

ARKANSAS RICE



Dr. Chuck Wilson, Dr. Gus Lorenz, and Dr. Bob Scott

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INTRODUCTION – This newsletter is distributed during the growing season to provide updates on rice progress and problems. 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.

CROP CONDITION AND STATUS – Because of the precarious spring, the crop is running about 2 – 3 weeks behind normal. As of June 9, farmers essentially completed planting rice after having about 96% this time last week. Emergence stands at 95% and compares to 88% last week, 100% in 2007, and 5-year average of 99%.

Average temperatures were 6 to 10 degrees above normal for the week ending June 9. Rainfall for the week ending June 9 was effectively zero for most of the rice-producing areas of Arkansas. After experiencing more rainfall than normal in April and early May, the end of May and the first part of June have been dry. Overall, soil moisture supplies were 4% very short, 29% short, 60% adequate and 7% surplus.

Winds have been abnormally strong during the past 10 days or so and have created problems getting fields sprayed. While the high soil moisture early in the season resulted in excellent weed control from the early applications, the winds and dry weather have made weed control a problem for several folks. While much of the rice is ready for fertilizer and flood, the weeds need to be controlled before flooding.

RICE DD50 PROGRAM – The DD50 program has been updated for the 2008 growing season and is available at <http://dd50.uaex.edu>. If you choose to not use the Internet, enrollment cards can be submitted to your local county Extension agent, and they will send you a report as has been done since the program originated. This program can be very helpful in time and labor management for your rice crop. It predicts the timing of 30 critical stages and management practices throughout the growing season. These predictions include timing for nitrogen fertilizer application, herbicide timings and cutoffs, midseason growth stages, scouting periods for insects and diseases, irrigation termination and harvest. To enroll, the field size, variety and emergence date are needed. Farmers are encouraged to enroll all fields, or at least all acres, even if several fields have the same variety and emergence date. The information generated from this program is useful to farmers but also helps the industry in preparation for harvest. It provides an estimate of harvest dates and variety distribution by county that the mills can use to “gear up” as the harvest season begins.

For more information, contact your local county Extension office. (Chuck Wilson)

CLEARFIELD RICE

As the result of the Newpath and Beyond shortage, a Section 18 Crisis Exemption was granted by the Arkansas State Plant Board and EPA for Pursuit, Raptor and Thunder herbicides for use on Clearfield rice. Please note that this crisis includes only the products Raptor,

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Beyond, Newpath, Pursuit 2AS and Thunder. BASF pulled Pursuit DG and Pursuit Plus due to lack of availability.

ZINC & PHOSPHORUS DEFICIENCY

As fields begin to be flooded, now is the time when the calls start concerning zinc and phosphorus deficiency. Hopefully, the calls will not be as frequent as they were last year. However, I know with the record prices for fertilizer, some guys are going to cut corners. When this happens, high risk fields (silt loam soils, high soil pH, low soil test zinc and/or phosphorus, history of deficiency) are likely to experience problems.



Zinc deficiency typically begins soon after the flood is applied; however, it may occur prior to flooding. The cool temperatures and frequent rains experienced this spring are conditions that increase the likelihood of seeing pre-flood Zn deficiency. More often than not, the deficiency will be seen on silt loam soils with pH > 6, low

soil test zinc and possibly on recently leveled fields. It is usually characterized by chlorosis (yellowing) near the base of the leaf more pronounced than the leaf tips (see above photo).

The midrib will turn bright yellow in contrast to the dark green, and often bronzed, leaf blades.

While bronzing is associated with zinc deficiency, it alone does not define Zn deficiency. It is much like a fever. It is an indication that something is wrong but does not indicate what is wrong.

