



2026 ANNUAL REPORT

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Checkoff Funds Support Research for Louisiana Rice Farmers



Above: Adobe Stock photo. Below: Variety test plots at the H. Rouse Caffey Rice Research Station in Crowley. Photo by Olivia McClure

Two new commercial rice varieties coming in 2026

By V. Todd Miller

The adage “variety is the spice of life,” is often used to promote the idea that trying new and different things makes the world around us more interesting. And while few would consider rice “spicy,” two new varieties of the grain will be released in 2026 thanks to the breeding program at the LSU AgCenter’s H. Rouse Caffey Rice Research Station.

According to Adam Famoso, director and rice breeder of the research station, PVL05 and Venus will become commercially available during the next year.

PVL05 is a long-grain variety and an evolution from PVL03, Louisiana’s most widely grown variety, while Venus is more of a typical medium grain.

Famoso said that PVL05 has demonstrated improved yield and yield stability, however its ratoon (second crop), potential isn’t as robust as PVL03’s and the milling yield is a little lower as well, so the question is, why release it? Famoso said it’s to give growers options that might better fit their particular needs.

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Variety test plots at the H. Rouse Caffey Rice Research Station in Crowley. Photo by Olivia McClure

Facing increased costs, farmers lean on research

For most, rice farming has been tough to sustain in 2025. Marketing challenges and increasing input costs make even the best yields seem slim on our balance sheets in all rice growing regions of Louisiana.

But what if we didn't have the yields we do? When times get tough, research results become even more important. Having trusted expertise to lean on through variety selection, disease management, weed control programs or pest pressures rise to a new level of critical value.

It is vital to the sustainability of our industry to press forward in research and doing so is something I am proud to say we as growers not only continue to sustain, but elevate, through increased input from you and the members that represent you on our board.

The Louisiana Rice Research Board (LRRB) continues to take 14 rice farmers, along with the Louisiana Department of Agriculture and Forestry, and put our best foot forward in maximizing your investment through our \$0.05/hundredweight contribution to return to you best management practices, quality varieties and a research station that is second to none.

Looking ahead to the 2026 research year, we know we have a new pest pressure in the state that has not been seen in generations. The rice delphacid is a hot topic, and LRRB's members are seeking expedited research to answer questions on how to manage this pest.

We also continue to place emphasis on disease management. Through a special project funded by LRRB, LSU AgCenter's Jonathan Richards is producing never before seen work and discoveries in narrow brown leaf spot and Cercospora net blotch. We have a great team that continues to stretch available fungicides to their maximum potential, while seeking industry partners to consider investment into better control options for rice diseases.

Above all, our dollars continue to grow and advance a cutting-edge breeding program that is the foundation of everything we do. Yield potential and milling quality begins with the seed we plant. Our

core research programs elevate the potential those seeds provide by equipping us with tests performed that we otherwise wouldn't see. Rice breeder Adam Famoso continues to drive interest in milling quality and characteristics to help meet the demands of our customers worldwide.

I'd like to highlight the outstanding work of Michael Deliberto through his economic, farm policy and applied farm budgeting tools that we all use heavily every year. These challenging marketing and trade deal negotiation years bring to light how talented Deliberto's work is when most needed. His economic analysis has been used to educate lawmakers in a big way this past year, and I am sure it will be critical in whatever is to come as we seek more domestic and international opportunities to move our rice in the future.

As we all band together individually as family farms and businesses, as well as an industry, I ask that you continue to remain invested in the long-term successes of the checkoff program. Your contribution is critical. As costs rise on our research programs too, every dollar counts in making the overall deliverables of the Louisiana Rice Research Board a reality. We pledge as representatives of the Louisiana rice industry to hold our researchers accountable and continue to seek ways to deliver these results back to you in a meaningful way.

Finally, 2026 will be a nomination year for appointments to the LRRB. If you, or a rice farmer you know, would be interested in serving on our board, I encourage you to connect with a nominating organization and step up as a leader. Before I joined the board, I didn't begin to know all the work behind the scenes that makes these research advancements happen. That starts with the board members who give their time and voice freely to advance our mission.

Thank you to the board members of the LRRB and all those who participate with us. I wish you all a prosperous 2026 and look forward to working with you to achieve brighter days ahead.

**John Denison, Chairman
Louisiana Rice Research Board**

Serving as the 2025-2026 Louisiana Rice Research Board are bottom row from left, Dr. Mike Strain, Alan Lawson, John Denison and Ross Thibodeaux. Top row from left, Hunter Luquette, David LaCour, Charles "Michael" Costello Jr., Eric Savant, Kim Frey, Dylan Benoit, Seth Brown, Brian Wild and Connor Popeck. Not pictured are Dustin Watkins, Lester Cannon and Charles Schultz. Photo by Frankie Gould

Rice Research Board Members

John Fred Denison Chairman, Louisiana Farm Bureau, Iowa	Charles "Michael" Costello Jr. Louisiana Farm Bureau, Bastrop	Charles H. Schultz American Rice Growers, Bell City
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Ross G. Thibodeaux Secretary and treasurer, Louisiana Farm Bureau, Morse	David F. LaCour Louisiana Rice Growers, Abbeville	Lester Cannon Commissioner's representative, Baton Rouge
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	Eric T. Savant Louisiana Rice Growers, Kinder	

Rice harvest had good yields but facing major concerns

By *Craig Gautreaux*

Last year, farmers that got their rice planted early got rewarded with higher yields, which is a typical result most years. But 2025 was not a typical year — if there is such a year in farming.

According to Ronnie Levy, LSU AgCenter rice specialist, growers had a planting window in March and most took advantage of it and got much of their acreage planted. Rain came in April, slowing down planting, but growers eventually returned to their fields and finished planting.

More wet weather later in the season is what kept yields from reaching their full potential.

