TEXAS A&M AGRILIFE EXTENSION

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Viticulture and Fruit Lab

Impact Report

Compiled and Written by Jacy L. Lewis Ph.D. candidate- Program Manager
TAMU AgriLife Extension, Department of Horticultural Science
Viticulture and Sustainable Fruit Lab Fredericksburg TX
2025

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Who We Are

2006

The Viticulture and Sustainable Fruit Applied Research Lab grew out of the program that shared space with the AgriLife Extension/ USDA/APHIS partnership; Pierce's Disease Task Force when Dr. Mark Hussey urged Jim Kamas to add a sustainable fruit component to the existing viticulture program on the 3-acre plot that is now the orchard and vineyard.

2012

When the Pierce's Disease task force ended due to funding cuts; Dr. Roland Smith along with the Extension leadership team recognized the value of maintaining a facility to support the growing winegrape industry, the historic fresh fruit and burgeoning agritourism industries in central Texas.

2013

After 5 years of supporting applied viticulture research leading to a publication on grape rootstock performance and a master's thesis on cotton root rot management in grapes; the Amy and Tim Leach foundation chose to ensure the continuity of stakeholder support facilitated by the lab; providing a gift to TAMU AgriLife Extension for purchase of the facility. While purchase of the land was not allowed, the permanent improvements to the lot became AgriLife Extension property.

- The Texas A&M AgriLife Extension Service is rooted in a mission of service, education, and innovation across the state of Texas. Within that mission, the Viticulture and Fruit Lab in Fredericksburg stands as a vital and unique resource: the only facility in Texas dedicated specifically to applied research and outreach for perennial fruit crops and viticulture.
- Located in one of the fastest-growing regions of the country, the lab serves a central role in supporting sustainable agricultural systems that meet the rising demand for locally produced fruit and wine. As this report will show, the lab's value goes far beyond metrics—it plays a deeply human role in supporting growers, advancing environmental stewardship, and sustaining regional identities.
- The Viticulture and Sustainable Fruit Applied Research Lab was established in 2012 to continue the work of supporting the sustainable growth of Viticulture and Fruit production in Central Texas. This followed the shuttering of the dual-purpose USDA supported facility that was originally housed on the property as part of the Texas Pierce's Disease Task Force.

Operations and Development

2015

When funding shortfalls threatened the continued expansion of viticulture and sustainable fruit research and outreach programs at the lab, once again the Amy and Tim Leach foundation came forward with a commitment to support the lab with 80k dollars a year for 3 years. They renewed this commitment for 2 consecutive terms for a total of 9 years of support ending in 2024 with the departure of long time Vit and Fruit Specialist Jim Kamas. This generous support of this program has made it possible to develop fruit outreach and viticulture applied research at the lab.

2022

When an increase in sustainable fruit research at the lab along with a boom in the winery and agritourism industry in the region increased demand on the facility; Dr. Larry Stein and Dr. Dan Hale approved funding for a farm manager to assist with the day-to-day field operations and research both at the lab and grower cooperator sites.

2010-present

Through a combination of conservative fiduciary management by program faculty, sponsored research and generous contributions from donors who believe in the value the facility brings to the Texas fruit and wine industry, the program has remained solvent.

This lab serves as a forward-thinking model for Extension's evolving role in Texas agriculture.

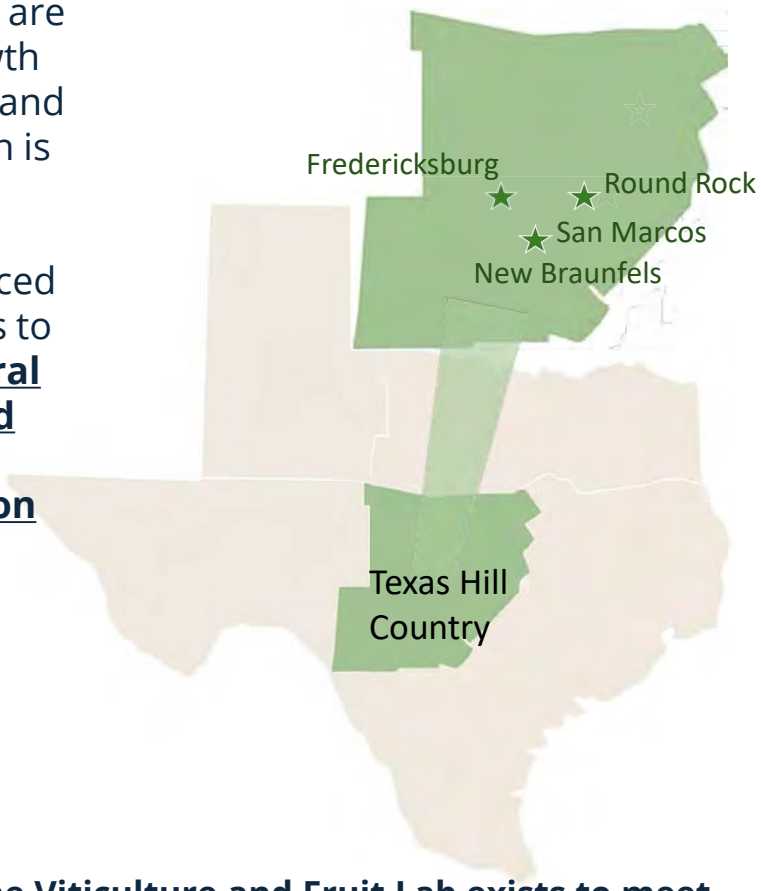
From the time of purchase, the facility has operated on a combination of industry and individual donations, revenue generated by Extension programs, sponsored research, and $50,000.00 per year in Senate Bill 881 funds; allocated by the Texas legislature for support of viticulture programs.

