



Staci Vandagriff | The Sun

Dr. Argelia Lorence inspects tobacco plants for any changes in shape or health before using the LemnaTec Scanalyzer, an instrument that can be used to measure plant stress in the Arkansas Biosciences Institute.

Professor: Robot to 'revolutionize' plant studies

BY SUNSHINE CRUMP

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JONESBORO — Deep within the Arkansas Biosciences Institute sits the LemnaTec Scanalyzer(HTS) — a chamber-like robot contraption about 12 feet long, 8 feet tall and 5 feet deep affectionately referred to by students as “Lola.”

Dr. Argelia Lorence, associate professor of metabolic engineering at Arkansas State University, said Wednesday the new Scanalyzer — made possible by a \$1.36 million grant from the National Science Foundation — will revolutionize

both her research and the research of plant scientists across Arkansas and Missouri.

“It is a very exciting time for us,” said Lorence. “Funding at the national level is very hard to get these days.”

Lorence is a plant biochemist.

Biochemists study the chemical processes of living organisms.

“I love to see how plants make their beautiful molecules,” said Lorence. “My favorite molecule is vitamin C.”

Lorence explained vitamin C has qualities that improve the health of plants just as it does in humans.

“I became more interested in how to measure how a plant grows. That process is very labor-intensive and sort of boring so it wasn’t easy to do,” said Lorence. “It also wasn’t as accurate because it was a human being doing the measuring. And there is only so much you can do in a day. ... So that’s when I discovered this robot that this German company, LemnaTech, makes. It is fantastic.”

Far from rulers and scratch paper, the Scanalyzer is a chamber with a robotic arm that moves three different cameras to take high resolution

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images of plants and other organisms.

"It also has very powerful software, and allows us to measure with high accuracy anything we want to know about how that plant grows. The camera allows us to know without touching the plants, and study the chlorophyll content," said Lorence. "The near-infrared camera can see how much water is in the plant. So with this instrument I can — in one hour — measure things that would have taken me several months to achieve."

Monsanto, Pioneer, BASF and other biotech companies also have this technology, but Lorence said A-State was the first public university in the nation to have one. Only two other state institutions in the country have a Scanlyzer.

Lorence said the new instrument will be used to measure, among other things, plant stress.

"Plants — believe it or not — also have stresses," said Lorence. "They may not have to worry about a job or a paycheck, but they have the challenge of being sedentary. We want to help plants defend themselves better from all of their environmental stressors. It's important because one of the main factors is increasing climate change."

Lorence said scientists recognize rain patterns are changing — regardless of the cause — and with about 70 percent of the lab's research devoted to rice, the university's findings will be important in the future.

"This team is going to educate people on using modern tools, and have the opportunity to make breakthroughs on how to grow better and yield better under current — and very changing — climate conditions," said Lorence. "It's not going to happen tomorrow, but we will contribute to that in a significant way."

Originally from Mexico City, Lorence said her father was a newspaperman who covered the politics beat — a topic near and dear to his heart.

"I was born in 1969, and that was after Algeria gained its independence from France," said Lorence.

"So my father named me after Algeria. It's the Spanish translation of the name. Not many people are named after a country," she quipped.

Lorence has been with A-State since 2005. A video demonstrating the Scanalyzer (HTS) in action can be found at LemnaTec.com/products.

documents to protect you, your family and your assets, and to create a legacy while maintaining family values.

There are many different types of estate documents you may need. The simplest and most used estate planning document is a will. Even though the will is a fairly simple document, it is a very important one that will provide all of the essential details of who will inherit your property, when and how they will inherit it, and who will be put in-charge of settling your final affairs.

Trusts are another very popular type of estate planning document. There are many types of trusts; each designed to do a specific job. Even though a trust can be more expensive to setup, they generally will save taxes and expenses while offering more flexibility, speed and confidentiality.

There are many more important estate documents, including some that address specific and complex strategies for setting up your retirement plan the absolute best way. When dealing with estate documents, you should always consult with an attorney and financial advisor who specialize in estate planning to make sure you have the most proper documents for your situation. To learn more and get additional information on these important documents and how to use them to reduce taxes, protect assets, create a legacy and perpetuate family values for the benefit of future generations, feel free to contact me at Sharp Financial Services at 870-935-6681 or 800-955-0891 or email me at jack@sharpfinancialinc.com.

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McCartney and Ringo Starr, but they never bothered to talk with them, Wiles said. George Harrison was inside the house, and they never saw him, Wiles said.

Lennon told them he enjoyed American style music, and they thought their No. 1 competitors from the states would be the musical group The Byrds.

Wiles doesn't know how long they talked, but eventually Lennon told them he had to go. Before he got up to leave Ed asked him for an autograph.

None of them had a writing implement. Lennon promised to leave an autograph for them at the ranch. Wiles and his comrades left the ranch, walked down to their car and drove away.

Other fans hoping to catch a glimpse of the foursome were on the gravel roads near the ranch, he said.

On their way home they stopped at Club 19 just south of Alton. Wiles took the stage and told patrons The Beatles were staying at the ranch, just a few miles away.

Nobody believed him, so they left.

At school that next Monday the student body buzzed with excitement.

"People wanted to touch my hand," Wiles said.

Time passed and Wiles never returned to the ranch to seek the autograph. Slowly but surely all his friends moved on with their lives and moved away.

He has sporadically told his story through the years, and he hopes the festival in Walnut Ridge will be a huge success.

His favorite Beatle?

"John Lennon, of course," he said. "He didn't have to spend a second with us ... what a thrill."

was a guard in front, young men just kept

stopped the car the road and got out. said he and his friends d a barb wire fence to to the property, and hey hiked up a hill in ddle of a cow pasture. thought we saw a bull," he said. "We were

ughout the walk Ed e was afraid they'd be d. But the chance to The Beatles was too g, he said. At the top hill they came across e row and a chain link

he other side of the they heard voices.

crawled through iage. Once they got h Wiles could see a rustic house, a road pool. The voices came e pool area.

enly, a man jumped n the pool area and ward them. Ed and his didn't know what to e man was wearing runks and a white, eaved sheer shirt with

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