"Fertilization on rice was late going out because of the weather," he said. "We couldn't do things on schedule and get that fertilizer out there when the plants needed it."

Levy said yields were very good at the start of the harvest but quickly fell off. Yields rebounded back later in the season for some of the later-planted rice.

"Yields were good, not great, just slightly above average for the state," Levy said.

According to Levy, second-crop harvesting has produced better than average yields for second crop, which should bump up the overall state numbers.

"Most fields that are being ratooned were harvested dry and in a timely manner, which helps with second crop yields," he said.

Levy noted some issues facing the rice industry. The first involves an old pest that is making an appearance for the first time since the 1960s. The rice delphacid is a plant hopper insect from Central and South America.

"It's a great concern how we will be able to combat the delphacid," Levy said. "Texas has been in a crisis with this insect."

One of the problems in dealing with the pest is the lack of insecticides that are available to use against it. The current chemistries offer limited protection against it, and because the insect likes to stay near the base of the plant, it is difficult to get the insecticide where the insects are.

"Early yields in north Louisiana were good, but later yields were lower because of the delphacid," Levy said.

Dawson Kerns and Blake Wilson, two entomologists with the LSU AgCenter, are currently doing research on how to deal with the delphacid. Both agree the insect can cause major issues if it decides to become an annual visitor to the state.

"Under heavy infestations, you will see what's referred to as hopper burn," Kerns said. "So that's going to be splotchy patches in the field of stunted and dead rice plants."

Kerns and Wilson are studying which insecticides and application rates are needed to control the insects. If the pest does overwinter, which both entomologists are unsure if it will, additional control measures will have to be examined.

"While insecticides look like they are going to be our main focus early on, long term, if we have to deal with this pest every year, we're going to have to look at an integrated approach with multiple management strategies," Wilson said.

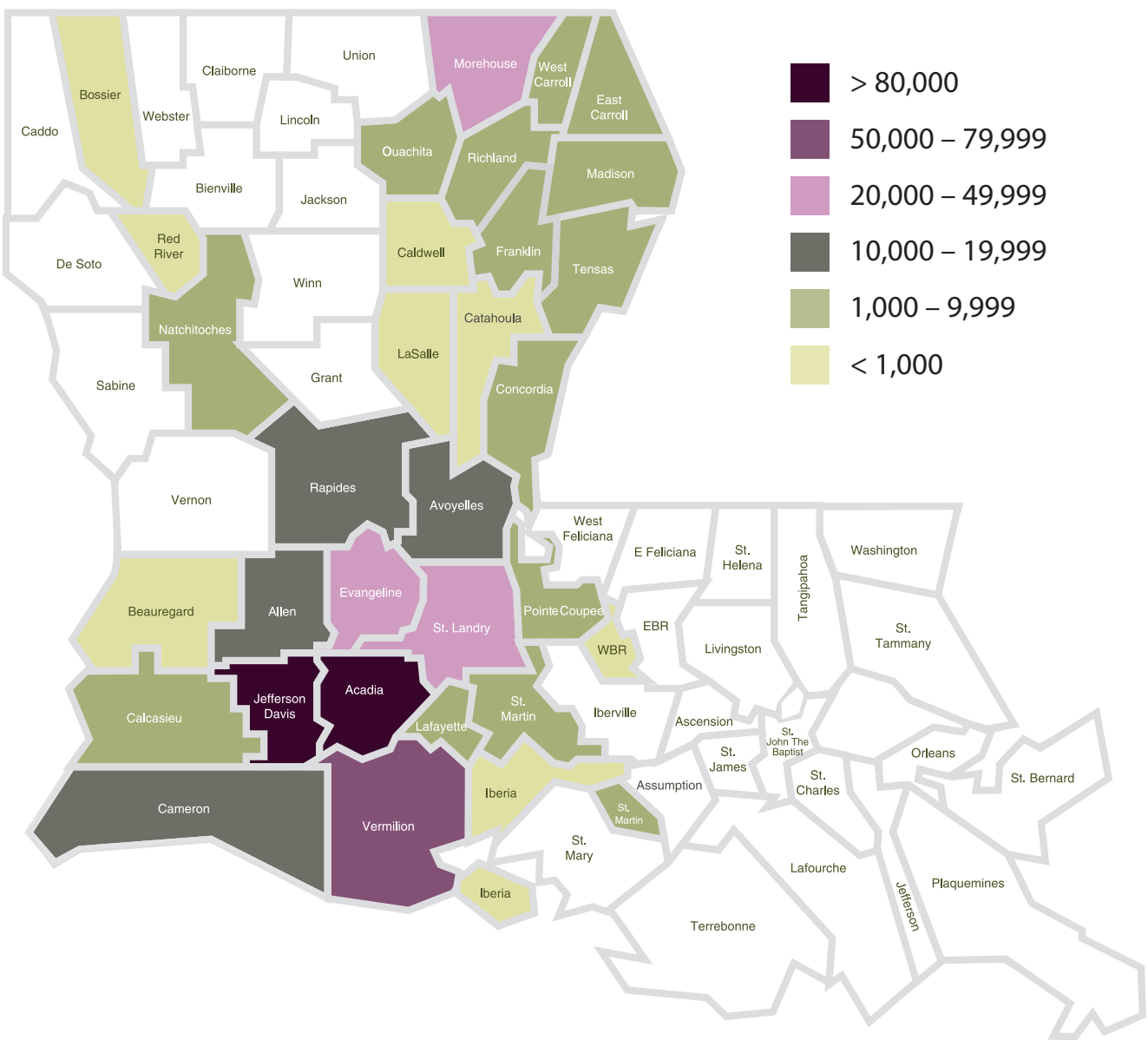
The second major area of concern is prices. Virtually all agriculture commodities have seen their prices fall significantly.

"Demand for U.S. rice is down," Levy said. "The price is actually below breakeven for some producers."