With the bulk of funding coming from resources committed to viticulture, creating opportunities for outreach and applied research in other fruit crops has been a challenge. Through private gifts laboratory personnel have found ways to make that happen.

While massive inflation has increased the costs of operating the lab; the $50k in operating funds has remained static for the past 10 years.

Context and Relevance

Central Texas and the Hill Country are experiencing unprecedented growth in population, increasing the demand for agricultural tourism. The region is now the second most-visited wine destination in the nation, with a growing demand for locally produced wine and fresh fruit that continues to outpace supply**. <u>As urban and rural communities converge, the need for adaptive, science-based agricultural support in this region is increasing</u>.**



- **Fredericksburg is the second most visited wine destination in the United States**
- **Over 120 wineries in Hill Country Region**
- **Gillespie county and Fredericksburg's historical peach industry brings tourism from across the state.**
- **The Round Rock-San Marcos-metro area is one of the nations largest growing metro areas; 4 of the 15 fastest growing cities in the U.S. are located in the Texas Hill Country.**
- **Local Direct-to-Market Fruit Growers report inability to keep up with growing demand for fresh fruit.**

The Viticulture and Fruit Lab exists to meet that need. It was founded to fill a critical gap in dedicated applied research in fruit and viticulture and to serve as an office and laboratory for subject matter specialists. The close proximity of these specialists to this rapidly growing industry enables laboratory personnel to respond quickly and effectively to grower requests for support, including site visits and diagnostic services. Reduced travel time and costs, combined with the ability to offer timely, on-the-ground assistance, underscore the importance of maintaining locally stationed experts. In a large state with diverse growing regions, the importance of having readily available production experts who understand the local landscape cannot be overstated.

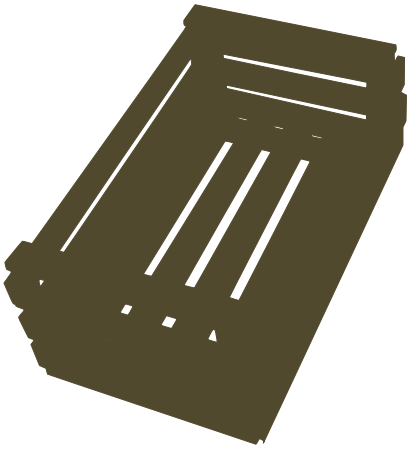
Context and Relevance

As an Extension facility, the lab's focus on applied research places it in a unique position within the AgriLife system. This has sometimes made it difficult to classify, but it is precisely this hybrid identity that positions the lab as a model for the future. A model that aligns with current performance measures for Extension Specialists that include applied research, peer reviewed publications and extramural funding development.

- **currently 15 applied research projects being carried out onsite at the lab.**
- **6 projects focused on wine-grape production –(reduced from 8 resulting from attrition)**
- **9 on other fruits-(reduced by 2, one from attrition, one study completed)**
- **Many projects may have applicability to both**
- **3 proposals submitted or in development with lab personnel as PI or Co-PI**
- **3 new or expanded applied studies in final planning phase**
- **2 new studies identified as future projects**

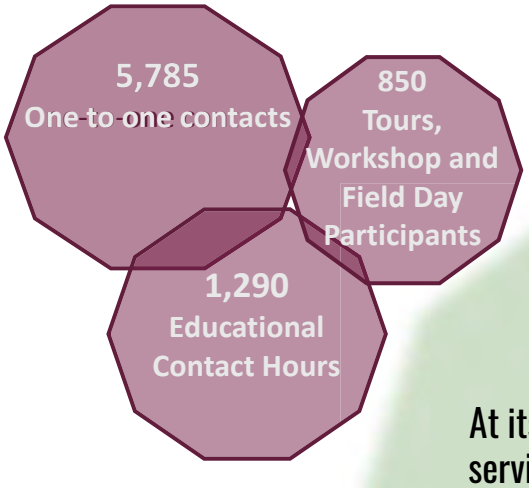
In an environment where extramural funding for applied agricultural research is increasingly competitive, with available funding opportunities decreasing; a dedicated facility like this one proves invaluable.