If zinc deficiency is observed, the salvage recommendation is to drain and dry the field, apply a liquid Zn chelate at a rate of 1 lb/acre of actual zinc, apply 100 lbs of ammonium sulfate and re-flood when the rice begins to recover. For most liquid zinc products, this will require at least 1 gallon per acre. Be cautious of any products that are recommended at less than 1 gallon per acre. While some claims are made that 1 – 2 quarts of a particular product is “as good as” 1 lb of zinc, check the label carefully. If the product is 9 – 11% zinc, less than a gallon is not going to be sufficient.

Similar to zinc, phosphorus deficiency also generally becomes evident soon after flooding. However, the rice will typically be flooded for 10 days to 2 weeks before the deficiency is observed.

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Phosphorus deficiency symptoms are typically not quite as easy to see (see above photo). The plants turn dark green (darker than normal; bluish green as it progresses), have few tillers and are stunted. Bronzing may be observed in some situations but not always. In some fields, the symptoms will fade away with age, while in others it will get worse.

The salvage recommendation is to apply 100 lbs of P as DAP or triple superphosphate in the flood. In application timing studies, we have seen some yield response to midseason P applications, but 100% yield recovery is not likely to happen when P applications are made that late.

RICE INSECTS

(Gus Lorenz)

Grape Colaspis

The Grand Prairie has experienced one of the largest populations of grape colaspis (GC), also known as “lespedeza worm” by many growers, which we have seen in recent years. We have received calls from several consultants and growers of stand loss issues and damage to rice

fields. From what we have observed, damage appears to be most prevalent in Arkansas, Lonoke and Prairie counties. Shown below is the telltale sign of GC damage. Several plants in a drill row are dead with live plants on either side.



Telltale GC damage in the field, dead plants in a drill row.

Often these dead plants can be seen through the field where last year’s soybean rows were, and the GC actually cause a “bean row” effect in the field. The plants are dead where the previous year’s bean rows were, and the plants are still alive in the area between the rows. This is a function of the biology of GC. We have 2 generations of GC in soybeans each year. The second generation females feed on soybeans and after mating will drop to the ground where they will lay a couple of “clutches” of eggs of about 35 eggs each. The larvae will hatch and overwinter. In the spring the larvae will move up in the soil profile and begin feeding on roots of the developing crop. They move up or down

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the drill row feeding on roots, which explains why we see this bean row effect in rice.

Adult Grape Colaspis

With the mild winter we had this year, it appears that survival of the larvae was high, and we have seen numbers of larvae as high as 10 – 12 per 6 inches of drill row in several fields. Our core samples in these fields (4-inch diameter core) have yielded 4 – 5 larvae on average but often as high as 10 per core. Obviously, this is a lot of larvae in a small area, and this high a population is capable of causing severe stand loss. The larvae appear to feed on the root right above the seed and below the hypocotyl and appear to feed in a manner which causes girdling of the root as shown in the picture below. Although the picture is a little fuzzy, I think you can see the damage.



Girdling of the root by GC.



GC feeding on the root.

As many of you know, we received a Section 18 this year for Dermacor as a seed treatment on rice for control of rice water weevil, and we have had the opportunity to observe GC control with the product on several fields. We have observed an obvious vigor associated with the seed treatment and in some cases observed emergence of the treated rice four days prior to emergence of untreated seed in side-by-side observations. However, our sampling of large block trials has not yielded outstanding results

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of control of GC with Dermacor compared to the untreated. Where we have taken samples from treated and untreated areas of the field, we see no significant differences in GC numbers. However, and most importantly, there is no doubt that the treated areas of the field have a better stand, and overall plant health and vigor are far superior in the treated areas of the field compared to the untreated areas of the field. To me, that is the bottom line. Even in fields with no GC, we are seeing improved plant stand and vigor associated with seed treatments compared to the untreated check. Currently, we are taking larvae from the field and placing them in pots with seed treated (and untreated) rice and trying to evaluate the impact of the seed treatments. Hopefully, we will be able to figure out this situation between field and greenhouse trials. The bottom line on this situation with the seed treatment is that we are seeing some damage to Dermacor treated fields.