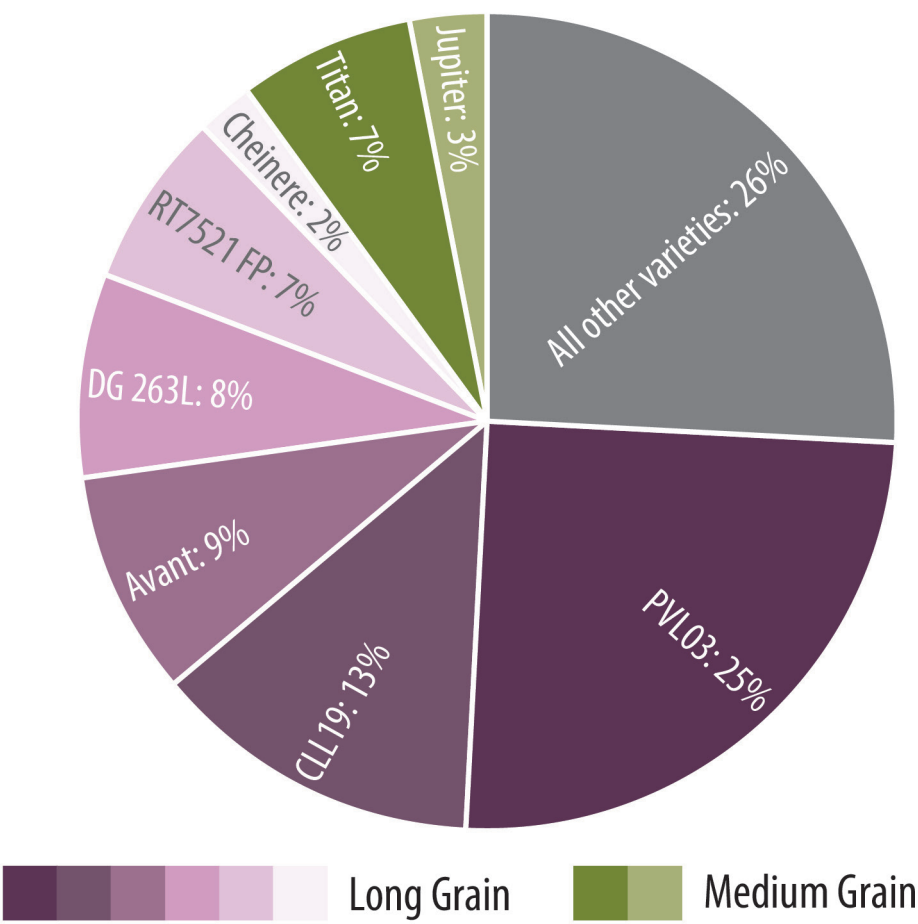
Because of prices, additional insecticide treatments for a pest like the delphacid will add another cost to production.

"It's already thin profit margins, and you start factoring in additional insecticide applications, then it can make staying in the black really difficult," Wilson said.

2025 Louisiana Rice Acreage by Parish, All Types



2025 Louisiana Rice Acreage



Top 10 Rice Parishes

Parish	2025 Total Acreage	2024 Total Acreage
Acadia	83,664	86,992
Jeff Davis	82,188	86,773
Vermilion	63,486	65,711
Evangeline	47,403	47,575
Morehouse	46,217	36,593
St. Landry	28,998	28,257
Avoyelles	18,625	16,354
Cameron	15,825	14,987
Allen	14,532	15,672
Rapides	10,331	9,360

2025 Total Acreage: 472,860
2024 Total Acreage: 459,960

Weed science team studies recently problematic grasses and a novel herbicide

By Kyle Peveto

Weed scientist Connor Webster and his research team conducted 75 rice weed management studies across LSU AgCenter research stations and on farms across the state in 2025. Webster and his team collected five perennial grass species, including Brooks paspalum, water paspalum, southern watergrass, Habetz grass and rice cutgrass, that cause problems for Louisiana rice producers and hand transplanted them into plots at the South Farm of the LSU AgCenter H. Rouse Caffey Rice Research Station in Crowley. “All five of these grasses are pretty unique to Louisiana rice production, so there’s not a lot of literature or recommendations out there on how to manage these grasses,” Webster said. Of these grasses, Brooks paspalum and southern watergrass are the most problematic for growers, Webster said. “We don’t have a lot of options for the control of Brooks paspalum, and that one perennial grass has really taken off in the past couple of years. It’s showing up everywhere.” Webster’s team applied various herbicide treatments and identified several herbicide mixtures and standalone herbicides that can provide control of most species evaluated. The preliminary data will be available in the 2026 edition of the Louisiana Suggested Chemical Weed Control Guide and the Rice Varieties and Management Tips.

Barnyardgrass competition

A new study by Webster’s team is evaluating how different varieties and hybrids at varying seeding rates compete with barnyardgrass, which is one of the most economically damaging weeds in south Louisiana rice. They have not finished analyzing the data from the project, but Webster said that the test plots showed marked differences during the trials. “There was a lot of competition work done by the U.S. Department of Agriculture weed scientists in Arkansas in the ‘60s and ‘70s,” Webster said. “A lot of that work hasn’t been done again, or it’s been done in a limited manner because it’s such a labor-intensive project.” Webster’s team is following up with another study that has not been revisited in a few decades. The researchers initiated a similar study on

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Fields at the South Farm of the LSU AgCenter H. Rouse Caffey Rice Research Station are prepared for the transplantation of perennial grasses as part of a rice weed study conducted by Connor Webster. Photos provided by Connor Webster



Rice in a field at the South Farm of the LSU AgCenter H. Rouse Caffey Rice Research Station.

