

Corn, Soybean Breeding Efforts Continue To Help Raise Yields In Louisiana

ALEXANDRIA, LA.

Corn with improved resistance to aflatoxin and soybeans that won't lose quality from Louisiana's heavy rains are two of the crop breeding goals of an LSU AgCenter researcher at the Dean Lee Research and Extension Station in Alexandria.

And Dr. Steve Moore is making progress on both fronts, which was good news for the 150 farmers and agricultural industry representatives gathered for a field day there on Aug. 21.

"Aflatoxin is the No. 1 production concern for corn growers in Louisiana," Moore said. "And it's a significant problem again this year."

Moore has had reports that harvested corn is being rejected by elevators because of its aflatoxin content. The cutoff point is 20 parts per billion. Aflatoxin is a carcinogen formed by the fungus *Aspergillus flavus*, which can appear in corn during hot – over 95 degrees – and dry conditions.

"We're in the process now of developing recommendations for farmers on what to do with the rejected corn," Moore said. "If treated with ammonia, it can be used safely as cattle feed. But the corn must be treated properly."

Because of rains, corn harvest was slowed for a few weeks. But it has resumed, Moore said.

After years of research, Moore is down to about 30 lines of corn that appear to show resistance to aflatoxin.

"I'll know in about six to eight weeks if these lines have the resistance I hope they do," he said. "But it will still be years before a resistant variety is ready for commercialization."

For his soybean breeding efforts, Moore is using the latest Roundup Ready line from Monsanto to look for weather resistance.

"We've done more than 100 crosses," he said.

He's looking for a seed with a hard enough coat that rain can't get to it and cause it to prematurely germinate, which spoils the soybean.

"When soybeans get ripe, they don't like to get wet," said Dr. Ronnie Levy, the former county agent in Acadia Parish, who has recently been appointed the LSU AgCenter's soybean specialist. He is relocating to the Dean Lee Station and takes the place of David Lanclos, who resigned earlier this year.

Dr. Donald Boquet, LSU AgCenter researcher at the Macon Ridge Research Station in Winnsboro, was at the field day to report on the AgCenter's biofuel production research.

"There's a lot we don't know about biofuel production," Boquet said.

Crops being looked at to make biofuels include Chinese tallow trees and sweet sorghum, he said.

Sweet sorghum has the benefit of being grown from a seed, instead of a stalk segment like sug-

arcane, and it could be grown across the state. In South Louisiana, sugarcane farmers could grow it along with their regular crop because they can use the same equipment for harvesting, he said.

Another plant that could be used to make biodiesel is the tropical plant called *jatropha*. He said China hopes to produce a fourth of its diesel from this plant.

"China is way ahead of us in ethanol and biodiesel," Boquet said.

Dr. Donnie Miller, LSU AgCenter weed scientist at the Northeast Research Station in St. Joseph, told the farmers at the field day that a late-fall or early-winter herbicide application in conservation tillage programs may or may not be cost-effective. The big advantage is it can cut down on weed growth over the winter. LSU AgCenter research shows the best time to spray is Nov. 25 through Dec. 20.

If a treatment ahead of spring planting is needed, it requires a different mix of herbicides, thus cutting down on over-reliance on just a few herbicides, such as glyphosate.

"Over-reliance on widely used herbicides, such as glyphosate, has led to an increased incidence of weed resistance in other states," Miller said.

Dr. Danny Coombs, LSU AgCenter animal science professor and research coordinator at the Dean Lee Station, advised cattle producers to take better care of round bales of hay.

"I suggest if you use round bales, to make it at the proper stage and then store it under proper cover," Coombs said.

He said cattle producers should limit their calving seasons to improve their herds' nutritional programs. At Dean Lee, he said, cows are immediately put on ryegrass fields after calving.

Dr. Sandy Stewart, LSU AgCenter cotton specialist, reminded cotton producers that defoliation timing is critical to preserve cotton quality. Cotton defoliation is a critical step in cotton production. In removing the leaves, the cotton is easier to harvest.

"Defoliation timing is a balancing act between yield and quality. Correctly timing application of harvest aids can help to avoid some quality discounts (especially high micronaire) without compromising yield," Stewart said. "Delaying defoliation and harvest exposes the crop to weather-related yield and quality losses, so we have a lot of good reasons to prepare and harvest cotton as soon as possible."

Cotton producers should keep up with visual inspection of their crop and use any one of several techniques recommended by the LSU AgCenter to determine the ideal time to apply the defoliant. Δ