UNIVERSITY OF ARKANSAS
DIVISION OF AGRICULTURE
Cooperative Extension Service

ARKANSAS RICE

Dr. Chuck Wilson, Dr. Rick Cartwright, Dr. Gus Lorenz, and Scott Stiles

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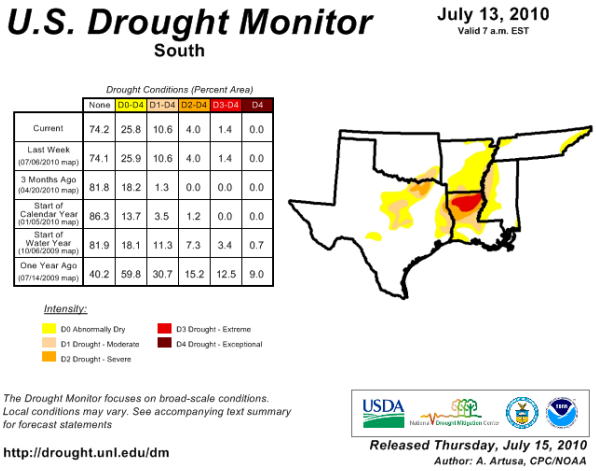
INTRODUCTION – The Arkansas Rice Newsletter is published periodically to provide updates, alerts, and recommendations for rice production in Arkansas. If you know of someone who would like to be added to the e-mail list, please send an e-mail to: cwilson@uaex.edu.

I have set up a blog to distribute information in addition to the newsletter. If you are interested, you can visit the blog at http://arkansasrice.blogspot.com

CROP CONDITION AND PROGRESS – As of July 12, the USDA reports that 16% of the crop is heading. This compares to 8% last week, 5% this time last year, and a 5-year average of 3% for this week. Arkansas rice does not normally begin heading in June but we saw that happen in 2010. The crop was seeded earlier and we had 8 straight weeks with temperatures above normal. Thus, the crop has developed much sooner than normal. As of July 12, 21% of the crop is reported to be in excellent condition, 43% good, 30% fair, and 5% poor and 1% very poor.

Average temperatures for the week ending July 12 were near normal for the first time in several weeks. The temperatures ranged from 2 degrees below normal at Hot Springs to 3 degrees above normal at Keiser. The temperatures ranged from a low of 58 degrees at Batesville to a high of 97 degrees at Camden. Rainfall for the week ending July 12 ranged from a trace at Stuttgart and DeQueen to a high of 6.1 inches at Mountain Home. Overall, soil moisture supplies were 14% very short, 36% short, 50% adequate, and 2% surplus. These data are collected as of Friday and do not reflect the rainfall that has occurred in much of Eastern Arkansas. The extended heat and dry weather have caused a significant strain on the irrigation capacity across the Delta. Rice fields have spots (some large, some small) that are burning because the well is unable to keep up with the dry weather. Officially, most of Eastern and Southern Arkansas is “abnormally dry”, which is effectively a mild drought. These data are collected as of Friday and do not reflect the rainfall that has occurred in much of Eastern Arkansas.



The USDA acreage report indicates that we have planted record rice acreage in Arkansas in 2010. The planted acreage is estimated at 1.681 million acres, up 13% from last year’s planted acreage of 1.486 million. The 1.681 million acres is also 38,000 over the previous record acres of 1.643 million planted in 2005. If the forecasts for good yields are realized, record production is likely. However, the heat and drought coupled with the amount of rice planted on marginal soils are not likely to allow us to harvest a record yield. Very early estimates suggest that CL 151 is the most widely planted variety so far (about 23% of the acreage). The next most widely planted varieties are Rice Tec CL XL 745 (18%), Wells (17%), and Jupiter (12%). These numbers are preliminary and may change as we get more information available.

