Arkansas Rice Update

Dr. Jarrod Hardke, Dr. Gus Lorenz, & Dr. Bob Scott

May 14, 2016 No. 2016-09 www.uaex.edu/rice

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Crop Progress

So much rice… I've been projecting 1.6 million acres of rice for the state but it's probably safe to go ahead and start saying *at least* 1.6 million acres based on appearances. It's everywhere and drills are still running in some places.

All that rice is starting to go to flood this past week under very favorable conditions. Where some missed rainfall, dry soil was easily found and it just became a question of whether rice had progressed enough to handle the flood.

Whether to pull the trigger on flooding rice was probably the number one question of the week. In many instances the answer was to start the engine and get on with it. Healthy, happy 4-leaf rice starting to tiller with dry ground below – Bingo, we have a winner. Flood up and dance.

The approaching week full of rain chances will make this weekend a busy one for both fertilizer and herbicide applications. However, once we dry up after this round is when a major portion of the state's rice could all be ready to flood at once. We planted most of the rice crop in the span of a month and it all emerged close together as a result. Getting all that water rolling and gates set on time will be a chore.

With the pushing to get things done, more drift complaints are likely to be an issue – more on that later. Accidents happen but let's try to watch out for our neighbor's crops like we would want them to watch out for ours.

We've got this rice crop right where we want it for the moment. Let's try to keep it there by avoiding missed opportunities for overlapping residual herbicides, avoiding drift, and getting our preflood N out on time on dry soil and a solid flood established.

Enroll fields in the DD50 program to help make these timing decisions: http://DD50.uaex.edu.

Fig. 1. Flooding of rice fields is getting a good jump this past week.

Herbicide Drift

Seeing some drift. Definitely an advantage to having seed treated with CruiserMaxx Rice. Typically just takes time to recover from Roundup or Newpath drift. Data shows ammonium sulfate and DAP can help green up the rice and maybe get to flood sooner but doesn't help yield.

Saw first field of CLXL745 injury from a Newpath application. Still don't know specifically why this happens. It's rare but flushing in some sulfate can speed recovery.

The biggest thing that would help herbicide injury is sunshine and warm weather.

Weed control-wise the rice crop is looking good with early residuals holding. Early post treatments getting added residual to make it to flood looking good so far. Many are overlapping PRE herbicides – Good Job!

Prowl is going out postemergence for sprangletop in some fields. Haven't heard much on resistant sedges, early applications of RiceBeaux or Sharpen seem to be working; will probably need to follow up later with Basagran.

Arkansas Rice Update
Dr. Jarrod Hardke, Dr. Gus Lorenz, & Dr. Bob Scott
May 14, 2016 No. 2016-09 www.uaex.edu/rice
DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Fig. 2. Newpath injury to CLXL745.

Fig. 3. Get those flags out and mark fields. Will be spraying soybeans and more Newpath applications in CL rice soon.

Preflood Nitrogen Management Issues

My grandfather would say I'm "not cheating fair" but below is a mostly copy/paste effort from an article last year with a few updates.

When options begin to run out for preflood nitrogen (N) applications, it's time to play the hand we're dealt. The last few years we encountered similar problems, but no one was prepared to see a repeat of those prolonged wet and conditions. We're in better shape right now than in the past couple of years because people are being extremely proactive and looking to beat N application issues rather than sitting around until all the options have run out. We don't want to have tremendous difficulty applying preflood nitrogen to rice the way we want – on dry ground at the 4- to 5-leaf stage before establishing the permanent flood.

In order of preference, based on yield response and N efficiency, here are options for applying preflood N based on field situations:

1. **Field is dry:** Apply NBPT-treated urea onto dry soil and establish the permanent flood in a timely manner to incorporate N below the soil surface. If you have any time to spare, it is always best to apply preflood N onto dry soil – applications onto muddy soil or into standing water are far less favorable and much less efficient methods of N fertilization.
2. **Field is muddy:** Apply NBPT-treated urea onto muddy soil and attempt to let the soil dry if you have time. If a significant rainfall event occurs (~0.5 in or more) to re-wet the field then begin flooding; otherwise let the soil dry before establishing the flood. If you're applying N to mud we do not know exactly how much N will be lost, but increasing the N rate by ~ 20 lbs N would be wise to offset losses. This increase may or may not provide much benefit depending on

your exact soil and weather conditions, but it's less likely to hurt in this case. Watch the crop closely and apply extra N if a deficiency occurs.

