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**YEAREND: Arkansas cotton yields hit record high despite unpredictable weather**

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**Fast facts**

* NASS estimates 1,287 pounds cotton lint per acre, setting new record
* Heavy spring rains in some areas drowned fields
* Division cotton breeder releases 3 new breeding lines in 2021

(1,329 words)

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FAYETTEVILLE, Ark. — Unpredictable and spotty weather left some Arkansas cotton fields a soggy mess while other areas saw record yields in 2021.

“Arkansas cotton yielded an average 1,287 pounds of lint per acre according to the latest estimates,” said Bill Robertson, extension cotton agronomist for the University of Arkansas System Division of Agriculture. “That’s a new record, beating out the previous record of 1,185 pounds of lint per acre set in 2019.”

The 2021 average yield is an estimate from the U.S. Department of Agriculture’s National Agricultural Statistics Service. NASS is projecting that Arkansas’ total cotton harvest this year will reach 1.26 million bales from 470,000 harvested acres.

**The good news**

Arkansas cotton growers planted 475,000 acres in 2021 and harvested 470,000. That’s down from 525,000 acres planted and 520,000 acres harvested in 2020. The number of acres harvested this year was harder to estimate because of some fields that were lost because of excessive spring rains.

The good news was concentrated in northeast Arkansas, Robertson said, with Mississippi and Craighead Counties being our top two counties for acres. “A little more than half our cotton is north of Interstate 40.”

“Some farmers in that area said this is the best cotton they ever saw,” he said.

Overall cotton fiber quality was good, Robertson said. “Fiber quality was better last year, probably because of the varieties growers chose. But we still have really good fiber quality.”

Cotton color has also been good this year, he said. “We’re seeing most of our cotton with a color grade of 41 or better. That’s good color grade.”

Often, fall rains begin to lower color quality as the fiber gets wet, Robertson said. But unlike the spring, the fall has seen no excessive rainfall or damaging hurricanes.

Northeast Arkansas is seeing its good cotton crop despite planting late in the spring.

“Farmers typically are able to get out in the field to plant in late April, and optimum window for planting is the first 10 days of May,” Robertson said. “The last two years have seen cotton planted later because of heavy rains making the fields too wet to get into. Most of our crop was planted in the second half of May, and some stretched into June.

Cotton growers that made their crop benefitted from good prices, Robertson said.

The USDA Weekly Cotton Market Review for Dec. 10 said prices for base quality cotton was ranging from a low of 101.63 cents per pound to a high of 104.44 cents per pound. The USDA estimated that cotton growers would have to make $774.56 per acre to break even. Even at the lower end of that price range, growers making 1,000 pounds of cotton per acre would make more than $1,000 per acre, clearing the break-even point by almost $270 per acre.

A typical rental agreement of 20 percent crop share with no cost share would lower this to almost $61 per acre with no allowance for return to management and overhead, Robertson said.

“This year, we had great prices and people in northeast Arkansas especially had a great year,” Robertson said. “That doesn’t happen very often.”

Historically, he said, growers have experienced low prices when cotton yields are high. “Normally, when cotton is cheap you can grow the fire out of it.”

**The bad news**

Many counties in central and southeast Arkansas saw excessive rains that flooded many fields, some of them repeatedly. Fields planted in many rain-soaked areas came up short on yields, Robertson said, and some of them never made a crop.

“I talked to a farmer near McGehee who told me, ‘This is the third time I just finished watering my cotton and got a big rain,’” Robertson said. “It’s just the luck of the draw with rain, because you can’t control Mother Nature, and she can be kind of mean to us sometimes.

“Cotton is like watermelon,” Robertson said. “It needs the water it needs, but no more. When it gets too much, it just ruins yields. Some cotton fields didn’t bust 1,000 pounds per acre in central and southeast Arkansas.”

Robertson said the rainfall was spotty, with some fields getting flooded and others in the same county getting just what they needed.

Farmers that managed to make a crop despite the rain-soaked spring benefitted from better weather in the summer, Robertson said. “We had mild temperatures in August and warm temperatures through September. Normally cooler mornings in September just shut the cotton down, but we had good temperatures to finish the crop off.”

