



LSU AgCenter

H. Rouse Caffey Rice Research Station

NEWSLETTER

Volume 23 Issue 1 | March 26, 2026

Upcoming Events

- **SW Louisiana Rice Field Day** – McNeese Station University Farm – May 26, 2026
- **Southwest Region Garden Field Day** – Rice Research Station – May 28, 2026
- **Evangeline Parish Rice Field Day** – Bieber Farms, Mamou – May 28, 2026
- **Rice Station’s South Farm and Acadia Rice Field Day** – June 10, 2026
- **H. Rouse Caffey Rice Research Station Annual Field Day** – June 24, 2026 (see flyer)

Upcoming Station Visitors

- **LSU AgCenter’s MDI Program** – March 31, 2026
- **Mrytle Place Elementary Rice Field Study** – April 28, 2026
- **LSU AgCenter’s 4-H Program** – May 19, 2026

New Station Personnel

- **Kenneth Carmouche** (Station Janitor)
- **Dr. Johnny Saichuck** (Working with Rice Extension Specialist)

Grain Chemistry, Cooking Quality, and Market Alignment in U.S. Long Grain Rice

Over the last decade, buyers in Latin American countries—historically the most important export destinations for U.S. long grain rice—have expressed growing concerns about grain quality. In particular, they have noted increased stickiness of cooked U.S. rice and high chalk content in some shipments. Grain quality is not a single trait; it includes milling yield, grain appearance, cooking quality, and overall product uniformity. Although milling yield remains critically important, cooking quality often plays a central role in consumer acceptance. Cooking quality is largely determined by cereal chemistry, and what is considered “good quality” is inherently subjective, varying by market and intended end use.

Because long grain rice represents the majority of production in Louisiana and the southern United States, understanding these quality expectations—and responding to them through both breeding and grain handling—is increasingly important. A recent investigation at the Rice Research Station, led by LSU graduate student Raul Guerra and partially supported by USA Rice and the Louisiana Rice Research Board, provides valuable insight into how amylose content, gelatinization temperature (GT), and viscosity characteristics influence cooking quality. The study also identifies which attributes are most important to Latin American consumers and suggests practical ways the U.S. rice industry can better meet those preferences (<https://doi.org/10.1002/jsfa.14428>).

Two traits in particular—amylose content and gelatinization temperature—explain much of the observed cooking quality differences between U.S. and Latin American long grain rice. Most U.S. long grain varieties fall into an intermediate amylose category that tends to cook softer and slightly sticky. In contrast, long grain rice preferred across much of Latin America is typically high amylose and cooks firm, with grains that remain separate. Amylose levels are controlled by different versions (alleles) of the waxy gene, commonly grouped into four classes: $Wx^b / Amy1$ (low amylose), $Wx^{in} / Amy2$ (intermediate amylose), $Wx^{lv} / Amy3$ (soft high amylose), and $Wx^a / Amy4$ (firm high amylose). Gelatinization temperature also influences cooking behavior, although generally to a lesser extent than amylose. U.S. long grain varieties are predominantly high GT, while Latin American varieties are more

often low GT. Together, amylose class and GT define distinct cooking quality classes that respond differently to heat and handling.

An important outcome of this work is that rice lines can be classified into amylose and GT classes using DNA marker profiles for the genes controlling each trait. This provides a practical framework for breeders, exporters, mills, and the broader industry to group varieties with similar end use quality and to communicate expectations more clearly throughout the supply chain. Using this approach, commonly grown U.S. rice varieties can be grouped into defined grain chemistry classes—a shorthand designation combining amylose class and GT—as illustrated below.

Grain Type	Amylose Class	Amylose	Gel Temp	Grain Chem. ID	Examples
Long	Amy2	Int.	Int.	L2i	Cypress, CLL19, PVLO3, CLL16, CLL18, Avant, Suivant, DG245L
Long	Amy3	Int.	Int.	L3i	Cheniere, Cocodrie, L202, PVL01, PVL05, PVL04
Long	Amy4	High	Int.	L4i	AddiJo, CLHA03, DG263L, DG563PV L, DG273L
Long-Toro	Amy1	Low	Low	L1L	Toro, Toro2
Medium	Amy 1	Low	Low	M1L	Jupiter, Venus, Titan, Bengal, CLM04, CLM05, Taurus
Aromatic-Jasmine	Amy1	Low	Low	A1L	Jazzman, Jazzman2, CLJ01, Fitzgerald, Aroma22
Aromatic-Della	Amy 2	Int.	Int.	A2i	Della, Della2

Note: Int. stands for intermediate.

These chemistry based classes are not just labels; they are also clearly reflected in Rapid Visco Analyzer (RVA) profiles, which provide standardized measurements of rice cooking properties. Some RVA traits, such as peak viscosity and peak time, differ relatively little between U.S. and Latin American rice. In contrast, breakdown viscosity, setback viscosity, and final viscosity—traits associated with starch stability during cooking and cooling—differ the most and are most strongly linked to eating quality differences of interest. Importantly, the RVA traits that differ most are largely explained by amylose class rather than GT alone. High amylose classes typically show lower breakdown and higher setback and final viscosity, consistent with firmer, less sticky cooked rice.

It is also important to recognize that amylose content alone does not fully predict cooking properties within high amylose rice. As shown in the figure, rice classified as Amy3 and Amy4 both fall within high amylose categories but exhibit distinct RVA profiles and cooking behaviors. Amy3 and Amy4 both have substantially lower breakdown viscosity than low and intermediate amylose rice. However, compared with Amy4, Amy3 rice generally cooks slightly softer and tends to be more cohesive, which is reflected in lower setback and final viscosity—indicating greater starch softening during cooking and less firming upon cooling.