It allows for capacity to carry out low-cost pilot studies that not only generate preliminary data to strengthen proposals, but also deliver direct benefits to growers through timely, field-tested solutions.



Programmatic Impact

FY 2024



FY 2025- year to date

At its core, Extension is about service—and service is about people.

The reduction in impact numbers in FY25 should not be interpreted as a reduction in our service commitment. This is a reflection of two factors. Of greatest impact is the reduction in subject matter specialists at the lab from 3 to 1 in FY25. Remaining single remaining subject matter specialist has made every effort to fill this gap, yet reduced stakeholder contacts is a natural consequence. Additionally, 2 months remain in FY25 as of the creation of this report.

It has become common to attempt to quantify our work in economic terms; helping growers make decisions that support the financial health of their operations is a core part of what we do; but distilling impact into dollars and cents risks losing sight of what makes this work most meaningful.

Some outcomes can't be directly measured: the confidence to make a decision based on knowledge gained, knowing that someone is there to pick up the phone, answer a text, or make a site visit when you need it most, realizing there is an expert ready to support you. These intangibles are central to our mission.

The Viticulture and Sustainable Fruit Lab provides more than data; it offers presence, trust, and a long-term commitment to the people we serve.

Programmatic Impact

Lab personnel have been invited to speak at grower meetings, and participate in research studies in the Gulf Coast, North Texas and the High Plains.

Lab personnel Jim Kamas assisted with the updated compendium of grape disease, supplying symptom photos of multiple plant diseases

Jim Kamas served 12 years on the National Clean Plant Network board-grapes until his resignation

Research at the lab and work by lab personnel reaches outside Central Texas across the state and nationally.

Active, and retired lab personnel continue to honor requests for presentations and participation in research studies outside the state of Texas

During his tenure, Jim Kamas initiated the production of the Texas Winegrape Pest and Weed Management Guide

Outreach and applied research originating at the lab have provided expertise and assistance to university personnel and growers in Arkansas, Missouri, Alabama, Florida, Kentucky California and Virginia

Lab personnel have served as proposal reviewers for the Ontario grape board and served as peer review for publications submitted to ASHS and ASEV

Meetings and Workshops

FY 2024

- Sustainable Vit Meetings-**(2)**
- Viticulture Field Day-**(1)**
- Sustainable Viticulture Workshop-**(1)**
- Annual Fruit Growers Workshop
- Fruit Production Hands on Workshop
- Invited Talks and Workshops-**(8)**

FY 2025- year-to-date

- Fruit Grower Conference-**(1)**
- Fruit Production Practices Hands on Workshop-**(1)**
- Sustainable Viticulture Meetings-**(2)**
- Invited Talks and Workshops-**(12)**

Bob Whiteney (Extension Organic Specialist) speaks to wine-grape growers about Organic practices and crop protection products at a Hill Country regional viticulture meeting in 2025

Lab personnel play a key role in advancing education and outreach through active involvement in industry events and professional meetings. For the past 17 years, we have contributed to the educational programming of the Texas Fruit Conference and, for the past seven years, have worked closely with Dr. Monte Nesbitt in producing the event.
In recent years, the conference has rotated to Fredericksburg, where the lab has been utilized for tours and hands-on workshops.

In addition to this flagship event, lab staff are considered valuable experts across the state and beyond; frequently invited to speak about viticulture, Pierce's disease and fruit production at nursery programs and industry meetings throughout Texas and the U.S.

In response to industry demand in 2023 the team made the decision to transition from their traditional prospective and advanced grower workshops to a focus on sustainable practices.

The team continues to utilize the lab for grape pruning workshops, and facilitates grower education meetings, and field days, all focused on sustainable production practices tailored to the unique challenges of central Texas.

Tours and Professional Development

The Viticulture and Fruit Lab maintains an open-door policy for stakeholders and professionals interested in fruit and grape production. Each year, the facility welcomes numerous visitors seeking to learn more about the research, field trials, and educational activities conducted on-site. These informal tours provide valuable opportunities for engagement, knowledge exchange, and the strengthening of industry relationships serving to connect stakeholders directly with applied research.