Economist provides management tools

By Olivia McClure

Economics plays a role in nearly every decision that rice producers make — from variety selection to growing methods to crop insurance enrollment. To help growers succeed amid ever-changing market conditions, LSU AgCenter economist Michael Deliberto provides several farm management tools and other resources. **Rice enterprise budgets:** These budgets consist of Microsoft Excel spreadsheets with projected costs and returns for Louisiana rice production. They’re updated ahead of each crop year. The spreadsheets allow users to generate budgets tailored to their operations. All they have to do is input their estimated costs and quantities for labor, fuel, fertilizer, irrigation and other expenses. The budgets also can help producers weigh decisions related to land rental arrangements, Agriculture Risk Coverage (ARC) and Price Loss Coverage (PLC) farm program payments, and crop insurance. Farmers can download the budgets from the AgCenter website at no cost. Deliberto offers versions for conventional, Clearfield, hybrid and Provisia rice systems; water and drill planting; flooded and furrow-irrigated rice; and northeast and southwest Louisiana. **Economic analysis:** In the past year, Deliberto has focused on evaluating proposed changes to the farm safety net and how these changes could impact Louisiana rice farms. For example, prior to the signing of the One Big Beautiful Bill Act in July, Deliberto worked with industry partners to demonstrate how risk management tools such as farm program and crop insurance products help farmers contend with unfavorable commodity prices and rising input costs.

“This type of representative farm analysis combines policy research and farm management practices to create a snapshot of the current state of the rice farm economy in Louisiana,” he said. He also is studying climate-smart agriculture practices. One project aims to determine the cost effectiveness of alternative irrigation systems such as alternate wetting and drying (AWD). **Newsletters:** Deliberto keeps stakeholders informed through a monthly crop market report. This newsletter offers updates on domestic and international factors influencing the global rice market. Deliberto also writes a quarterly agricultural policy newsletter. It covers issues such as the farm bill, labor, conservation programs, exports and trade. To subscribe to either of these newsletters, email Deliberto at mdeliberto@agcenter.lsu.edu.



A combine cuts rice in a field around a plot where rice has been hand-planted to spell out “LSU.” Photo provided by Connor Webster

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red rice by taking 50 samples of red rice, with most samples taken from southwestern Louisiana, and examining dormancy in those samples. “We think maybe we’ve seen a shift in the dormancy characteristics, and they’re becoming less dormant because we’ve been able to clean up some fields in three or so rotations with Provisia or Max Ace,” Webster said. The team plans to increase the red rice seed they collected and expand the study over the next few years. **Novel herbicide study** Since 2021, Webster has trialed tetflupryolimet, a preemergence residual herbicide that features a new mode of action — the first in more than three decades. The herbicide is expected to be registered and approved for use by the U.S. Environmental Protection Agency in November 2026. Marketed as Keenali, it will be sold as Keenali Complete and packaged with another herbicide, Command. The two herbicides can be mixed to provide better control of a wide variety of weeds, Webster said, but they cannot be formulated together. Webster assisted with labeling Keenali for water-seeded rice and for FMC, the producer of the new herbicide. He experimented with different rates and timings for five rice varieties and found that the herbicide could be applied at the one true leaf stage, which is earlier than many herbicides, Webster said. In rice, Keenali has demonstrated good control of barnyardgrass and Amazon sprangletop, a weed that Webster and other weed scientists suspect may be becoming resistant to some herbicides. “I think this herbicide is really going to help there,” Webster said. “Once sprangletop emerges and gets past three to four leaves, there are very limited options, and the options that we do have are pretty expensive. Having something else that we can use to suppress it will help us a lot.” Webster has also found that Keenali works well when impregnated onto or surface-coated on fertilizer so rice producers can pay for one aerial application of both inputs. **Newpath and Preface carryover** Webster’s research team also has been performing studies on the yield effects of the carryover of

imazethapyr on common rice varieties in fields that are part of a crawfish rotation. To perform the research, the team applied low rates of the herbicide Preface to bare soil and flushed it to incorporate the herbicide into the soil. “Anytime there is some level of carryover from Newpath or Preface into a conventional or Provisia or Max-Ace line, you’re going to see some sort of maturity delay,” Webster said. “Most of the time you’re going to see a yield effect, but it’s very hard to be able to predict what the yield loss is going to be.” Webster recommends that producers use Beyond/ Postscript herbicide instead of Newpath/Preface as a pre-flood application when planning to rotate to conventional varieties or Provisia or Max-Ace rice. Webster presents his research and makes recommendations for producers at the annual AgCenter Rice Research Station South Farm field day, which is held in early June in the weeks before the larger Rice Research Station field day. More information about the 2026 field day will be announced in coming months.

New AgCenter management research could lower input costs, increase yield

By Anthony Bailey

LSU AgCenter researchers are always trying to improve how rice farmers grow their crops. Through new and developing techniques, producers can speed up their harvest time, decrease their resource use and cultivate a more sustainable farm.

One method AgCenter researcher Manoch Kongchum has been studying is the use of starter nitrogen (N) in delayed flood rice production systems. Starter N fertilizer refers to the process of applying N fertilizer at planting or at early growth stage, or two-leaf, before the application of main N fertilizer, which is mainly applied before paddy is flooded at four-to-five-leaf stage.

The experiments were done to determine if adding this starter fertilizer would be an effective way to increase crop yield and potentially reduce fertilizer costs by avoiding the midseason fertilizer application. The tests also determined how much starter N, what kind of N fertilizer and when is the best time of application to achieve the best results.

Kongchum's tests are ongoing and will continue to be studied over the next year.

"We found the results as expected in the first year, but you know sometimes one year later the results would not be the same. You have to do more research trials because of several factors that we cannot control, for example, the weather in the South. Some years we encounter severe weather like too cold, too wet or too dry during the planting time. A lot of things can happen," Kongchum said.