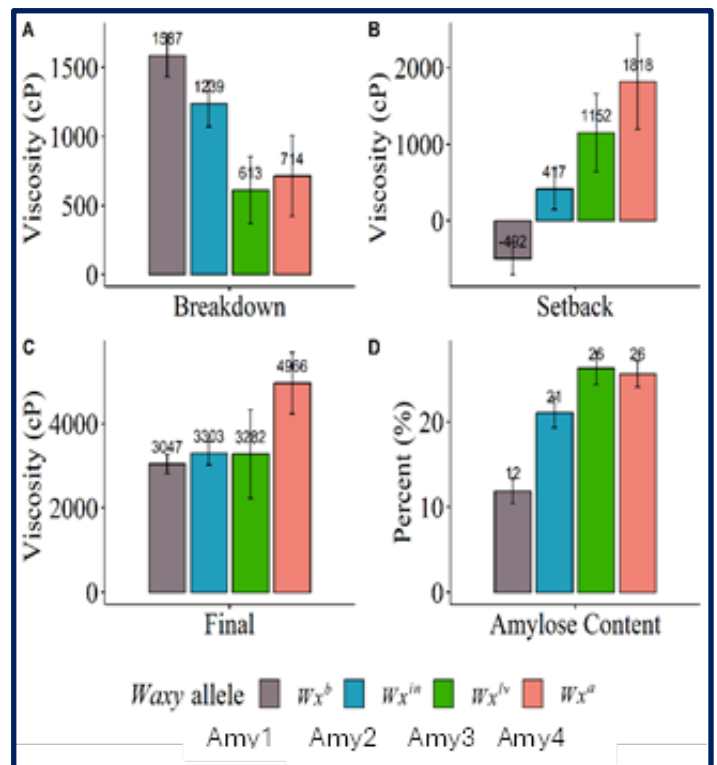


Figure 1. Differences in Breakdown, Setback, and Final Viscosity Ratings of Low, Medium, and High Amylose Rice Varieties

In contrast, Amy4 rice cooks firmer and remains more separate, showing higher setback and final viscosity relative to Amy3, consistent with greater starch stability during cooking and increased firmness after cooling. This distinction demonstrates that while Latin American markets clearly prefer high amylose rice, simply meeting a target amylose value is not sufficient to deliver the desired cooking quality. DNA marker based classification allows this differentiation and, in many cases, provides a more reliable assessment of market suitability than amylose measurements alone.

Building on these findings, the LSU AgCenter breeding program has released two varieties—Addi Jo and CLHA03—with high amylose and intermediate gelatinization temperature. In multiple cooking tests conducted by Latin American importers, these varieties have been consistently favored over typical southern U.S. products. In addition, the breeding program has developed experimental rice lines combining high amylose with low GT, closely matching the cooking quality profile preferred in many Latin American markets. These lines have received repeated positive feedback from Latin American importers and scientists (FLAR/CIAT), indicating that they meet or exceed what is considered premium quality in those markets. Together, these results provide clear proof of concept that U.S. breeding programs can develop rice aligned with Latin American cooking quality preferences. The primary challenge remains yield. Addi Jo and CLHA03 have lower yield potential than the most recently released inbred varieties, and the high amylose, low GT experimental lines yield substantially less than currently released high amylose U.S. varieties, reinforcing that yield remains the main barrier to broader adoption and commercial scaling.

These distinctions become especially important when rice from different cooking quality classes is mixed during harvest, storage, or milling. In many cases, uniformity issues attributed to U.S. rice arise more from mixing incompatible quality classes than from problems with any single variety. When rice with similar amylose and GT profiles is kept together, cooking performance is generally consistent. In contrast, blending rice from different amylose or GT classes introduces variability that is readily apparent to consumers. During a recent visit from Guatemalan importers operating a parboiling facility, representatives noted that their largest challenge with U.S. rice is inconsistency in grain cereal chemistry. They estimated that roughly 85% of their processing problems would be alleviated if they received rice consisting only of traditional Southern long grain (Amy2) products rather than mixed grain chemistry classes. For mills and exporters serving quality sensitive markets, segregation and identity preservation by cooking quality class are among the most effective tools for improving product consistency.

Overall, this work highlights a significant opportunity for the U.S. rice industry. By using amylose and GT classes to guide breeding priorities, reducing incompatible mixing, and better aligning product profiles with key export markets, the United States can deliver more consistent cooking quality to buyers. The largest driver of uniformity issues in U.S. rice is the mixing of varieties with different grain and cooking qualities, not inconsistency within a given variety. As yield tradeoffs remain a reality for some high quality grain profiles, prioritizing which markets can be served most effectively—and at a price those markets will bear—may be an important strategy moving forward.

Article by Adam Famoso (Rice Breeder and Resident Coordinator)

The Role of Extension in a Changing Rice Industry

Extension remains one of the most direct connections between rice research and rice production in Louisiana. As production systems continue to evolve and input costs remain high, rice producers rely on timely, research based information to guide decisions that carry real financial and agronomic consequences. The role of the LSU AgCenter rice extension program is to take applied research and turn it into practical guidance, verify those recommendations under commercial conditions, and deliver them in ways that reflect how farmers actually operate.

At its foundation, extension work is built on trust. That trust develops over time through consistency, visibility, and relevance. Whether conversations happen in the field, at a research station, during a producer meeting, or through a phone screen, the goal is the same. Louisiana rice producers need confidence that the information they are using is accurate, applicable, and grounded in real production conditions.

