the use of small grain crops for forage production, contact your county office of the Mississippi State University Extension Service.

Cotton
By Dr. Tom Barber

It has been a challenging year thus far for Mississippi cotton producers. The majority of the cotton, however, looks good considering heavy pest problems as well as dry conditions. Since rain has fallen on much of the state in the last couple of weeks, I have received many calls about the amount of shed that consultants and growers are observing. This is nothing out of the ordinary. We experienced dry, hot conditions before the rains and then cloudy conditions for several days after Dennis blew through. Wet, cloudy conditions after a dry, hot period can result in cotton shedding squares and small bolls. Most areas have experienced excellent square and boll retention thus far and it is important to remember that most times the cotton plant is not able to fill all the bolls it sets, especially during times of stress. Thus the plant will shed the fruit that it cannot fill. Many times after a rain event the plant will shed the top squares and attempt to grow and produce nodes. This is not necessarily bad either, as long as the growth is controlled and the crop is not allowed to get rank. A rank crop in many cases leads to boll rot and defoliation difficulties. Therefore, it is important to manage this crop, especially if excess nitrogen has been applied, with growth regulators to prevent rank growth situations.

If available, timely irrigation is very important in August. Cotton requires anywhere from 1.5 to 2 inches of rain per week during July and August to transport required nutrients to developing bolls during boll fill. Timeliness is the key; keep a close eye on available soil moisture and do not short change the crop during its peak moisture requirement period. We recommend irrigation termination at first open boll.

It is important to monitor the crop and determine when it is at cutout, or 5 NAWF (Nodes Above First Position White Flower). It requires approximately 850 heat units from open flower to mature boll. Data from Stoneville, MS suggests that cotton cutout by August 13 will accumulate 850 heat units, the required amount for boll maturation 95% of the time. This percentage decreases to 50% by August 23. This means that based on historical data a bloom set on August 23rd has a 50% chance of becoming a mature boll. Also, it is important to remember the later the crop is at cutout, the more delayed it will be to harvest. Monitor when your crop reaches cutout because several decisions need to be made concerning insecticide termination. Termination for bollworm/budworm is 350, plant bug is 300-350, and stinkbug is 450 heat units after cutout or 5 NAWF. Keeping these termination programs in mind will help

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you avoid unnecessary late season expenses. Mississippi producers should continue to monitor the spider mite situation. It could very well blow up on us again if August turns hot and dry.

Vascular wilt diseases: I have had several calls in the last few weeks concerning wilt diseases. In almost all the cases I have looked at in the field, Verticillium wilt (Vert) was the disease in question. There is nothing we can do in season for this disease. In many cases the change in temperature, sunshine and dry conditions can reduce the symptoms from Vert. The most important thing to remember if you have bad spots of Vert in a field is to plant resistant varieties. There are many varieties out there that have more tolerance than others. Cultural practices such as rotation to corn or burying cotton residue can also help to reduce the occurrence of Vert. In severe cases the implementation of cultural practices as well as resistant varieties is recommended. It is also important to maintain a good mixed fertilizer program. Potassium deficiencies may also increase incidence of Vert in the field. In many cases yield will be reduced in spots across the field where Vert is present. However I looked at some this time last year where the cotton recovered and yield was not affected.

This issue of Agronomy Notes was edited by Emily Dabney.

Calendar of Events

AUGUST

4 Agronomic Practices Research and Demonstration Tour for Cotton, Soybeans, Corn and Sweet Potatoes, Pontotoc Ridge Flatwoods Branch Experiment Station, Pontotoc, MS, 7:30 a.m. For more information contact Dr. Mark Shankle (662) 566-2201.

Plant and Soil Sciences
Box 9555
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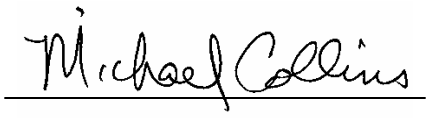

Dr. Michael Collins
Department Head

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