The application of starter N could be very useful to deal with these kinds of unpredictable weather



Researchers apply starter nitrogen fertilizer to study its effectiveness at improving yield and lowering fertilizer costs. Photo provided by Manoch Kongchum

conditions. The starter N would stimulate the plant growth at early growth stage to reach four-to-five-leaf stage, which is an indicator for main N fertilizer application and flooding.

This project will be developed further by Kongchum and his team by adding different variables that could make the process even more efficient and profitable.

Researchers updating recommendations for fertilizer, seed rate water usage

By Anthony Bailey

For years, the LSU AgCenter has provided rice farmers and producers with recommendations on how to best manage their crop in terms of seeding rate, water usage, nitrogen fertilizer and other variables. Most years, researchers at the AgCenter's H. Rouse Caffey Rice Research Station produce new data to support or revise their recommendations.

Scientists at the station have worked to study these variables, especially nitrogen fertilizer and seeding rate and different cultural management practices, to create environmentally friendly changes to common rice farm management practices.

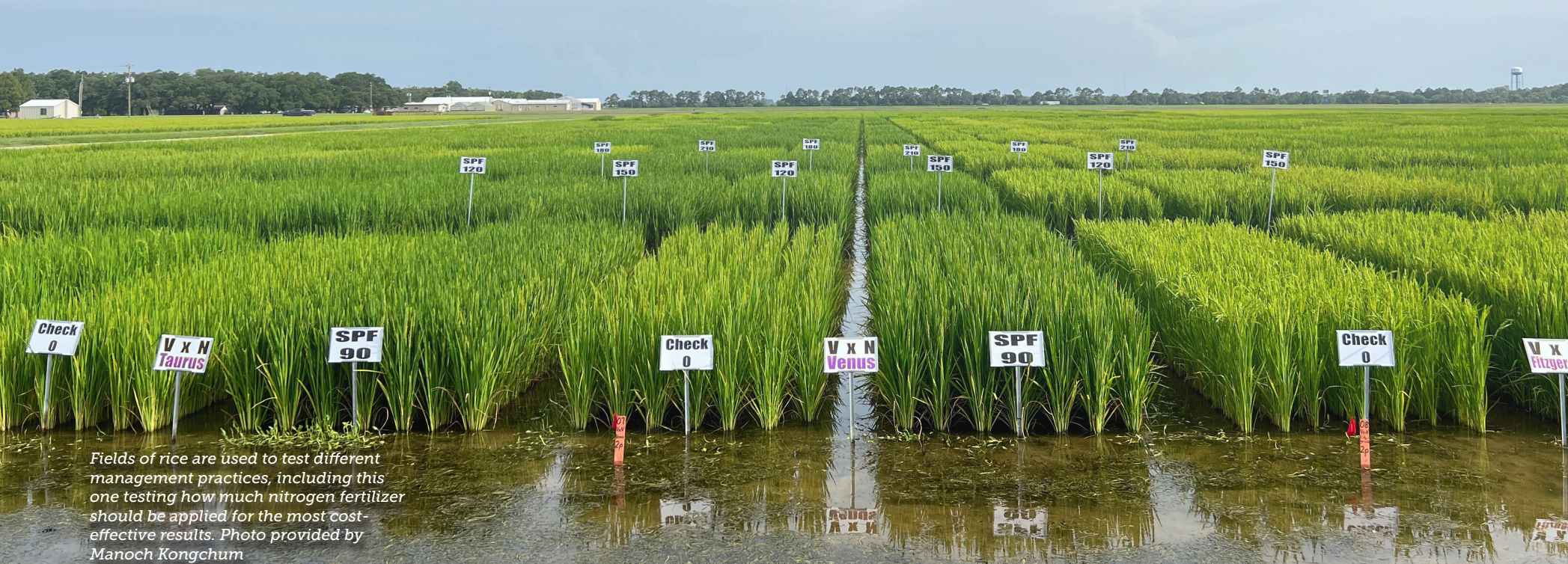
This year, however, there has been no change to the previous recommendations provided by the AgCenter for rice management. This project, led by associate professor Manoch Kongchum, covers many ways to manage rice crops, which also include water usage in delayed flooding, water-seeding and furrow-irrigated rice systems, or row rice.

These suggestions come from research on different varieties and use of different kinds of fertilizers. This information gives farmers the opportunity to use and invest their resources in the most cost-efficient way possible, Kongchum said.

"Sometimes you put more fertilizer, you get more yield," Kongchum said. "But if you put less, maybe you get less. However, you could get more profit because of the lower input cost — such as seed, fertilizer and pumping."

This project will continue next year as the AgCenter strives to keep up with necessary changes in rice production. Kongchum will continue to find new ways to save farmers money and time, which benefits both producers and consumers.

"Our idea about why we try to evaluate the efficiency is, it may not be always the most resources, but we want the right recipe that farmers should get the best benefit for the production," Kongchum said.



Fields of rice are used to test different management practices, including this one testing how much nitrogen fertilizer should be applied for the most cost-effective results. Photo provided by Manoch Kongchum

Rice verification program connects farmers, extension agents with opportunities

By Kyle Peveto

For nearly three decades, the Louisiana Rice Research Verification Program has enlisted production experts to teach farmers and extension agents the finer points of managing all aspects of growing a rice crop.

Led by Ronnie Levy, the LSU AgCenter state rice specialist, the program features regular farm visits and phone calls to advise producers on research-based best practices.

"The thing we teach them is timing — if you're late putting on your fertilizer, if you're late putting out insecticide. We try to be proactive," Levy said. "We try to do those things so they get optimized use of all the aspects of crop production. If you do things on time and use the right materials, then your potential is just a little bit better."

This year, producers from seven rice-producing parishes participated in the program, which is funded by the Louisiana Rice Research Board.