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TIMING FOR BLAST FUNGICIDES

Again, to minimize neck blast with current fungicides, the products MUST be applied preventatively – before the panicles have emerged fully from the boot. The photos below illustrate growth stages for application of the fungicides registered for neck blast prevention, based on the most severe disease pressure situation =[highly susceptible variety (example = CL 151, Francis, CL 261) + erratic flood depth or shallow flood depth + field with a history of blast disease, etc.].

The photo first photo below is equivalent to late (fully swollen) boot to boot split (5% heading) and is appropriate for the first application. The second photo is equivalent to 50-90% heading and is appropriate for the second, note that the bases of all panicles are still in the boot. We believe that when the base comes out, the neck of the panicle often gets infected at that point, and once the fungus is inside, fungicides cannot do much to prevent subsequent damage.

For one-shot applications to a field, the best timing is between these two growth stages, when about 1/3 of the panicle is emerging from the boot (30-50% heading), as seen in the left photo, far right tiller. It is always better to err on the early side of these stages, than later. In most cases, a late boot to boot split application can be followed by the second application in 5 days and things should work out.

While 19 oz of Stratego at full boot to boot split, followed by 12 oz of Quadris at the second timing is a good program to minimize neck blast in fields with severe disease pressure in Arkansas, 12 oz of Quadris followed by 12 oz Quadris and 21 oz Quilt Xcel followed by 12 oz Quadris are also effective choices. Please keep in mind that Stratego and Quilt Xcel have 35 day PHI restrictions while Quadris has a 28 day PHI, and fully read these labels for other guidelines and restrictions.

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RICE STINK BUGS HEAVY EARLY -

Rice stink bugs have been prevalent in early heading rice in many areas. Several fields have had numbers well above threshold in many cases and have been treated. With all of the grass escapes this year, the pressure may continue to be high so fields need to be scouted carefully. The information below should be used to guide you on sampling.

The rice stink bug has several cultivated and wild plant hosts. Cultivated hosts include grain sorghum, oats, rice, rye and wheat. There are about 40 wild host plants, but the availability of barnyardgrass, bearded sprangletop, dallisgrass, lovegrass (*Eragrostis* sp.), ryegrass (*Lolium* sp.), crabgrass, broadleaf signalgrass and several species of *Panicum* are very critical to seasonal stink bug populations. Weedy grasses (wild host plants) are essential to rice stink bug survival, but eggs are not placed in all host plants upon which adults feed. Stink bug longevity (life span) and fecundity (number of eggs) are influenced by which host plants rice stink bug nymphs and adults feed on.

Stink bug eggs are always placed in two parallel lines on leaves, stems or panicles of host plants. Each egg mass contains 20 to 40 eggs, but have been reported to range from 10 to 70. Individual eggs are barrel-shaped and about 1/25 inch long and 1/50 inch in diameter. When first laid, stink bug eggs are green, but eventually turn red before hatching. Eggs hatch in 4 to 7 days, depending on temperature, and first instar nymphs remain clustered around the egg shells.

Nymphs pass through five distinct instars and do not have wings or shoulder spines. The first instar is about 1/25 inch long with all black body parts except the abdomen which is red with two or three black spots. The second through fifth instars gradually increase in size and are light brown with red and black spots on the abdomen. First instars do not feed on rice. The second through the fifth instar nymphs primarily feed on seeds. Total time spent as a nymph is between 15 and 28 days.

Rice fields should be scouted weekly or twice weekly beginning at 75% panicle emergence and continued for 4 weeks. Avoid scouting from mid-day through late afternoon. Use a 15 inch diameter sweep net to sample for rice stink bugs. At each sample site, make 10 consecutive sweeps to the front and sides while walking forward and swinging the net from side to side. Hold the net so that the lower half of the net is drawn through the foliage and panicles. Count the number of adults and large nymphs after each 10 sweep sample. Repeat samples at several random sites (6 or more). Avoid samples at field margins and in grassy weed areas. Calculate the average number of rice stink bugs per 10 sweeps. Apply insecticide if infestation is 5 or more rice stink bugs per 10 sweeps during the first two weeks after heading; or if 10 or more per 10 sweeps is found during the third and fourth week after heading. If the number of

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bugs is only slightly below the threshold level or if the field is very large, increase the number of samples to improve confidence in sample estimates. Samples taken during the morning hours of 8 to 11 a.m. will improve estimates of rice stink bugs.