Austin Farm Share has scheduled multiple tours for their students

Jacy and Bri speak about sustainability in perennial fruit cropping systems to the 2023 Texas Farm Bureau Young Farmers Fall Tour at the Lab.

In recent years, the lab has also served as a professional development venue for select early career county agents needing education in perennial fruit production, and educational field trips. Groups hosted include the Texas Farm Bureau's Young Farmer and Rancher Tour, the Texas A&M AgriLife Extension Specialist Association, Texas State University's fruit production course, and staff from the Cibolo Center for Conservation's Herff Farm. These interactions enhance awareness of current research efforts and help develop industry and interinstitutional collaborations.

By making the facility accessible for learning and professional growth, the lab continues to expand its reach and relevance, reinforcing its role as a leader in fruit and viticulture outreach and applied research.

Stephen Janack instructs workshop attendees in irrigation planning at a hands-on workshop for fruit growers hosted at the lab.

Community Engagement

The work conducted through the Viticulture and Sustainable Fruit Lab reflects our deep commitment to meeting real-world needs across Texas. From commercial producers and backyard growers to students, young farmers, and engaged consumers, our applied research and outreach programs are designed to inform, support, and empower. In keeping with AgriLife Extension's mission to *Reach Every Texan*, we focus not just on crops or data, but on communities. This includes commitments of our personal time to act as community partners beyond the job duties associated with the lab.

For the past 30 years lab personnel have served as judges at the annual Stonewall Peach Jamboree

"Leslie Pressler as Treasurer of FFFE has been instrumental in the success of our organization..a valuable resources and asset to this community…"

Janet Bizzell, President FFFE

Hand to Hold
NICU BABIES · PARENT SUPPORT

Jacy has been an active peer mentor with Hand2Hold for the past 9 years

Over the years lab personnel have assisted with the county fair including helping with 4-H and produce judging.

This is an area where the lab is interested in opportunities to increase our impact.

Program Evaluations

While we never want to boil our impact down to numbers, we deeply value candid feedback from the people we serve.

2024 Sustainable Fungal Pest Management Viticulture Workshop

98% rated the workshop as valuable
95% rated the workshop topics as timely and important
99% agreed they gained valuable knowledge

"The resistance talk lost me a little. Other talks were great but too much information to absorb.."

All feedback is welcome, even when it is critical as it signals trust and pushes us to be better. Evaluations give us the opportunity to reflect, adapt, and refine our programming so that it remains effective, relevant, and meaningful. They help ensure that our work continues to serve real needs in real time.

2023 Fruit Growers Conference

98% rated the technical content as mostly or completely satisfying.
99% agreed the overall experience will help them make better management decisions.
98% agreed that they learned things they intend to adopt.
98% agreed their overall knowledge about growing fruit and its challenges in Texas increased.
94% agreed their motivation to be engaged in fruit growing increased.

"The breakout sessions provided much needed hands on learning.."

Evaluation shouldn't be about proving success, but an opportunity to grow. Each survey response, comment, or rating gives us a clearer picture of what's working, what isn't, and where we need to go. Feedback helps us stay responsive to stakeholder needs.

2025 Sustainable Viticulture Workshops I and II

"More in depth on soil regeneration and better understanding on choosing environmentally responsible pesticides"

"one of the best viticulture meetings I've been to in years....."

"Ton of information, obviously time was limited but more time for questions and discussion would be good."

" EIQ presentation was awesome!"

Academics

TOPGUARD TERRA FLUNIXIN

EPA SLN NO. TX-190010

For Agricultural Use
EPA REG. No. 279-3594

In case of a medical emergency involving this product, call toll free, day or night, 1-800-331-3148.

FOR DISTRIBUTION AND USE ONLY IN TEXAS

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

This label for TOPGUARD TERRA Fungicide is valid until May 29, 2024 or until otherwise amended, withdrawn, canceled or superseded.

Section 24(c) State Registration

DIRECTIONS FOR USE

For application through drip irrigation in grapes.

APPLICATION RATE

Apply TOPGUARD TERRA in a single application at 15.3 oz per acre or in a split of two applications of 7.6 oz per acre each.

APPLICATION TIMING

Make initial application between 30 to 60 days after bud break. If a split application is desired, make second application no closer than 45 days after first application but not within 14 days of harvest. When using a split application, the second timing may be applied as a postharvest to manage late season disease.