While the program is focused on producers, extension agents also participate and gain knowledge. Agents who assist can gain knowledge of insects, diseases and weeds that they can use to advise growers of corn, soybeans and other crops.

"We try to make it where it's a good learning experience for not only the producer, but also for the extension agent because we have a lot of new extension agents that don't have a lot of experience in rice production," Levy said.

For Michael Lavergne, who became a full-time agriculture and natural resources agent based in Beauregard Parish in January of 2025, visiting a local rice producer during the verification program field visits was another opportunity to build relationships and learn about the latest research.



Rice farmer Colin Lawson, left, of Acadia Parish, poses with Ronnie Levy, the LSU AgCenter state rice specialist, during a farm visit for the Louisiana Rice Research Verification Program, which helps rice producers receive research-based lessons on farming. Photo provided by Ronnie Levy

"I think the rice verification program is important, especially for newer or younger rice farmers to just work with the specialists and the agents," said Lavergne, who began his AgCenter career as a 4-H agent in 1990. "A lot of the agents now, instead of us working one specific parish, we may be spread out. Getting to know those farmers and having a one-on-one relationship, a face-to-face relationship, with those producers is very important for them to be able to reach out to us when they have issues."

Levy also connects producers with helpful experts including agronomists, industry representatives and weed, disease and insect specialists.

Most participants are newer rice growers looking for tips from experts. Some may be the younger generation of farmers who grew up ticking off chores and helping out on the farm but lack the depth of knowledge their parents have developed.

"We teach them basic farming that they may never have known other than sitting in the tractor and plowing this field," Levy said.

The verification program also ensures that the AgCenter research can be translated into real-world applications.

"We're trying to bring the research that is being done on the Rice Research Station to make sure it is applicable when it is brought to the producers' fields," Levy said.

For now, the Louisiana Rice Research Verification Program focuses on traditional south Louisiana rice-growing parishes. Levy said that more research is needed on newer row-rice production systems, in which producers grow rice in a manner similar to row crops. This method does not require them to hold a flood on fields hemmed in by a levee.

"We typically don't do that as a verification program because we don't have enough data over the years so that we can feel comfortable making all those recommendations based on research," Levy said. "We can make recommendations based on what we see, but fertility, insect, disease and weed control can be different."

To join the verification program, producers can contact their local AgCenter Agriculture and Natural Resources Extension agent. In most cases, there is a one- to two-year wait to join the program.



Rice farmers Paul Thibodeaux, left, and Justin Thibodeaux, right, pose with Ronnie Levy, the LSU AgCenter state rice specialist, during a farm visit for the Louisiana Rice Research Verification Program in St. Landry Parish. Photo provided by Ronnie Levy

Plant pathologists making advances in rice disease detection and control

By Tobie Blanchard

Rice growers in Louisiana face a persistent challenge, managing diseases that threaten crop health and yield. LSU AgCenter rice plant pathologist Felipe Dalla Lana is leading research to better understand these threats and develop more effective, tailored management strategies.

Sheath blight: A chronic concern

One focus of Dalla Lana's integrated disease management research is sheath blight, a disease that, while not always the most damaging, is consistently present in Louisiana rice fields.

"Sheath blight is more of a chronic disease in Louisiana. What that means is it's not necessarily the disease that will cause the most problems, but it's always there and sometimes very severe," Dalla Lana said.

Crop rotation plays a key role in mitigating its severity. Rotating rice with crawfish, rather than soybean, has shown promise in reducing the disease's impact.

"Thanks to some management choices that growers are doing, the damage by sheath blight reduces quite a lot," he said.

Fungicide trials and tailored recommendations

Dalla Lana conducts extensive fungicide trials to evaluate performance under consistent conditions.

"We take all the fungicides — the active ingredients that are labeled for rice — and we put them together at the same trial, same variety," he said. "Everything is the same, sprayed at the same time. So, we have what we call a fair comparison between them."

His research also explores how planting time and variety susceptibility affect disease management decisions.

"Our hypothesis is that those scenarios might have different optimal management, and that's what we want to put numbers on so they can look at the research and come to what's best for them to use in their fields and their situation," he said.

With fungicide resistance emerging in some fields, Dalla Lana is testing combinations of products to improve efficacy and reduce costs.

Timing of applications is another critical factor.

"Growers have a limited number of fungicide applications that is economically viable," he said. "If they start early, they might need additional applications which

is not always economically viable. If they start late, it might build so much disease that the control will not be efficient."

Cercospora: An emerging threat

Cercospora has gained attention as a more prominent disease in recent years. Dalla Lana said it has become a much more important disease recently.

Past management strategies focused on leaf symptoms, but new findings show that resistance genes may not protect other parts of the plant.

"We identified genes that confer resistance to the symptom on the leaf, but that gene does not confer resistance to the sheath or the panicle," he said.

To address this, Dalla Lana is testing fungicide timing and newer products.

"We tested three fungicides propiconazole, prothioconazole and mefentrifluconazole — all from the same mode of action, but each with different chemistry — to see if there's anything that can improve control," he said.

Phenotyping for breeding: Building better varieties

In addition to disease management, Dalla Lana supports the breeding program by evaluating disease resistance in potential new rice varieties.

"The idea on this project is how can we improve our disease phenotyping protocols? Can we find ways to make it faster, make it more accurate, and bring more information so the breeding program can make improvements on the disease resistance?"

His team uses remote sensing, statistical modeling and controlled environment trials to assess disease progression and resistance.

For kernel smut, a disease often hidden inside the grain, Dalla Lana is developing new detection methods using potassium hydroxide to enhance the symptoms in the kernels and improve the ability to distinguish what is healthy and unhealthy.

He's also collaborating with entomology researchers to apply machine learning and computer vision to automate disease detection.

"If we're successful, we'll be able to improve our capacity to acquire quality data."

