



# Arkansas Rice Update

Drs. Jarrod Hardke, Nick Bateman, Gus Lorenz,  
Ben Thrash, Trent Roberts, & Scott Stiles

June 12, 2020 No. 2020-13

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## Time for Summer

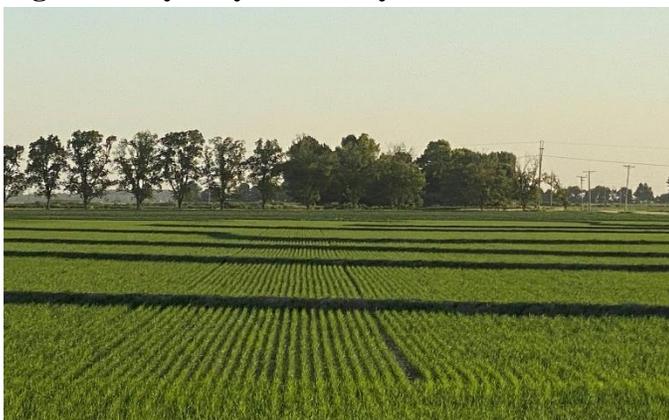
“I can see clearly now the rain is gone, I can see all obstacles in my way, gone are the dark clouds that had me blind, it’s gonna be bright, sunny day.”

What a forecast we have for the next 10 days. It’s enough to make you forget about all the trouble we’ve had this spring. It’s time to be finished with rice planting, roll that beautiful bean footage, and get rice ground dry enough to spray and fertilize so we can flood up the right way.

The biggest concerns right now as they have been for the past week or so are self-inflicted wounds. Some we do to ourselves, some our neighbor helps or we help our neighbor. We’ve seen the wrong herbicides in the tank, the wrong combinations of herbicides in the tank, and of course getting too close to susceptible crops.

This rice crop is shallow rooted due to all the frequent rain so it’s more susceptible to stress than usual. Be a little more cautious and careful about how you handle it with pre-flood herbicides and getting to flood. A good several days of drying to make it root down a little better is going to be a very good thing right now.

**Fig. 1. Early May rice ready for a flood.**



## Delayed Phytotoxicity Syndrome (DPS)

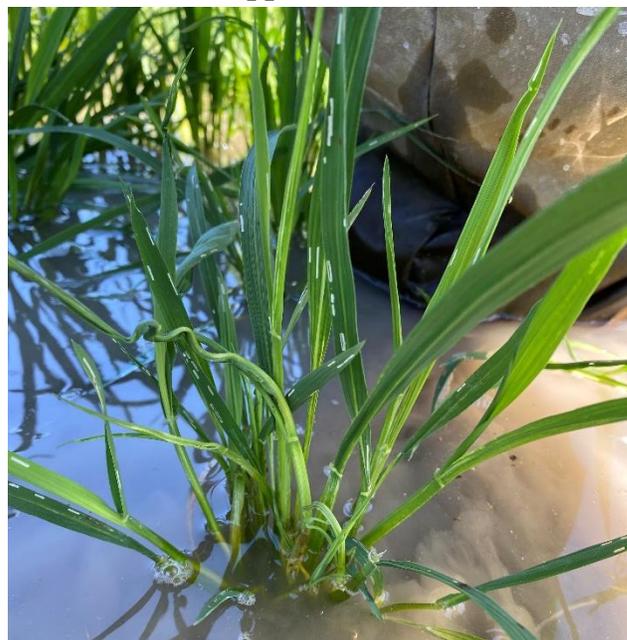
There are several cases the last few days of delayed phytotoxicity syndrome (DPS) or delayed phytotoxic shock as it’s sometimes called. You might just call it sick rice or herbicide injury.

The symptoms of DPS are patchy areas of rice that is dark and stunted with twisted and rolled leaves. You may also see “fish-hooking” tillers and this affected tissue will be very rigid. In severe cases you can feel the plants “crunch” when stepped on.