Continued Importance of In Person Communication

In person communication remains central to effective rice extension. Farm visits, field days, on-farm demonstrations, and producer meetings allow extension specialists to see firsthand how recommendations perform under real world conditions. These interactions also allow producers to share observations, raise concerns, and provide feedback that helps guide future research and outreach priorities.

Face to face engagement is especially important when addressing complex or time sensitive issues such as pest outbreaks, herbicide performance, or management decisions influenced by variable weather. Seeing a field, walking through problem areas, and discussing management decisions directly with producers provides context that cannot be fully captured through data or photographs alone. These interactions strengthen working relationships and help ensure that extension recommendations remain practical and relevant to Louisiana rice production.

Expanding the Role of Digital Communication

While in person communication remains essential, digital communication now plays an increasingly important role in modern extension programming. Many producers' access information through phones and tablets, often outside of traditional meeting times. Digital platforms allow extension programs to share timely updates during critical decision windows, particularly when weather conditions, pest pressure, or market dynamics are changing quickly.

Rather than replacing in person outreach, digital communication serves as a complement. Together, these approaches allow extension programming to remain both responsive and scalable, ensuring information reaches producers when it is needed and in a format that fits their operation.

The Rice Research Verification Program

The Rice Research Verification Program is a clear example of how research, extension, and producer collaboration come together. The purpose of this program is to evaluate LSU AgCenter recommendations under commercial production conditions by working directly with cooperating producers across the state. These on-farm sites serve as a bridge between small plot research and full scale farming operations. Over time, the program has demonstrated how management practices perform beyond the research station and under a wide range of production environments. These efforts have helped refine recommendations, identify limitations, and build confidence in research based guidance. Currently, the program includes six cooperating producers located in Acadia, Avoyelles, Allen, Vermilion, Beauregard, and Jeff Davis parishes. Together, these sites represent a range of soil types, management strategies, and regional conditions common to Louisiana rice production.

The program continues to generate real world management scenarios that will support future extension education efforts. Looking ahead, a long term goal is to expand both the number of cooperators and the geographic reach of the program. Producers in North Louisiana are currently underrepresented, despite the region's connection to the broader Mid-South rice production area. Efforts are underway to identify potential cooperators for 2026.

Digital Communication in Practice

Traditional digital tools such as newsletters, email updates, and static web content remain important components of LSU rice extension. These resources provide reliable reference materials and allow producers to access information on their own schedule.

At the same time, more direct and mobile focused communication methods are becoming increasingly important. Data continue to show that producers are consuming more information through mobile devices and short format media. In response, LSU rice extension programming is moving toward expanded use of mass text messaging, short video updates, and audio formats such as podcasts. We are also exploring ways to integrate artificial intelligence tools to improve access to major publications such as the Rice Production Handbook and Rice Varieties and Management Tips.

These tools are intended to deliver concise, actionable information during key management periods without requiring producers to search for it. Mass text messaging allows for rapid distribution of time sensitive updates. Short videos provide visual context that can quickly clarify complex topics. Podcasts offer flexibility, allowing producers to engage with content while traveling or working in the field.

Looking Ahead

Over the next five years, rice extension in Louisiana will continue to become more connected, more responsive, and more integrated. In person engagement will remain a foundation, supported by an expanding network of on farm verification sites. Digital tools will continue to extend the reach of extension programming and help ensure research based information moves at the pace of modern agriculture.

The future of rice extension is not defined by a single delivery method. It is defined by the ability to meet producers where they are. By combining trusted relationships, verified research, and practical communication tools, the LSU AgCenter rice extension program will continue to support a resilient and competitive rice industry in Louisiana.

Article by Tyler Musgrove (Extension Rice Specialist)

Perennial Grass Management in 2026

When it comes to deciding the direction of my research program, I rely heavily on my extension program to identify the needs of the industry. There's always going to be unique one-off situations that may not require much time and attention in terms of research because of the narrow impact. However, when I start to receive multiple phone calls regarding the same issue, that tells me there is a wide scale issue that needs to be addressed through research. For example, when I started in this position in 2022, there were not many known options for Fimbristylis control, which was a big topic. A big focus of my program for the first couple of years was on Fimbristylis and we were able to come up with several control options.

The bulk of my weed control phone calls typically consist of the usual suspects: barnyardgrass, Amazon sprangletop, weedy rice, ALS resistant rice flatsedge, Fimbristylis, alligatorweed etc.; however, in recent years Brook paspalum has risen to the top of the list. In 2025, the Weed Management Program set out to determine the best herbicide options for Brook paspalum as well as several other perennial grasses including water paspalum, creeping rivergrass, southern watergrass, and rice cutgrass.

Before we get into the "how", let's talk about the "why". Why are Brook paspalum and other perennial grasses becoming such a big issue? The quick answer is increasing crawfish acres in conjunction with reductions in tillage. Over the past several years we have seen modifications to crawfish boats such as the basket wheel, the use of air boats, and an increase in using push boats. All of these modifications have led to the reduction in tillage needed in the fall to prep crawfish ponds for rice planting the next spring. Any time we adopt new practices, there is a give and a take. The give in this situation is less labor, time and diesel costs for ground preparation, but the take has been a shift in weed spectrums, specifically to more perennial species.

Perennial grass control will take an integrated management approach to reduce populations. Tillage can be a great tool for perennial grass management, or it can be a detrimental tool. Shallow and inconsistent tillage will result in the fragmentation of the rhizomes leading to the spread of perennial grasses. To manage perennial grass using tillage, frequent deep tillage must be used during dry periods. The rhizome is the lifeline of perennial grass and efforts should be made to starve the rhizome by exposing it under dry conditions. If tillage is incorporated during high soil moisture or in front of rain, the perennial grass will simply re-root.