Looking ahead

Dalla Lana's work is grounded in the concept of the disease triangle: the interaction between a susceptible host, a conducive environment and a virulent pathogen.

"All these three factors are not black and white most of the times. They have some variations. So, if you take a lot of these studies that we do, they work with one or multiple components of this disease triangle," he said.



Background: A rice field shows severe sheath blight symptoms, a disease that is consistently present in Louisiana.

Left: The LSU AgCenter rice pathology program recently obtained a new tractor and drill equipped with high-precision GPS, allowing the researchers to plant plots precisely where they want. This work that used to take up to three days can now be completed in just over half a day with far superior precision and replicability. Photos by Felipe Dalla Lana



Top: Whiteheads show the injury from stem borer infestation. Left: The sugarcane borer (larvae seen here) is a type of rice stem borer. There are three species that attack rice in Louisiana: the Mexican rice borer, sugarcane borer and rice stalk borer. Right: The rice delphacid, which has been damaging fields in Texas, has migrated to northeast Louisiana and southern Arkansas. Photos by Blake Wilson

Three-front battle: The stem borer, rice weevil and less effective treatments

By V. Todd Miller

For nearly a decade, LSU AgCenter entomologist Blake Wilson has been facing an uphill battle over stem borer and rice weevil infestation in rice crops, particularly the most popular variety in the state, PVL03. For the last three years, a formerly effective insecticide has become decidedly less so in controlling the pest.

Dermacor X-100 had been the go-to insecticidal seed treatment used to control both stem borers and the rice water weevil. Wilson said that technology has been worth millions of dollars to the Louisiana rice industry, but since 2022 things have changed.

"The seed treatments in the past three years have begun to lose efficacy, providing about 50% control of the rice water weevil and almost zero control of stem borers," he said. "So that's forced us to go back to the drawing board on researching management strategies."

Wilson said this year his team has conducted more stem borer experiments to identify alternative

management strategies, especially in late-planted crops where things have gotten particularly bad. "We have a lot of later-planted rice in South Louisiana due to crawfish farming so some of these fields can get hit harder," he said.

One potential solution is the insecticide Vantacor, which has essentially the same chemical makeup as Dermacor, but it is applied as a foliar product during the growing season as opposed to the seed stage. This led to many questions from growers about exactly when to apply it and how you scout for stem borers.

Wilson said with seed treatments, the decisions are made before the rice is planted, but now growers and consultants must watch more closely, identify fields that will benefit from being treated and know when to apply it. The seed treatments remain beneficial in rice water weevil management.

One of Wilson's doctoral students has conducted both greenhouse and field experiments to get to the bottom of things, determining that the insecticide provides the best control when applied

to rice at the 1-inch panicle growth stage.

Wilson says there will always be some loss of yield due to pests, but he and his team want to reduce that as much as they can and keep infestations at acceptable levels, which he would estimate at five weevil larvae per core.

"Even 50% control is not something you want to throw away," he said.

Other ongoing projects focus on:

Emerging pests. The rice delphacid, which has been damaging fields in Texas, has migrated to Louisiana, Mississippi and southern Arkansas. Wilson said that a task force among universities is monitoring the threat and evaluating potential controls.

Apple snails. This year, Wilson's team is looking at sorghum and sudangrass to provide forage for crawfish instead of rice to clean up the worst impacted fields that farmers can no longer raise crawfish in. This would be a potential solution to allow producers to continue to fish their ponds without having to fully dry them out in an attempt to eliminate the invasive species of snail.



Above: LSU AgCenter plant pathologist Jonathan Richards examines a sample of *Cercospora janseana*, a pathogen that causes three diseases in rice, under a microscope in his lab on the LSU campus. Inset: A sample of *Cercospora janseana*. Photos by Olivia McClure

New discoveries advance understanding of Cercospora in rice

By Olivia McClure

When LSU AgCenter plant pathologist Jonathan Richards began investigating narrow brown leaf spot a few years ago, he ended up going down a bit of a scientific rabbit hole in his quest for ways to manage the rice disease.

Narrow brown leaf spot is caused by a fungal pathogen called *Cercospora janseana* — and so are two other diseases affecting rice. But, as Richards has found, these diseases are surprisingly distinct in their behavior. What keeps one disease at bay doesn't work for the others.

Richards has made it his goal to understand why, and these findings are helping him identify rice varieties that are resistant to the trio of diseases.

Narrow brown leaf spot infects rice leaves, causing discolored lesions. The *Cercospora* pathogen also is responsible for *Cercospora* net blotch, which affects the sheath, and *Cercospora* panicle blight.

Richards was starting at square one when he began studying this set of diseases.

"Historically, rice diseases caused by *Cercospora janseana* have been really understudied," he said. "The diseases have been present in Louisiana for over 100 years and were studied a decent amount in the 1930s and 1940s. But then there was a really long gap in the research that was done."

Interest in this research has grown in the past couple of decades as incidence of the diseases has

ticked upward. Like many diseases, those caused by *Cercospora* flourish in Louisiana's warm, humid climate.

The diseases pose late-season threats to mature rice, often showing up after heavy rains that are common in late July and early August.

With existing fungicides unable to provide effective control, Richards and his colleagues looked to the concept of host resistance as a tool to fight these diseases.

He worked with AgCenter rice breeder Adam Famoso to pinpoint genes that impart resistance to narrow brown leaf spot. They were able to identify a few varieties that fit the bill.

The researchers made a significant, if discouraging, discovery in the past year: Those resistance genes only guard against narrow brown leaf spot.

"It does not work for the other diseases caused by *Cercospora*," Richards said. "It's the same fungal pathogen, but the resistance is tissue specific. It works in the leaves but it doesn't work in the sheath or the panicles."

So, Richards has turned his attention to learning more about *Cercospora* net blotch, figuring out how to reproduce it in the lab for studies and developing a method to screen for resistance.