Herbicides we apply all the time are responsible. The most common culprits are Bolero, Facet, and Propanil, though others can be involved. Put simply, organisms in the soil alter the normally safe herbicide in a way that makes it toxic to rice.

The answer is to drop the water back to muddy to take stress off the rice and get oxygen to the roots. The more severe the injury the more you’ll have to dry the field up. Most cases so far are not that severe.

**Fig. 2. Delayed phytotoxicity syndrome (DPS) from herbicides applied to rice.**



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## Management of Rice Water Weevils

We have received multiple phone calls over the past week about rice water weevils (RWW) and based on our observations, it is trending towards a bad RWW year. This should come as no surprise with the mild winter we had this year.

**Fig. 3. Rice water weevil adult and larva.**



Many fields that have been flooded in the last 10 days have major RWW scarring, to the point in some instances where stand was reduced. This is not a common occurrence and shows how bad weevils are in some areas. Severe scarring has been found in fields that have yet to be flooded and some have even been observed in the upper portion of row rice fields.

While this scarring from adult RWW feeding is usually superficial with no yield loss, it is a sign that adults are present and active in the field. Unfortunately, weather conditions have delayed planting along with flood timing. Based on planting date studies, we have observed much higher RWW pressure in rice planted after mid-May.

Most rice planted in Arkansas is either treated with NipsIt or CruiserMaxx seed treatment, which are excellent on grape colaspis. However, efficacy of these products on RWW decreases 28-35 days after planting. Although RWW pressure is higher for later planted rice, these plantings typically experience rapid growth allowing us to flood within 3 weeks of planting and we still get sufficient control of RWW with NipsIt or CruiserMaxx.

If rice has been treated with Dermacor or Fortenza, it will still have protection from RWW at least 60 days after planting. Also, it is important to note that NipsIt and CruiserMaxx within 28-35 days after planting will reduce scarring observed. However, Dermacor and Fortenza will not affect scarring but will maintain better control of larvae.

For rice going to flood past the 28-35 day window with CruiserMaxx Rice or NipsIt, a foliar application of a pyrethroid like Mustang Maxx, Lambda-Cy, or Declare might be called for. However, Dermacor and Fortenza will NOT need a foliar application.

**Timing is critical on foliar applications for rice water weevil. Applications must be made within 5-7 days of permanent flood establishment.** If it is later than that, our studies indicate you may as well keep the insecticide in the jug. Your only option then is to drain the field until the soil cracks to prevent weevil damage. Most growers aren't crazy about doing that as it is costly and may impact weed control and fertility. Remember, late rice will have high populations of RWW and staying vigilant with scouting and timely applications will be critical.

**Fig. 4. RWW scarring on row rice & rice going to flood (courtesy Kyle Colwell & Chuck Farr).**



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## Watching for Post-Flood Potassium Deficiency

Over the next few weeks a significant portion of the rice across the state will have been fertilized and flooded. With warm temperatures and ideal growing conditions rice will be marching toward ½ inch internode elongation. A common issue that we see every year in various levels of severity around this time is potassium (potash) or K deficiency.

When we fertilize and flood rice the rapid vegetative growth and significant increases in biomass over a relatively short period of time can lead to nutrient imbalances or nutrient deficiencies. The three to four weeks after flooding are the time period when K demand is the highest and we are most likely to see deficiency symptoms appear.

Potassium deficiencies are rarely diagnosed pre-flood as the plant demand is relatively low. However, K is required by the rice plant in near equal amounts as nitrogen and important for many processes associated with water relations, metabolic functions, and the plant's ability to fight the disease. Soil testing is the first step in proper K management. Current K rate recommendations based on soil test K levels are very reliable and can help identify and prevent K deficiencies before they ever occur.

However, there are some cases where soil tests are not taken or K was not applied pre-plant and K deficiencies can present themselves in both subtle and dramatic fashion. Since K is a mobile plant nutrient the deficiency symptoms in rice will appear on the oldest, lower leaves first and will be characterized as marginal leaf chlorosis that moves from the tip of the rice leaf towards the collar. In my professional opinion there is a significant amount of "hidden hunger" that occurs in rice and other Arkansas row crops.