In late fall, shorter days and decreasing temperatures will prompt perennial species to start preparing themselves for the upcoming winter months by moving carbohydrates, sugars and other nutrients downward into the rhizome.

This ensures that the rhizome has enough energy to reestablish itself the following spring. This natural phenomenon can and should be used to our advantage. By applying systemic herbicides, such as glyphosate, in the fall we can piggyback the herbicides with the downward flow in the plants to get more herbicide translocation into the rhizome preventing reestablishment.

Like I mentioned earlier in the article, several trials were conducted in 2025 to evaluate herbicide efficacy in crop for perennial grasses. Below are some of the conclusions from the first year of research. At this time these results are preliminary as these trials are going to be replicated in 2026.

Brook paspalum

Novixid has been my recommendation for Brook paspalum control for the past couple of years and to no surprise Novixid was the most effective herbicide evaluated in 2025. Another option that shows promise is Loyant mixed with Regiment but is a step down from Novixid. In Clearfield rice, Beyond Xtra mixed with Loyant was comparable to Novixid and Beyond Xtra mixed with Grasp was a close second. In Provisia rice, I was surprised with how much activity I saw from sequential applications of Provisia alone. In the past I have always believed that Provisia was not effective on Brook paspalum, which is the case for a single application. However, Provisia applied in sequential applications 10 days apart controlled Brook paspalum 70-80%.

Water paspalum

The quick answer to water paspalum control is to use an ACCase inhibiting herbicide such as Clincher, Ricestar, or Provisia in the Provisia rice system. Beyond Xtra was also effective on water paspalum in the Clearfield system. Synthetic auxins and ALS inhibitors such as Loyant, Facet, Grasp and Regiment did not provide any control of water paspalum.

Creeping rivergrass

Clincher and Ricestar offer some activity on creeping rivergrass but will struggle to control it completely. Grasp, Regiment, or Loyant were the most effective options for creeping rivergrass in a conventional system. For broader spectrum weed control Grasp or Regiment can be mixed with Loyant (Loyant+Grasp=Novixid). Provisia and Beyond Xtra were both effective for creeping rivergrass control in their respective rice systems.

Southern watergrass

For southern watergrass control, Clincher offered some suppression at best. Clincher knocked the southern watergrass back for a couple of weeks but it fully recovered later. Rogue was also evaluated for southern watergrass control but only bleached the southern watergrass for about a week before fully recovering.

Rice cutgrass

There are no options for controlling rice cutgrass in conventional or Clearfield rice. The only time I was able to control rice cutgrass was with sequential applications of Provisia 10 days apart.

To end on a good note, the Weed Management Program has been evaluating a new active ingredient that is currently being pursued for registration by Gowan USA and Nissan Chemical Corporation. This new herbicide, iptriazopyrid (GXP-70101), is an HPPD inhibitor (bleacher) and will offer broad-spectrum postemergence control of several rice weeds. Iptriazopyrid was evaluated for perennial grass control in 2025 and was found to control all previously mentioned perennial grass species except rice cutgrass (Pictures 1 and 2).



Figure 1. Nontreated plot showing placement of perennial grass species



Figure 2. Sequential applications of iptriazopyrid controlling perennial grasses, except rice cutgrass.

Article by Connor Webster (Rice Weed Science), Gavin Sparks (MS Student), Maranda Hains (PhD Student)

Is it Time for Starter N ?

“Starter N” refers to a small Nitrogen (N) dose applied during early season (at planting, or at the two to three leaf stage) aimed at accelerating early growth and enabling earlier flood establishment. A multi-year study using ¹⁵N-labeled ammonium sulfate (AMS) was conducted to examine Starter N. The ¹⁵N-labeled ammonium sulfate simply means that a small portion of the nitrogen in commonly used ammonium sulfate is replaced with a heavier form which allows scientists to more easily detect these heavier forms and have a clearer view of exactly where the fertilizer nitrogen ended up. For example, with this ¹⁵N-labeled ammonium sulfate, scientists can determine how much nitrogen the plant has absorbed, how much stayed in the soil, and how much is lost to the air or water. These studies showed that Starter N increased early vegetative growth and N uptake of drill seeded, delayed flood rice, often advancing plant development to allow for earlier flooding. However, grain yield increases were small or inconsistent compared to the plots without starter N application. Thus, the primary agronomic value of starter N in delayed flood systems is risk management (earlier flood, better weed control, improved stand vigor), not a guaranteed increase in yield.

In southern Louisiana, most drill-seeded rice is cultivated using a delayed flood system. Seeds are planted on dry soil, and a permanent flood is applied when the plants reach the 4–5 leaf stage. In this approach, applying nitrogen fertilizer to dry soil just before flooding is crucial for boosting plant nitrogen uptake, maximizing nitrogen recovery efficiency, and improving grain yield. This is because ammonium (NH₄⁺) remains stable in anaerobic, flooded conditions, whereas nitrate (NO₃⁻) can be lost through denitrification if fertilization does not coincide with the start of flooding. Adverse weather conditions during early growth stages such as excessively low temperatures, or

extremely dry conditions may retard crop growth and prolong the time required to reach the 4–5 leaf stage. These circumstances could subsequently delay pre-flood nitrogen applications, therefore starter nitrogen is recommended.

The early vigor mechanism is particularly beneficial in delayed flood systems. Accelerated growth enables crops to enter the recommended pre-flood window earlier and increases their duration under flooded conditions, which aids in nitrogen conservation, weed management, and provides advantages for ratoon cropping.

When is the optimal time and rate for starter N?