3. **Field has standing water:** Get the water off the field if at all possible (if time allows). If you do not have time to get the water off and let the soil dry, then hold the water and "spoon-feed" N into the flood in small quantities every 5-7 days for 4-5 weeks is the best option – lean toward every 7 days. A small quantity means 45 lbs N per acre (100 lbs urea per acre). If you have a short time to internode elongation, maybe applying N for 3 weeks at 45, 60, and 60 lbs N per acre will be better but still apply a midseason shot of 45 lbs N per acre in addition. Do not, for any reason, apply the entire recommended preflood N rate in one application into standing water.

Preferred "worst-case" management: As rice reaches the end of the N application window according to the DD50 program, apply N treated with NBPT to muddy/wet soil and attempt to let the soil dry out underneath the applied N – if a significant rainfall occurs, start flooding. Realize that some N is lost in this case and be prepared to monitor the crop closely and apply additional N later if the rice looks like it needs it.

Fields unable to hold a flood (levees and gates unfinished): Apply a small amount of N and wait for the soil to dry or receive upcoming rainfall. If heavy rain is expected and movement is a concern, ammonium sulfate should be used for this application; otherwise, apply urea. If conditions are still not dry enough to flood the field in a week, subsequent N applications will be needed in the same manner until a flood can be established. At the point the flood can be established, apply any remaining N requirements to the dry soil and flood.

When preflood N is applied onto dry soil to rice at the 4- to 5-leaf stage and a flood is applied timely, plants take up at least 60% of the total N applied over the course of 3 weeks (10% week 1, 20% week 2, 30% week 3). In general the period from the optimum time to apply preflood N until internode elongation (IE) is about 3 weeks, but from the final recommended application time to IE is about 2 weeks. However, these timings are based on plant development when rice has received timely N fertilization and flooding – delaying these causes rice to develop more slowly. Keep in mind that we can only make up a small amount of yield with N applied at midseason.

Previous research has shown that N applied onto dry soil has the most yield benefit. Applying urea onto muddy soil can result in a 20% yield loss. However, applying ammonium sulfate or urea + NBPT onto muddy soil and letting the soil dry can reduce the yield loss to only 10%. In this research, N was applied just prior to permanent flood at the 4- to 5-leaf stage.

Past the 4- to 5-leaf stage, potential yield losses could become more dramatic. However, many factors influence how much flexibility we have in our N fertilization timing, including cultivar, length of maturity, native soil N, soil type, etc. If native soil N is high, then the effect is reduced. If it is a longer season cultivar then there is a greater window before midseason. In any case don't let it get too late before applying N. Use of the DD50 Rice Management Program can help to time management decisions in these situations (http://DD50.uaex.edu).

Arkansas Rice Update

Dr. Jarrod Hardke, Dr. Gus Lorenz, & Dr. Bob Scott

May 14, 2016 No. 2016-09 www.uaex.edu/rice

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Insect Update

Grape colaspis injury has started showing up in fields. The images in **Figs. 3-5** come from a field thought to have received an insecticide seed treatment – but due to a miscommunication it actually didn't. The levels of grape colaspis in this field were incredible and wouldn't be expected most of the time but it provides a major example of the utility of insecticide seed treatments in rice.

Fig. 4. Rice roots fed on by Grape Colaspis (left) versus normal roots.

Fig. 5. Areas where levees were in previous year's soybeans unaffected by grape colaspis while significant stand loss occurs around it.

Fig. 6. Small to medium grape colaspis and their damage to a rice seedling. Still plenty more damage possible from GC this size.

The DD50 program can be found at http://DD50.uaex.edu. Enroll fields now to help with timing most major rice management practices.

Additional Information

Arkansas Rice Updates are published periodically to provide timely information and recommendations for rice production in Arkansas. If you would like to be added to this email list, please send your request to rice@uaex.edu.

This information will also be posted to the Arkansas Row Crops blog (http://www.arkansas-crops.com/) where additional information from Extension specialists can be found.

More information on rice production, including access to all publications and reports, can be found at http://www.uaex.edu/rice.

Acknowledgements

We sincerely appreciate the support for this publication provided by the rice farmers of Arkansas and administered by the Arkansas Rice Research and Promotion Board.

The authors greatly appreciate the feedback and contributions of all growers, county agents, consultants, and rice industry stakeholders.