Hidden hunger for K is essentially a K nutrient deficiency that does reduce yield, but goes undiagnosed due to a lack of obvious nutrient deficiency symptoms or mischaracterization of the deficiency as normal leaf senescence (lower leaf drop) due to lack of sunlight, etc. Proper identification of K deficiency requires you to push the plant canopy back and really focus on those lower older leaves much like you would do when scouting for sheath blight.

In extreme cases (and what we observe in research) is that K deficient rice seems to be shorter and struggling to really take off after pre-flood or midseason application of N then hidden hunger or K deficiency may be occurring. The most common timing for K deficiency in rice is immediately after midseason N applications.

If K deficiency is identified 100 lb potash per acre is recommended at the first onset of symptoms and yield can be salvaged all the way until the late-boot growth stage. Timing of K application is critical with earlier identification of the deficiency and application of K to deficient rice leading to higher yield potentials.

One way to identify potential K deficiencies is with a Y-leaf tissue sample which is the leaf blade of the uppermost collared leaf on the rice plant. Current research has been focused on the development of a dynamic critical Y-leaf concentration threshold. This will allow producers to use heat units or DD50 timing and tissue K concentration to predict whether additional K applications will increase grain yield. This work is ongoing, but for now we have two timings that we can use to interpret Y-leaf tissue K concentrations; mid-tillering and panicle initiation. Generally, we want to see these Y-leaf tissue concentrations during these growth stages at or

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above 1.5% K to ensure that potassium is not limiting rice growth or yield potential.

As always, the best defense is a good offense (at least with nutrient management) and using proper soil testing and fertilization based on soil test K levels will pay dividends in the productivity of your operation. Being proactive in the management of soil nutrients is always the best course of action. However, it's always good to be on the lookout for potential K deficiencies near midseason as this is when they are most likely to occur and be "obvious". If you are concerned about K deficiency a tissue test may help identify potential hidden hunger. Please remember that there is a wide window of opportunity for successful application of K from preplant to late-boot, but the earlier a potential K deficiency is identified the larger the return on investment.

## Rice Market Update

### Price Loss Coverage (PLC) Update:

USDA released its June supply/demand report this week. The tables below include the updated season average farm prices and projected PLC payment rates per bushel for 2019 and 2020. There were minor adjustments to the 2019 average farm price this month for both long and medium grain. The long-grain average farm price was increased 5 cents to \$5.45 per bushel and the southern medium-grain price was reduced 4 cents to \$5.27 per bushel.

### 2019 Projected PLC Payment Rates, Rice.

	A	B	C	(A minus higher of B or C)
Unit: \$/bu.	Reference Price	Loan Rate	Mktg.Year Avg. Price	Proj. PLC Pmt. Rate
Long-Grain	\$6.30	\$2.925	\$5.45	<b>\$.85</b>
Med.-Grain	\$6.30	\$2.925	\$5.27	<b>\$1.03</b>

Source: USDA, June 2020.

The final 2019 marketing year prices and PLC payment rates for rice are expected to be released October 30, 2020. As a reminder, for ARC and PLC payments, a sequestration percentage will be applied to the payment rate. In recent years the sequestration reduction has been in the range of 6.2 to 6.6 percent.

### 2020 Projected PLC Payment Rates, Rice.

	A	B	C	(A minus higher of B or C)
Unit: \$/bu.	Reference Price	Loan Rate	Mktg.Year Avg. Price	Proj. PLC Pmt. Rate
Long-Grain	\$6.30	\$2.925	\$5.31	<b>\$.99</b>
Med.-Grain	\$6.30	\$2.925	\$5.31	<b>\$.99</b>

Source: USDA, June 2020.

Projected PLC payment rates are updated monthly on the USDA Farm Service Agencies' ARC/PLC website at this link: [ARC/PLC Program Data](#).