The most effective time to apply starter nitrogen is either at planting or during the two- to three-leaf stage. According to our research, applying starter nitrogen at planting or at the two- to three-leaf stage does not impact rice yield. The standard recommendation is approximately 20 pounds of nitrogen per acre (equivalent to 45–50 pounds of urea or 110–120 pounds of ammonium sulfate per acre). This amount of nitrogen will not be included in the total nitrogen guideline for the entire growing season.

Nitrogen sources for starter N (Urea vs. ammonium sulfate (AMS))

Both urea and ammonium sulfate are suitable as starter nitrogen sources; however, application to dry soil may lead to volatilization losses unless flooding is immediately initiated. Preliminary research indicated that rice responded more rapidly to ammonium sulfate during early growth stages, whereas plots treated with urea yielded slightly greater. Additionally, fields that flushed after applying starter nitrogen showed better growth than those that remain unflushed.

Ongoing research on starter nitrogen is exploring several additional aspects, such as Enhanced Efficiency Nitrogen Fertilizers (including urease and nitrification inhibitors), different types of nitrogen sources like urea, AMS, and custom blends, as well as varying application rates. The study also examines how starter nitrogen affects ratoon crop production.

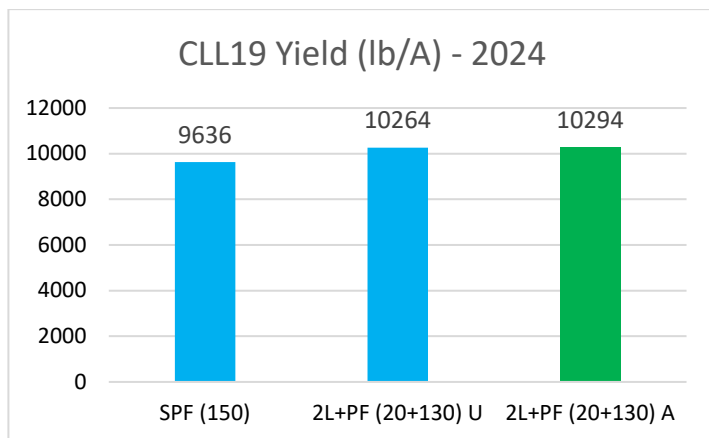


Figure 1. Comparison of rice yield (CLL19) receiving 20 lbs. of N (nitrogen) per acre from urea (U) and ammonium sulfate (A) at the 2-leaf stage grown on a silt loam soil at the H. Rouse Caffey Rice Research Station, 2024. Note: SPF is a one-time application of 150 lbs. of N per acre before flooding while PF is a pre-flood application.

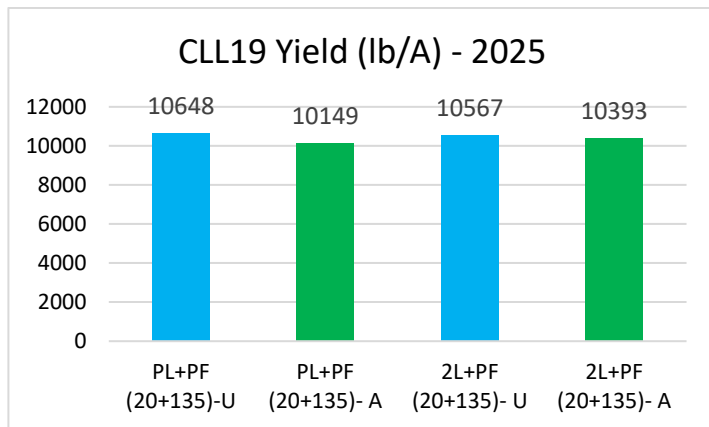


Figure 2. Comparison of rice yield (CLL19) receiving 20 lbs. of N (nitrogen) per acre from urea (U) and ammonium sulfate (A) at planting (PL) and the 2-leaf (2L) stage, grown on a silt loam soil at the H. Rouse Caffey Rice Research Station, 2025.

Graduate Student Research Highlight: Protecting Head Rice Yield to Improve Milling Stability

Field yield is only one part of the profitability equation for rice producers. Even when a crop yields well, losses during milling can significantly reduce its value. A major contributor to those losses is grain fissuring, an often hidden problem that can quietly erode head rice yield and market value.

This research, supported by The Louisiana Rice Research Board and The USA Rice Foundation, focuses on understanding how and why fissures form and on developing better ways to identify rice lines that maintain milling quality under production, harvest, and drying conditions. The ultimate goal is to help ensure that high yielding varieties also deliver reliable milling performance.

Why fissuring matters

Grain fissures are small internal cracks that form when rice kernels experience rapid changes in moisture. These moisture swings can occur as grain dries in the field, during harvest when moisture levels vary, or during postharvest drying and handling. Fissures are often invisible to the naked eye, but their effects become clear at the mill.

Kernels with fissures are much more likely to break during milling, resulting in lower head rice yield. Head rice yield refers to the proportion of rough rice that remains as whole or mostly whole kernels after milling. Because broken rice has a substantially lower market value, fissuring directly affects returns for producers and mills alike.

A challenge for breeding programs

One of the challenges breeders face is that fissuring is difficult to measure consistently. Breeding trials are harvested across a range of moisture levels, and weather conditions can vary widely among fields and from year to year. Because fissuring is strongly influenced by moisture changes, this environmental variability can mask true genetic differences among rice lines.

As a result, some lines may appear acceptable in early testing but later show problems with milling stability when exposed to real world harvest and drying conditions. Identifying these issues earlier would save time, reduce costs, and lower the risk of advancing lines that ultimately lose value at the mill.

