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**Division scientist wins $324K grant to examine new weed management tactics in furrow irrigated and conventional rice production**

By Mary Hightower

U of A System Division of Agriculture

**Fast facts**

* Research needed as Arkansas growers increase row rice acres
* Alternative cultural weed control practices need to be identified to aid herbicides
* Arkansas grant part of NIFA innovation initiative in pest management

(440 words)

(Newsrooms – with filer of Butts: <https://flic.kr/p/Qc76Lz> and art of weeds in rice <https://flic.kr/s/aHsmREVfmM> )

LITTLE ROCK — A team led by Tommy Butts, extension weed scientist for the University of Arkansas System Division of Agriculture, will be exploring new ways to manage herbicide-resistant weeds in row rice and traditional flooded field production, thanks to a $324,000 grant.

The grant is part of a $4.6 million investment by the National Institute of Food and Agriculture, or NIFA, part of the U.S. Department of Agriculture, toward the development of innovative pest management strategies.

Working with Butts on the project are Jason Norsworthy, Division of Agriculture weed scientist; Jason Bond, research and extension weed scientist at Mississippi State; Jarrod Hardke, extension rice agronomist for the Division of Agriculture; Tom Barber, extension weed scientist for the Division of Agriculture and Bobby Golden, extension rice and soil fertility agronomist for Mississippi State.

The research is needed as Arkansas rice producers increasingly move from traditional flood production to row rice, also known as furrow irrigated rice, or FIR, production. Arkansas had 40,000 acres of row rice in 2017. That number jumped to more than 100,000 acres in 2018 and may be more than 200,000 acres in 2020.

The team will focus on herbicide-resistant barnyardgrass and Palmer amaranth, or pigweed, which has been a bane to cotton and soybean growers across the Mid-South.

Butts said that when talking to rice growers, “barnyardgrass is our No. 1 rice weed by far.”

In conventional production, flooding tamps down pigweed and other weeds. However,

row rice is grown without a flood, leaving it open to the same pests as other row crops.

“When we asked growers about row rice, Palmer amaranth is pretty much right there as No. 1 or No. 2,” Butts said.

**Cultural practices**

The research will look at the effect changes in cultural practices such as spacing between plants and the type of nozzles – single-fan and double-fan – used to deliver herbicides will have on production.

Butts said research being done by Hardke has shown that “drill spacings wider than the standard 7.5-ich spacing could perform competitively. However, wider spacing also results in more space for weeds to grow.”

The research also brings “in some of my application technology background,” Butts said. “We will be looking at several nozzle types to see how different drill spacing would affect our spray coverage and overall weed control. For example, with different spacing, how much rice might block herbicide from hitting target weeds?”

The research will be conducted on three sites in eastern Arkansas. The Mississippi researchers will have corresponding plots at Stoneville, Mississippi.

Arkansas is the nation’s top rice producer, with more than 1.4 million acres planted in rice in 2020. In 2019, Arkansas’ rice crop was valued at more than $980 million. (See: <https://www.uaex.edu/media-resources/docs/2020_AR_Ag_profile.pdf>)

Hardke said that the research is necessary: “If furrow-irrigated rice is to have continued prolonged success, best management practices need to be developed quickly for growers to achieve the maximum benefit from this practice.”

The NIFA grant number for this project is 2020-70006-32981.

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The Division of Agriculture is one of 20 entities within the University of Arkansas System. It has offices in all 75 counties in Arkansas and faculty on five system campuses.

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