Robertson noted that east Arkansas dodged a bullet because heavy summer rains from this year’s hurricanes missed the state. “In the past, often we had a good crop out there, and then a hurricane brings in rain and damages the crop. That didn’t happen this year.”

Overall, growers who didn’t suffer the worst of the rainy spring and got good rains through the summer did well. “This year, we were able to get a good portion of the crop that the plant produced to the gin,” Robertson said. “That is key to producing record yields.”

**Research accomplishments**

Fred Bourland, professor of plant breeding and genetics for the Arkansas Agricultural Experiment Station, released three cotton breeding lines in 2021, adding to the six lines he released in 2020.

The Arkansas Agricultural Experiment Station is the research arm of the Division of Agriculture.

Bourland said these new breeding lines produce high lint yield. “They’re better than UA222, a high-yielding variety released by our program in 2011, and approach the fiber quality of UA48, our top-quality cotton variety.”

Unlike varieties, which are available to growers through seed companies, breeding lines, or germplasm, provide breeding material for cotton breeders. Being released means other breeding programs can use the Arkansas germplasm in their own breeding efforts to incorporate their desirable traits, like adaptation to Arkansas environments and high fiber quality.

Sharing of breeding material among public and private research programs allows breeders to move desirable traits into plants adapted to their regions’ growing conditions.

Bourland said he is preparing some more cotton germplasm for release, perhaps in 2022. “They’re in our conventional variety testing program now,” he said.

Bourland has also been advancing his work on cotton selection indices that serve as guideposts for breeders, seed dealers and producers for rating quality of cotton varieties and germplasm.

Bourland was the lead author of a research paper that introduced the Q-score in 2010. It is a numerical index that merges multiple values of cotton fiber measurements — fiber length, micronaire, length uniformity and strength — into a single score. “It provides a quantitative way to rate cotton fiber quality of varieties and germplasm,” he said.

In 2021, Bourland developed a similar index called Seed-score (S-score) to rate seed size and the amount of lint per seed. A research paper describing S-score and lint index is in peer review now and he expects it to be published early in 2022.

This index will join the Q-score as a valuable tool for the industry, Bourland said. “They help identify the best germplasm for breeding and the best seed for growers.”

**Outlook for 2022**

Robertson expects cotton acres to be higher in 2022.

Good yields and strong prices should encourage growers to plant more cotton in 2022, Robertson said. “People in the industry think we’ll be up to 2020 levels for acres planted despite the significant increase in input costs and possible availability issues of inputs that are expected in 2022.”

Bourland has posted data from the 2021 Arkansas Cotton Variety Tests at <https://aaes.uada.edu/variety-testing>. The full variety test report is expected to be published early in 2022.

Those tests are normally conducted at five locations from northeast Arkansas to southeast Arkansas, but flooding from excessive rains in June destroyed test plots at Rohwer Research Station in Desha County this year.

“These tests normally give us a nice picture of how cotton does north to south,” he said. “But we have nothing from south this year.

To learn more about Division of Agriculture research, visit the Arkansas Agricultural Experiment Station website: <https://aaes.uada.edu/>. Follow us on Twitter at [@ArkAgResearch](https://twitter.com/ArkAgResearch). To learn about Extension Programs in Arkansas, contact your local Cooperative Extension Service agent or visit [https://uaex.uada.edu/](https://www.uaex.uada.edu/). Follow us on Twitter at [@AR\_Extension](https://nam11.safelinks.protection.outlook.com/?url=https%3A%2F%2Ftwitter.com%2FAR_Extension&data=04%7C01%7Cfmiller%40uark.edu%7C5cd2aea2b12c4dfceb9c08d942da0e9d%7C79c742c4e61c4fa5be89a3cb566a80d1%7C0%7C0%7C637614326581643904%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=YQoRCkE%2BSsXnBgGm2MUpF05wbhqC%2BjT9dJZjOc6aR2s%3D&reserved=0).

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