Developing a controlled “stress test” for rice grain

This project addresses that challenge by developing a simple, repeatable method to induce fissuring under controlled conditions. Instead of relying solely on unpredictable field environments, small grain samples are exposed to carefully managed conditions designed to replicate the stresses that cause fissures to form.

Pilot studies showed that a combination of stresses, heat, high humidity, followed by drying, was most effective at inducing fissures. This sequence closely mirrors what grain may experience during harvest and postharvest handling. Applying the same stress conditions across many rice lines allows for fair comparisons and makes it possible to clearly distinguish lines that are prone to fissuring from those that are more stable.

This work is being conducted as part of a graduate student research project, contributing both to improved breeding tools and to the training of future scientists focused on applied rice production challenges.

Promising early results

Preliminary results demonstrate the value of this controlled fissuring approach. When rice lines were exposed to standardized stress conditions, clear and repeatable differences in milling stability were observed. Some lines lost nearly half of their whole kernels under stress, while others retained more than 90 percent of their head rice yield relative to unstressed controls (Figure 1).

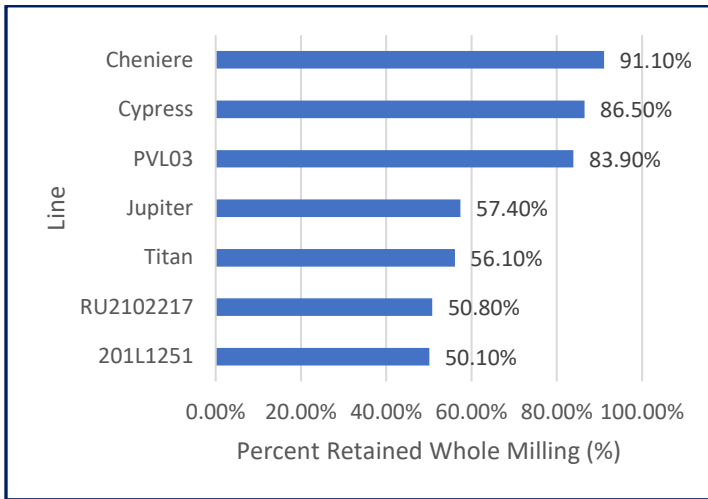


Figure 1. Percent retention of whole milling yield under the combined heat, humidity, and drying treatment relative to the control across seven rice genotypes. Values represent the proportion of whole milling retained after stress, calculated as $(\text{mean treatment} / \text{mean control}) \times 100$.

Importantly, varieties already known for strong milling performance tended to retain a higher proportion of whole kernels, while lines with historically poorer milling quality showed much greater losses under the same conditions. Although these studies were limited in scale, the results confirm that controlled fissuring assays can reliably distinguish among lines with contrasting milling stability. Additional research is underway to further optimize these approaches for deployment in larger scale research activities.

Practical benefits for producers and the industry

By identifying fissuring problems earlier in the breeding process, this research help breeders avoid advancing lines with poor milling stability. That efficiency saves time and resources and reduces the risk of releasing varieties that perform well in the field but lose value after harvest.

For producers, the long term benefit is access to varieties that are better able to withstand field and postharvest stresses, helping protect grain quality and market value, even under challenging harvest conditions. Mills also benefit from more consistent milling performance and higher recovery of whole kernels.

Strengthening Louisiana’s rice industry

Grain fissuring is a hidden but costly problem in rice production. This applied research provides a practical approach for improving how fissuring resistance is identified and managed in breeding programs. By delivering tools that support better variety selection, the work helps strengthen the entire system, from breeders to producers to mills, and enhances the overall competitiveness of the Louisiana rice industry.

The LA Rice Research Board and USA Rice Foundation support plays a key role in advancing this work, helping ensure that future rice varieties combine strong field performance with reliable milling quality

Article by Flavia Furlan (PhD Student – Plant Breeding)

New “Champion of Rice Research” Award to be Presented at Annual Field Day

The H. Rouse Caffey Rice Research Station will initiate a new annual honor—the Champion of Rice Research Award—to be presented for the first time at the Station’s Annual Field Day on June 24, 2026. This award is designed to recognize individuals who have made significant and lasting contributions to the Rice Research Station in support of its mission to enhance the sustainability and profitability of the Louisiana rice industry.

The impact and success of the H. Rouse Caffey Rice Research Station are strongly influenced by the leadership, guidance, and support of industry members who dedicate their time, expertise, and resources to advancing rice research. Through their efforts, these individuals help establish research priorities, facilitate meaningful research activities, secure critical funding, and advocate for the importance of research that directly benefits rice producers and the broader rice industry.

Nominations for the Champion of Rice Research Award are now open. Members of the rice community are encouraged to nominate individuals who they believe have made a meaningful and positive impact on the Rice Research Station and its mission. To nominate a candidate, please complete the online nomination form available at <https://forms.office.com/r/q3P1wvHJBS>.

Eligible candidates may come from any sector of the rice industry, and nominations may be submitted posthumously. *All nominations must be completed and submitted no later than 4:00 p.m. on Friday, April 17, 2026.*

Article by Kurt Guidry (Assistant Resident Coordinator and Economist)

Project Highlight: Weed Management Project

The Weed Management Project aims to provide research-based solutions for weed control in rice through the AgCenter's Cooperative Extension Service. Each year numerous weed management field trials are conducted across the state to evaluate chemical and cultural weed control, crop response from herbicide applications, and weed competition in rice. The project focuses on the control of several key weed species such as barnyardgrass, weedy rice, amazon sprangletop, yellow nutsedge, rice flatsedge, alligatorweed, Texasweed, and hemp sesbania/jointvetch to name a few. However, due to Louisiana's unique rice and crawfish rotation several aquatic species, sedges, and perennial grasses infest rice in Louisiana that are not typically found in Midsouth rice production. The diverse weed spectrum in Louisiana requires timely research-based solutions in order for recommendations to be made for effective weed control.