Products recommended for control of rice stink bugs includes methyl parathion, Prolex, Karate, and Mustang Max. See the MP-144 for rates.

Several predators and parasites have been reported to attack rice stink bugs and are important biological control agents. Among them are two species of parasitic flies (*Tachinidae*) that attack nymphs and adults but at low levels of parasitism (1 to 15% parasitism). Tiny wasps may also parasitize and kill eggs. The wasp parasite (*Telenomus podisi*) has been very active in all host plants of the rice stink bug (Photo 12-15). T. podisi is active all year in every host plant of the rice stink bug. High levels of control (greater than 90 percent) have been documented in wild host plants when rice stink bugs are concentrated (>20 bugs per 10 sweeps). Even at lower densities of adults, parasitism usually averages slightly above 70% in some weed hosts. Rates of parasitism in rice fields is usually low (2 to 20%). Egg masses that are black, not the usual red or green, show parasitism by the wasps. Blackbirds and green tree frogs feed on rice stink bug adults and long-horned grasshoppers will feed on eggs and nymphs.

We have received questions about treating for rice stink bugs in a tank mix with foliar fungicide applications applied for kernel smut control. There are generally no physical tank mix problems with the insecticide and fungicides. However, application timing is not correct for this to work effectively. Fungicide applications for kernel smut and false smut must be applied before head emergence to be effective. Once the heads have emerged from the boot, infection has already occurred and the fungicide will not provide a curative effect. On the other hand, this is actually a bit too early to treat for rice stink bugs. It is true that heavy numbers of rice stink bugs may be present in the field, insects are mobile. If you apply insecticides for rice stink bugs prior to heading, the product does not have enough residual activity to protect the field through heading. Also, it kills the beneficial population, which can provide significant control of rice stink bugs before they hatch.

DON"T FORGET TO ENROLL LATE FIELDS IN THE RICE DD50 PROGRAM – Early fields should be scouted carefully as midseason approaches. The warmer temperatures have caused the crop to progress quicker than predicted by the Rice DD50

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Program in some cases. As the later rice emerges, be sure to enroll those fields in the Arkansas Rice DD50 Program. Five new varieties have been added to the program for 2010. The program can be accessed through the county Extension office or online at: http://dd50.uaex.edu/dd50Logon.asp. In order to enroll, you need the variety name, the emergence date, and the number of acres. The program will predict the timing of approximately 27 different production practices. This allows growers and consultants to be more efficient in scouting the crop and more timely with treatments. On-time decisions can often be the difference between success and failure. It is also important to the industry to enroll these fields. The data helps the mills prepare for harvest while it also serves to estimate the important varieties across the state.

UPCOMING EVENTS

Crops Field Day – Southeast Research and Extension Center – Rohwer, AR – July 29, 2010. Contact: Larry Earnest (870-644-3101)

Delta Classic Scholarship Golf Tournament – Helena Country Club – July 30, 2010. Contact: Dr. Robert Bacon (479-575-2354)

Pine Tree Biofuels Field Day – Pine Tree Branch Experiment Station – Pine Tree, AR – August 5, 2009. Contact: Roger Eason (870-633-5767)

Randolph/Lawrence County Field Tour – Pocahontas, AR – August 6, 2010. Contact: Herb Ginn (870-759-1659)

Rice Field Day – Rice Research and Extension Center – Stuttgart, AR – August 11, 2010. Program starts at 7:30 am. Contact: Dr. Chris Deren (870-673-2661)

Other Field Days

Progeny Rice and Soybean Field Day – Wynne, AR – July 22, 2010

Cache River Valley Seed Field Day – Cash, AR – August 18, 2010

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