"With that method, we're now able to rapidly and reliably screen different rice lines for the resistance, which will help breeding programs identify the lines

they can use when they're making crosses to increase genetic resistance to *Cercospora* net blotch in their elite varieties," he said.

Several resistant lines have been identified in the lab, and they appear to hold up against the disease in the field, too.

Richards plans to focus on *Cercospora* panicle blight in the next year.

"That's another challenging one," he said. "Similar to *Cercospora* net blotch, the methods for doing these experiments and evaluations don't exist yet."

In studying the diseases caused by *Cercospora*, Richards has determined that there are different races of the pathogen.

"A race is defined by the host genotype that it can affect," he said. "If a rice line has a certain resistance gene, that gene may only be effective against a certain number of races, and other races have overcome that gene."

He's working to characterize those races to aid efforts to identify resistant varieties.

Richards is proud to be working toward solutions that could help rice producers conquer yield-robbing diseases. As a scientist, he also is enjoying the process of uncovering new information about an understudied area of plant pathology.

"Every discovery that we make opens a lot of new doors of questions to ask," Richards said.

“PVL03 has been a very impactful variety overall, but in some environments it hasn’t been a great fit. The increased stability of PVL05 may provide a better alternative in those cases,” he said.

As a standard medium-grain variety, Venus, was developed in the medium-grain breeding program led by AgCenter researcher Brijesh Angira and has demonstrated improved yields and stability across years over the widely grown medium-grain varieties — Jupiter and Titan. According to Angira it fits the grain quality parameters expected of a U.S. medium grain, and they are working with end users to get it characterized.

“With Venus, we’re doing a lot of work with Kellogg’s right now to get it approved for use in Rice Krispies and other products,” Famoso said. “Certain markets want particular grain quality parameters and that’s why we have so many grain classes.”

Famoso gave an example of the aromatic class where the imports into the United States are far more than it exports. He said it’s important to the U.S. industry to balance that out through breeding and development, which is what the rice research station is set up to do.

In addition to PVL05 and Venus, there are other new commercial and pending varieties in the pipeline across the different market classes.

CLHA03 is a Clearfield long-grain variety with a high amylose content, which is highly desired by key Latin American export markets for its nonsticky cooking properties. CLHA03 offers very competitive yields and performance compared to previously released long-grain varieties.

Fitzgerald is a conventional Jazzman (Jasmine) variety that was first grown commercially in 2025. Initial field performance has been positive with improved yield over other Jazzman types seen in most of the reports.

LA22-1082 is an IMI-herbicide resistant line (similar to Clearfield) that is planned for commercial release in 2027. This line is a typical southern long grain and has excellent blast resistance. There is excitement around this line because after four years of testing it has demonstrated excellent yield potential and stability, with very strong second crop potential and excellent milling and grain quality attributes.

“LA22-1082 has performed extremely well across the last four years and has outperformed all the current varieties in terms of first and second crop yield potential, milling and grain appearance,” Famoso said. “We have a seed increase planted in Puerto Rico this winter and it will be used to plant seed production fields in 2026 with a target commercial release in 2027.”

LA21-1331 is a Della type, which is aromatic, similar to Jazzman, but unique in that it has the cooking properties of a typical long grain. These cooking properties result in a less sticky texture compared to Jazzman.

According to Famoso, LA21-1331 has demonstrated consistent yield performance over Della-2, the existing Della-type being produced. Famoso says the station is considering releasing it, and the program has purified seed and milled samples to share with those who are interested in exploring a new Della-type variety.

“We’re going to give samples to those who grow it for their markets to see if they like it,” he said.

Avant, a traditional long grain, has become the most widely grown conventional long grain in Louisiana and it did well overall in 2025 according to Famoso.

A lingering concern with Avant is that it does not harbor the broad-spectrum blast disease resistance that many of the new varieties have. A similar variety, LA21-1008, has similar attributes to Avant with early flowering and strong ratoon potential, but has the blast resistance and slight yield improvements.

“It’s not leaps and bounds better than Avant, but it is an improvement, and the added security of the blast resistance could be critical when we have a year with severe blast disease,” Famoso said.

Louisiana Rice Research-January 2026

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MISC-167 (3,000) 12/25
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Rice research made possible through a partnership among the Louisiana Rice Research Board, LSU AgCenter and other sources.

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Rice Research Projects for 2026

CONTINUING PROJECTS

Agricultural Economics and Agribusiness
\$30,000

Economic Analysis of Rice Production and Farm
Management in Louisiana
Michael Deliberto

Entomology
\$75,000

Integrated Management Strategies for Insect Pests
of Rice
Blake Wilson, Mike Stout

H. Rouse Caffey Rice Research Station
\$992,971

Development of Superior Rice Varieties for Louisiana
Adam Famoso

Enhancement of Rice Research and Extension
Communications
Frankie Gould

Development of Integrated Disease Management
Strategies Rice
Felipe Dalla Lana

Rice Management Strategies for Efficient Utilization
of Agronomic Inputs and Natural Resources
Manoch Kongchum

Louisiana Rice Research Verification Program
Ron Levy, Tyler Musgrove

Development and Validation of Disease Phenotyping
Protocols to Improve Breeding Selection and
Pathology Research Rice
Felipe Dalla Lana

Plant Pathology and Crop Physiology
\$77,000

Investigating Host Resistance and Etiology of Rice
Diseases Caused by *Cercospora janseana*
Jonathan Richards

From Outbreak to Action: A Fast Response to the
Delphacid and Hoja Blanca Virus
Madison Flasco

**School of Plant, Environmental
and Soil Sciences**
\$150,000

Weed Management in Herbicide-Resistant/Tolerant
and Conventional Rice
Connor Webster

OTHER PROJECTS
\$23,000

Black Bird Research
William Futch

TOTAL
Total funding for 2026: \$1,347,971