Over the past several years, the Weed Management Project has worked closely with several industry partners to evaluate the potential use of new active ingredients to be labeled for use in Louisiana rice production. Two new active ingredients, tetflupyrolimet (FMC) and iptriazopyrid (Gowan), are currently being pursued for registration. The goal is to determine the best practices through research for each herbicide to maximize efficacy and eliminate any uncertainties prior to commercialization.

The members of the project include Dr. Connor Webster, Ben Stoker (Research Associate/PhD Student), Maranda Hains (PhD Student), Gavin Sparks (MS Student), Eve Williams (MS Student), Morgan Boone (MS Student) and Caden Benoit (Research Farm Specialist).



Weed Science Project Personnel: (Left to Right): Gavin Sparks, Eve Williams, Maranda Hains, Ben Stoker, Connor Webster, and Caden Benoit. Not pictured is Morgan Boone.

Faculty, Staff, and Student News

The faculty, staff, and students of the H. Rouse Caffey Rice Research Station are actively involved in outreach, professional and industry events. The following is a list of the activities and events people from the Rice Station participated in over the last 3 months:

January 2026

- Faculty from the Rice Research Station presented at four (4) rice production meetings held throughout Southwest Louisiana. Faculty members provided updates on their research as well as discussed current issues within their area of expertise. Faculty members participating in the production meetings included Dr. Adam Famoso (Rice Breeder and Resident Coordinator), Dr. Felipe Dalla Lana (Rice Pathologist), Dr. Connor Webster (Rice Weed Scientist), Dr. Blake Wilson (Rice Entomologist), Dr. Ron Levy (Retired Extension Rice Specialist) and Dr. Tyler Musgrove (Extension Rice Specialist).
- Dr. Kurt Guidry (Assistant Resident Coordinator and Economist) presented at the 2026 LSU AgCenter Outlook Conference held in Alexandria, Louisiana.
- Dr. Adam Famoso (Rice Breeder and Resident Coordinator) presented information on rice breeding to the LSU AgCenter's Ag Leadership Class in Jennings, Louisiana.

- Dr. Brijesh Angira (Rice Breeder) and Ms. Valerie Dartez (Research Associate – Breeding) virtually participated in the 2026 US Rice Breeders Conference.
- Dr. Herry Utomo (Rice Breeder) served as an ad hoc reviewer for the Agricultural and Food Research Initiative (AFRI) - A1811 - Commodity Board Co-Funding Nutrition Topics. This is a national initiative for the USDA's National Institute of Food and Agriculture.
- Dr. Connor Webster (Rice Weed Scientist) spoke at the Louisiana Ag Aviation Conference held in Lake Charles, Louisiana.
- Dr. Connor Webster (Rice Weed Scientist) spoke at the Texas A&M's Western Rice Belt Conference held in El Campo, Texas.
- Dr. Connor Webster (Rice Weed Scientist) spoke at the Texas A&M's Southeast Rice Symposium held in Winnie, Texas.

February 2026

- Faculty from the Rice Research Station presented at the Northeast Louisiana Rice Production Meeting held in Rayville, Louisiana. Faculty members participating included Dr. Adam Famoso (Rice Breeder and Resident Coordinator), Dr. Felipe Dalla Lana (Rice Pathologist), Dr. Connor Webster (Rice Weed Scientist), Dr. Blake Wilson (Rice Entomologist), Dr. Ron Levy (Retired Extension Rice Specialist) and Dr. Tyler Musgrove (Extension Rice Specialist)
- Faculty from the Rice Research Station presented at the Louisiana Ag Consultants Association Conference held in Marksville, Louisiana. Faculty members presenting included Dr. Adam Famoso (Rice Breeder and Resident Coordinator), Dr. Felipe Dalla Lana (Rice Pathologist), Dr. Connor Webster (Rice Weed Scientist), Dr. Blake Wilson (Rice Entomologist), and Dr. Tyler Musgrove (Extension Rice Specialist)
- Dr. Kurt Guidry (Assistant Resident Coordinator and Economist) developed a PLC-ARC Program Calculator for the Farm Service Agency. The Calculator projects PLC and ARC payments for the 2025 crop year and will be used by the Farm Service Agency in their Farm Loan program.
- Dr. Kurt Guidry (Assistant Resident Coordinator and Economist) guest lectured for Dr. Kaelyn Fogleman's (Crawfish Researcher) Principles of Aquaculture course presenting information on the economics of aquaculture production.
- Dr. Kurt Guidry (Assistant Resident Coordinator and Economist) presented at the Tri-Parish Farm Forum held in New Roads, Louisiana.
- Dr. Adam Famoso (Rice Breeder and Resident Coordinator) was an invited speaker at Clemson University's seminar series. Dr. Famoso spoke on Louisiana rice production and rice breeding as well as met with faculty and students over a two day period.
- Dr. Connor Webster (Rice Weed Scientist) and his graduate students Ben Stoker, Gavin Sparks, Eve Williams, and Morgan Boone all gave presentations at the Weed Science Society of America Conference in Raliegh, North Carolina.