### June Supply / Demand Report.

The outlook for 2020/21 long-grain this month is for larger supplies and domestic use, reduced exports, and increased ending stocks. Most of the 2020/21 supply revisions are the result of increases in beginning stocks. Old crop (2019/20) imports were revised higher by 1.5 million cwt. this month. Thus, the 2020/21 beginning stocks were increased 1.5 million cwt to 16.2 million. New crop imports were also increased 1.0 million cwt. The combination of increased beginning stocks and higher imports raises 2020/21 total supplies by 2.5 million cwt to 198.7 million.

Total 2020/21 domestic use and residual was raised 2.0 million cwt to 105.0 million. New crop

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exports were reduced by 1.0 million cwt to 71 million.

Projected 2020/21 ending stocks were increased by 1.5 million cwt to 22.7 million, up 40 percent from the 2019/20 ending stocks. The 2020/21 season-average farm price (SAFP) was unchanged at \$11.80 per cwt. or \$5.31 per bushel. The 2019/20 SAFP was revised higher to \$12.10/cwt. or \$5.45 per bushel.

U.S. Long-Grain, Supply, Demand, and Price.		
Unit: million cwt.	May 2020/21 proj.	June 2020/21 proj.
Planted Acres	2.10	2.10
Harvested Acres	2.07	2.07
Yield (lbs./ac.)	7,503	7,503
Beginning Stocks	14.7	16.2
Imports	26.0	27.0
Production	155.5	155.5
<b>Total Supply</b>	<b>196.2</b>	<b>198.7</b>
Domestic Use	103.0	105.0
Exports	72.0	71.0
<b>Total Use</b>	<b>175</b>	<b>176</b>
<b>Ending Stocks</b>	<b>21.2</b>	<b>22.7</b>
<b>Stocks-to-Use %</b>	<b>12.1%</b>	<b>12.9%</b>
<b>Avg. Farm Price (\$/bu.)</b>	<b>\$5.31</b>	<b>\$5.31</b>
Source: USDA, June 2020.		

Looking ahead, the first survey of actual 2020 plantings will be released by NASS in the June 30 *Acreage* report. The results will be used in the production estimates for the July 10<sup>th</sup> WASDE. The first objective yield forecast for the 2020 crop will be released on August 12<sup>th</sup> in the NASS *Crop Production*.

## Calendar:

**June 15** Federal Crop Insurance Final Planting Date for Soybeans - Not following another crop.

**June 25** Federal Crop Insurance Final Planting Date for Soybeans - Following another crop.

**June 30** USDA-NASS *Acreage, Grain Stocks, Rice Stocks, Agricultural Prices*.

**June 30** Deadline to complete enrollment in ARC/PLC for the 2020 crop year.

**Note:** Although program elections (ARC or PLC) for the 2020 crop year remain the same as elections made for 2019, all producers need to contact their local USDA Farm Service Agency (FSA) office to sign a 2020 enrollment contract.

FSA will send reminder postcards to producers who have not yet submitted signed contracts for ARC or PLC for the 2020 crop year. Producers who do not complete enrollment by close of business local time on Tuesday, June 30 will not be enrolled in ARC or PLC for the 2020 crop year and will be ineligible to receive a payment should one trigger for an eligible crop.

**Reminder:** Signup is underway for the **Coronavirus Food Assistance Program (CFAP)** and will extend through August 28, 2020. USDA Service Centers are open for business by phone appointment only. Please call your office prior to sending applications electronically. Information on how to apply for CFAP can be found at this link: [Coronavirus Food Assistance Program](#)

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## DD50 Program is Live

While planting progress has only just begun, we do have rice emerged. With that in mind, the DD50 Rice Management Program is live and ready for fields to be enrolled for the 2020 season. All log-in and producer information has been retained from the 2019 season, so if you used the program last year you can log-in just as you did last year. Only field data from 2019 has been removed. Log-in and enroll fields here: <https://dd50.uaex.edu/>.

Here's a recent article on the DD50 program:

[Use the DD50 Rice Management Program to Say Ahead in 2020.](#)

## 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](mailto: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

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



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