I think there are a couple of issues contributing to the damage. First is the fact that this is a seed treatment; this means that larvae don't die just because you planted treated seed. The larva has to eat to get a dose before it will die; therefore, some damage has to occur. Secondly, I mentioned earlier how many larvae we are seeing in many fields, and if you have that many larvae feeding then you are going to see damage. If one larva feeds on the roots and dies, you won't see nearly as much damage as 8 or 10 larvae feeding on the plant before they get a dose. This may be one of those cases where 90% control just isn't good enough. Even with damage in seed-treated fields, fields with seed treatment in these high population fields is much better than the untreated.

Whether or not your seed was treated, the question remains: If you have damage, what can you do? Although the effectiveness of this practice is questionable, the standard recommendation has been to apply fertilizer, e.g., 100 lbs of ammonium sulfate, and flush the field to stimulate root development. That's about all you can do. Because of the cost of fertilizer and fuel, this is no longer a cheap solution and may cost as much as \$40 – 50/acre.

Hopefully, we will be able to get some good information on the value of seed treatments this year.

Rice Water Weevil (RWW)

With the lateness of our rice crop, it should be no surprise to anyone the potential problem looming with RWW. Our experience is that late planted rice has the potential to have RWW problems. We have received several calls and observed in several fields a higher than normal amount of RWW activity for this time of year, and we need to be vigilant on this pest in our fields as we go into permanent flood on fields. Look for leaf scarring and adults in the field. Below is the threshold developed by John Bernhardt, Research Rice Entomologist:

Scouting - leaf scar counts. Leaf scars are a result of adults feeding on rice leaves. Begin scouting and using leaf scar counts within 4 to 7 days after flooding. Examine only the youngest leaf for feeding scars on plants at least 6 feet from levee furrows (barrow pit or bar ditch) and avoid areas of thin stands. At each stop, inspect 40 plants and record the number of plants with a scar on the youngest leaf. If a decision cannot be made after a reasonable number of stops,

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rescout the field in 3 to 5 days. Do not use the leaf scar method on drill-seeded rice for more than 2 weeks after permanent flood. When the percentage of new leaves with feeding scars in a field exceeds approximately 60%, between 85 and 90% of the time the number of larvae per core sample will reach or exceed 10 larvae per core (the old treatment threshold).

flood when adults are present; a second application may be necessary 5 – 7 days later. Karate Z, Prolex, Proaxis and Mustang Max prevent adults from laying eggs.

Treat based on leaf scar treatment threshold using Karate for drill or water seeded.

Treatment recommendations for certain rice insects can be found in the MP144 Insecticide Recommendations for Arkansas. Copies are available at your local county Extension office. Contact your county agent for assistance in identifying rice insects and determining the best method of control.

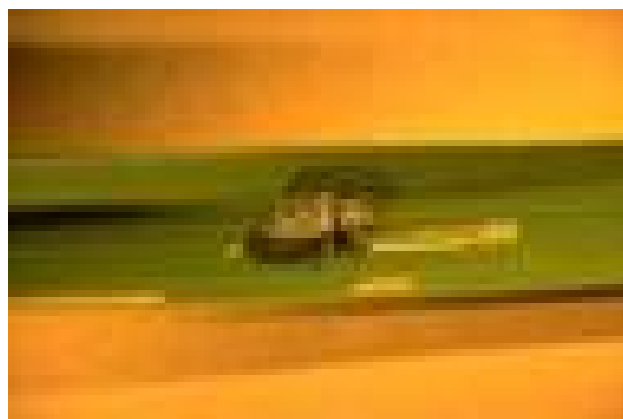
Rice Water Weevil (Adults) Insecticide Recommendations

Product	Rate (oz/A)	AI/Acre Acres/ Gal
gamma-cyhalothrin (R)		0.0125-0.02
Prolex 1.25 CS	1.28-2.05 oz	62-100
Proaxis 0.5 CS	3.2-5.12 oz	25-40
lambda-cyhalothrin (R)		0.025-0.04
Karate Z 2.08 CS	1.6-2.56 oz	50-80
zeta-cypermethrin (R)		0.02-0.025
Mustang Max 0.8 EC	3.2-4.0 oz	32-40

Karate Z and Mustang Max can be safely applied before or after herbicide applications.