March 2026

- Dr. Connor Webster (Rice Weed Scientist) and his graduate students Ben Stoker, Gavin Sparks, Eve Williams, and Morgan Boone all gave presentations at the Southern Weed Science Society Conference in Nashville, Tennessee.
- Dr. Connor Webster (Rice Weed Scientist) was elected to serve on the Southern Weed Science Societies Board of Directors.
- Dr. Tyler Musgrove (Extension Rice Specialist) and Dr. Kurt Guidry (Assistant Resident Coordinator and Economist) participated in a meeting discussing a carbon credit program that would be available to rice producers.
- Dr. Kurt Guidry (Assistant Resident Coordinator and Economist) participated in a meeting of the Louisiana Dairy Tax Credit program held at LDAF headquarters in Baton Rouge, Louisiana. Dr. Guidry develops the production and marketing statistics that determine the availability of the tax credit each year.
- Ben Stoker (Graduate Student – Weed Science) successfully completed his PhD dissertation defense.
- Gavin Sparks (Graduate Student – Weed Science) successfully completed his MS thesis defense.
- Bruno Borges (Graduate Student – Plant Pathology) successfully completed his MS thesis defense.

Station Events

The Rice Station hosts a variety of events each year. These events range from agricultural education for youth to training for LSU AgCenter personnel. During the last quarter, the following is a list of the events hosted by the Rice Station:

- February 10 – 12, 2026 – The Rice Research Station hosted the LSU AgCenter’s Southwest Region Nutrition and Community Health (NCH) New Agent Orientation.
- February 24, 2026 – The Rice Research Station hosted the Louisiana Rice Research Board Variety Development Roundtable. The meeting, organized by the Louisiana Rice Research Board, brought together rice producers and representatives from rice mills to discuss potential directions for rice variety development. These discussions focused on ensuring that future rice varieties align with current market needs and anticipated trends in both domestic and international rice demand. Dr. Adam Famoso (Rice Breeder and Resident Coordinator), Dr. Brijesh Angira (Rice Breeder), and Dr. Kurt Guidry (Assistant Resident Coordinator and Economist) participated in the meeting.
- March 6, 2026 – The Rice Research Station hosted a group of high school FFA students from Illinois. Dr. Kurt Guidry (Assistant Resident Coordinator and Economist) and Dr. Todd Fontenot (Crawfish ANR Agent) met with the group and discussed rice and crawfish production and research.
- March 26, 2026 – The Rice Research Station hosted the newest class of the USA Rice Federation’s Leadership Program. Dr. Adam Famoso (Rice Breeder and Resident Coordinator), Dr. Kurt Guidry (Assistant Resident Coordinator and Economist), and Dr. Tyler Musgrove (Extension Rice Specialist) all met with the group to discuss the rice station and the Louisiana rice industry.

Employee Highlight – Brent Theunissen, Farm Manager

The farm manager plays an essential role in the success of the Rice Research Station, and Mr. Brent Theunissen exemplifies the importance of this position. Along with his farm crew, Mr. Theunissen oversees the maintenance and management of all production acres at the station, ensuring that land is properly prepared for research plots and foundation seed production. His responsibilities also include maintaining station grounds and infrastructure, from roads and grassed areas to washing and caring for station structures, all of which contribute to the station's professional appearance and strong industry reputation.

Mr. Theunissen is also responsible for managing the station's irrigation systems and coordinating water needs across multiple projects and the foundation seed program. His role extends to assisting with the

harvesting and cleaning of foundation seed, managing sales of rice and crawfish produced at the station, and supporting tours and outreach events. His leadership is especially evident during the annual Rice Field Day, the station's largest event, where he manages logistics, assigns staff responsibilities, coordinates field transportation, and oversees cleanup efforts to ensure a successful experience for visitors.

Mr. Theunissen began his career at the Rice Research Station in January 1999 working with the rice breeding program under Dr. Steve Linscombe. He transitioned to the farm crew in 2017, became assistant farm manager, and assumed the farm manager position in 2020. Raised around rice farming and holding a Bachelor of Science in Business Administration from the University of Louisiana at Lafayette, Mr. Theunissen brings deep production knowledge and practical experience to his role. He and his wife, Amanda, have two children, Brant and Krysten. Through his leadership, positive attitude, and commitment to excellence, Mr. Theunissen remains an invaluable asset to the station and a key contributor to its standing as one of the nation's leading rice research facilities.



Mr. Brent Theunissen, Farm Manager, H. Rouse Caffey Rice Research Station



For more information, contact us at the H. Rouse Caffey Rice Research Station
1373 Caffey Road | Rayne, Louisiana 70578 | Phone: 337-788-7531 | Fax: 337-788-7553
Office Hours: Monday – Friday 8:00 a.m. – 4:30 p.m.

The LSU AgCenter and LSU provides equal opportunities in employment and program

For more information, visit our website at:

[H. Rouse Caffey Rice Research Station \(lsuagcenter.com\)](http://lsuagcenter.com)

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<https://www.facebook.com/HRCRicerestation>



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**For more information, please
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H. Rouse Caffey Rice Research Station Annual Field Day Wednesday, June 24, 2026

***** Save The Date *****

Please make plans to join us for the 117th Annual H. Rouse Caffey Rice Research Station Field Day on Wednesday, June 24, 2026. While details are not finalized, the general structure planned for the field day is provided below. Additional details will be provided once finalized.

- | | |
|---|--------------------------------------|
| Field Tours | 7:00 AM – 8:30 AM |
| Scientific Poster Session/Trade Show | 7:15 AM – 10:15 AM |
| Inside Program | 10:30 AM |
| Luncheon | Noon or Conclusion of Program |

Field Day Sponsors

Become a field day sponsor and help ensure the continued success of the field day. Sponsors will be highlighted in the field day program and in signage at the field day. All donations are welcomed. If you are interested in becoming a sponsor, please contact Kurt Guidry at kmguidry@agcenter.lsu.edu.



Rice Research – From 1909 Until Today – The Mainstay of the Louisiana Rice Industry!