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**Five things to know about cover crops in Arkansas**

By John Lovett

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**Fast facts**

* Cover crops can be beneficial, or harmful depending on the cash crop
* Rising fertilizer prices a consideration in planning for 2022

(1,162 words)

FAYETTEVILLE, Ark. — The proper use of cover crops can produce several benefits for production systems in Arkansas including improved soil health, increased nitrogen, and additional weed control options, according to research done by the Arkansas Agricultural Experiment Station.

Cover crops can also provide biomass to increase soil coverage and soil organic matter, as well as aid in nutrient redistribution for the next cash crop, said Trent Roberts, associate professor of soil fertility and soil testing for the experiment station, the research arm of the University of Arkansas System Division of Agriculture.

Since some cover crops go better with certain cash crops, having a plan for the next cash crop and goals of the cover crop are important, Roberts said.

A [new episode of the Arkansas Row Crops Radio podcast](https://arkrowcropsradio.buzzsprout.com/1724616/9306903-weeds-ar-wild-ep-26-cover-crops-planting-expectations-and-weed-control-10-4-21) provides more detail for those who have thought about trying cover crops. The episode features Roberts along with cooperative extension service assistant professor and weed scientist Tommy Butts and soil health instructor Matt Fryer.

Here are five things to know from the podcast:

**It’s not too late, but it’s getting there**

Mid-October is the latest recommended time to plant a fall cover crop like mustards or brassicas since they will typically “winter kill” and generate most of their above-ground biomass in the fall, Roberts said. But other cover crops like cereals and legumes will develop most of their biomass when they break dormancy in the spring.

Roberts and Fryer recommended farmers use the [2022 Arkansas Wheat Quick Facts](https://www.uaex.uada.edu/farm-ranch/crops-commercial-horticulture/wheat/2022wheatquickfactsheetfinal.docx.pdf) as a guide for when to plant their cover crops. They said it provides good rules of thumb for successful planting practices that can be applied to winter cover crops.

**“Biomass is the name of the game”**

Developing biomass is key to improving soil health, Roberts said.

Even in irrigated fields, a cover crop can improve plant growth by opening the soil profile to let water seep in deeper so the roots can pull water and nutrients farther down in the soil than the first 6 inches, Fryer explained.

“Even small organic matter increases can give us pretty big benefits as far as moisture retention and water infiltration,” he said. “So small increases don’t necessarily mean small benefits.”

**Know what cash crop will follow**

Some cover crops can be detrimental to certain cash crops, Fryer said. Winter pea, for example, has been shown to harm cottonseed germination and growth if the cotton is planted right after the cover crop’s termination. Cereal rye as a cover crop before corn is also not recommended.

“I always advise folks and caution people to not plant cereal rye ahead of corn,” Fryer said. “You’re likely to see a yield drag in corn even if you terminate early.”

Cereal rye, helps suppress small-seeded weeds like pigweed and crabgrass but does not suppress other large-seeded weeds, he said. Sorghum Sudangrass, on the other hand, is more beneficial in suppressing larger-seeded weeds like yellow nutsedge, which is an increasingly problematic weed in Arkansas.

Whichever cash crop is planned, Fryer said, “Don’t plant annual ryegrass.” Annual ryegrass is very resistant to herbicides and may end up being much more of a problem than a benefit, he said.

**Rules of Thumb**

Fryer gave two rules of thumb on cover crops: Plant less grass-based cover crops before planting corn and rice. And plant less legume-based cover crops are recommended before soybeans.

Fryer’s rule of thumb is 25 percent grass-based cover crop if followed by a grass cash crop like corn and rice, and 25 percent legume-based cover crop if followed by a legume cash crop like soybeans.

Roberts cautioned producers to always inoculate legume-based crops as many legume cover crops require a specific rhizobium that is not present in our soils.

**"Don't jump in with both feet”**

For farmers who are thinking about cover crops, Roberts and Fryer encouraged just “dip a toe in the water” to start.

"Cover crops are going to help with weed control but they’re not a silver bullet,” Fryer said. “This is another tool in our arsenal against summer weeds.”

Likewise, Roberts noted that cover crops may replace some nutrients like fixed nitrogen, but they also require nutrients to grow. Some cover crops, he explained, are just better at “redistributing” nutrients.

“A lot of times what we’re doing is redistributing those nutrients within the soil profile,” Roberts said. “So, we’re potentially mining potash and phosphorus from lower soil depths and bringing them more up to the root zones of our cash crops.”

Roberts also said that it is a long-term commitment to rebuild soil through cover crops. And it is not the entire solution

"Cover crops are not going to be the be-all-end-all of solving fertility inputs or eliminating fertility inputs but they can help us take better advantage of the nutrients that we have in the profile,” Roberts said.

The U.S. Department of Agriculture’s Natural Resource Conservation Service has funding available to start a cover crop program, Roberts added. The funding, which helps pay for seed and termination costs, is limited to 350 acres and under.

**Something to consider**

Roberts said more people could be considering cover crops as the price of fertilizer continues to increase.

According to Scott Stiles, extension economist with the Division of Agriculture, fertilizer price increases can be attributed to 70 percent of the variable cost increases of $85 per acre for the 2022 wheat budgets.

“The cost increases over the past year are significant enough that growers will need to rework their budgets,” Stiles said.

In late September, the USDA’s Agricultural Marketing Service reported the price of potash has increased 101 percent since 2020 from an average of $327 to $657 per ton. Urea has increased 81 percent, from an average of $353 to $638 per ton. The price of DAP has gone up 74 percent, from an average of $427 to $72 per ton. The price of farm diesel has also increased since 2020 about 70 percent, from $1.64 to $2.78 per gallon.

These are average retail prices from ag input dealers in Illinois, Stiles said. Although retail fertilizer prices in Arkansas may differ slightly, the key takeaway is the price trend over the past year.

“We hear from industry sources that price increases for urea, phosphates, and potash are not showing any signs of a top. The fertilizer market continues to be too volatile to predict with a mix of logistical and political issues affecting prices. The spike in natural gas prices is another factor driving up nitrogen fertilizer costs,” Stiles wrote in a recent [Arkansas rice update for the University of Arkansas System Division of Agriculture](https://arkansascrops.uada.edu/posts/crops/rice/arkansas-rice-update-9-24-21.aspx).

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