Drill Seeded: Apply Karate Z, Prolex Proaxis and Mustang Max within 10 days after permanent flood when adults are present.

Water Seeded: Apply Karate Z, Prolex, Proaxis and Mustang Max within 7 days after permanent



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RICE RESEARCH VERIFICATION PROGRAM

(Stewart Runsick & Ralph Mazzanti)

North Arkansas

Three of the 12 northern fields are now under permanent flood (Craighead, Crittenden and Prairie counties). St. Francis, Lonoke and Clay counties will be under flood within the next week. The Clay County field was flushed following an application of urea at 100 lb/acre. The Lawrence County field was also flushed and now has a good stand of 5 plants/ft². High winds, last week, delayed herbicide applications. The first Newpath application will be applied in Lawrence County this week. Other fields that were scheduled to be flushed received adequate rainfall as totals ranged from 0.4 to 4.0 inches/acre. The Poinsett County field has emerged, and Newpath will be applied this week. The Mississippi County field has also emerged and is in good shape for now following the application of glyphosate, Command and FirstShot. The Pope County field will receive an application of RiceStar and Permit. The Prairie County field will be

sprayed with 2,4-D and will receive mid-season nitrogen next week. The northern fields range in planting date from 7 April to 20 May.

No major problems have been observed in the verification fields. All of the herbicide applications have worked well, and fields are very clean. I have had some reports of chinch bugs and heaving feeding from adult water weevils in fields in northeast Arkansas.

Stewart Runsick

South Arkansas

Several south Arkansas fields have been fertilized and flooded. The Jefferson County field has been dried down after flushing and is ready to apply the second application of Newpath, but Beyond may be used instead. The Clark County field was the last verification field planted and has struggled to obtain a uniform stand. Command is working well but has caused some injury in some areas of the field. After applying 100 lbs/acre of ammonium sulfate, the field will be flushed to help improve the stand.

The Ashley County field will receive 22 oz/acre of Ricestar and 1 oz/acre of Aim for 4 – 5 leaf broadleaf signalgrass and coffeebean. The Drew County field is coming along well. It has been fertilized and flooded. There are coffeebean escapes that will have to be sprayed soon. The Lincoln County field is scheduled to get the second Newpath application plus 1oz/acre of Aim followed by the pre-flood fertilizer at a rate of 200 lbs/acre urea to be flown in and well turned on.

The Arkansas County (Dewitt) field will receive the second application of Newpath and 0.5 oz/acre Permit the end of this week, if the wind

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cooperates. The Arkansas County field at Stuttgart had some coverage issues on ground cherries, and we have scheduled 1 oz/acre of Aim when wind calms down some.

The Lonoke County field was sprayed with 2/3 oz/acre Permit, 1 gallon/acre Riceshot and 2oz/acre Grasp to clean up large barnyardgrass and nutsedge. The Prairie County field received .6" rain over the past 24 hours. The west side of field (20 acres) was sprayed to clean up some broadleaf signalgrass and barnyardgrass. The Lee County field received .63" rain. The Karate Z did good job controlling the water weevils.

Ralph Mazzanti

UPCOMING EVENTS

Delta Classic Scholarship Golf Tournament –
July 18, Helena Country Club

Field Day – Southeast Research and Extension
Center – Rowher – July 24, 2008

Rice Consultant Training – Lake Hogue,
Weiner, AR, August 1, 2008

Rice Field Day, Rice Research and Extension
Center, Stuttgart, AR – August 13, 2008

For more information, or other events, please
send an e-mail to cwilson@uaex.edu

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