CROP	PESTS	RATE OF APPLICATION	
		Product Rate fl oz/A	lb ai/A
Grapes (soil applied)	Texas Root Rot Cotton Root Rot (Phymatotrichopsis omnivora)	7.6 – 15.3	0.25 – 0.5

Original Research leading to the now expired 24(c) label for use of TOPGUARD for control of Cotton Root Rot was carried out by Sheila McBride , with test site at the lab .
Jacy Lewis and Jim Kamas worked to secure a new 24(c) label for use of Rhyme for CRR control with research continuing.

Beyond grower education, the lab plays an important role in formal academic training. It has supported the research of two M.S. and two Ph.D. students, including two students currently conducting their graduate work on-site. The lab also serves as a field classroom, hosting hands-on workshops and educational tours for students from Austin Farmshare and Texas State University. These experiences provide emerging agricultural professionals with practical skills and exposure to real-world production systems.

Chloe Wilson is collecting data related to yield and fruit quality in cane berry variety trials as a capstone project that may assist producers in selecting the best varieties for their specific operations.

In 2024 the lab hosted a propagation workshop for students from the Texas State horticultural program.

As part of her dissertation work, Jacy Lewis is working to develop laboratory testing protocols that will increase accessibility to subspecies identification of *Xylella fastidiosa.* This has the potential to impact the availability of valuable information for researchers focused on diseases caused by *X.f.* Additional research focuses on agroecology of perennial crop systems, biocontrol and the role biodiversity plays in epidemiology of vectored disease.

Supporting Sustainability, Agroecology and Ecosystem Services in Fruit Production

The Viticulture and Sustainable Fruit Lab takes the principles of sustainable agriculture seriously, integrating them into both its research priorities and outreach initiatives. Staff have received competitive grants to explore grower interest in sustainable viticulture certification programs and have authored fact sheets and newsletter articles focused on sustainable practices in viticulture. Lab personnel are recognized contributors to the broader conversation on sustainability, with invitations to speak at numerous in-state and national industry events centered on sustainable viticulture, agriculture, and perennial crop production.

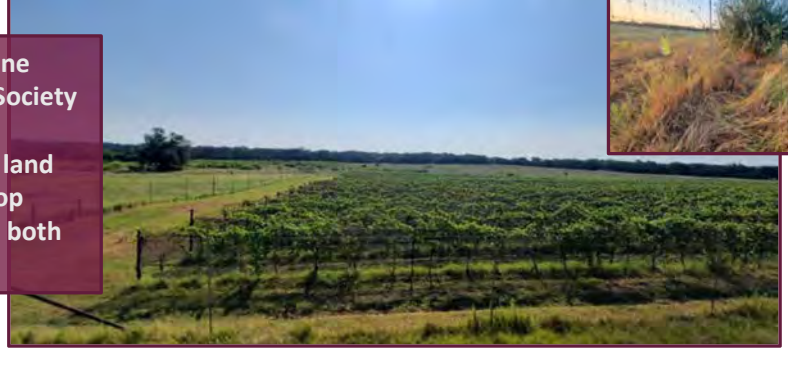
In 2024, the lab partnered with The Nature Conservancy's National Meeting and a local wine producer to host a dedicated session exploring opportunities for sustainable viticulture in Texas.

Beginning in 2023, regional grower meetings were reframed to place greater emphasis on sustainable production, with educational content highlighting practices that support long-term environmental and economic resilience.

Lab staff have supported grower groups seeking access to out-of-state sustainable production certification programs by facilitating the development of formal documents advocating for amendments that would permit Texas growers participation. Jacy Lewis is now serving on the technical committee for the "Path to Sustainability: *One Block Challenge*"

Jacy Lewis rates vines for a bio-control study. 2022

Current research efforts geared toward sustainability include evaluating low-input fruit crops, developing alternatives to chemical weed management, water conservation, evaluating bio-control technologies for Pierce's disease, and assessing the impact of soil amendments on blackberry production. In addition, the lab is pioneering efforts to apply ecological theory to perennial fruit systems, working to develop land management practices that enhance ecosystem services while mitigating the risks of vector-borne diseases such as Pierce's disease.



Jacy Lewis belongs to the cross-discipline Agroecology Section of the Ecological Society of America.
Interests includes understanding how land management decisions in perennial crop systems can be developed to prioritize both productivity and ecosystem services.

Applied Research

From its establishment, the lab has been actively engaged in applied research on a wide range of crops, including wine grapes, table grapes, raspberries, blackberries, figs, pomegranates, strawberries, and pears.

The lab's outreach efforts are deeply connected to its applied research mission. Because our studies are applied and region-specific, they're designed to produce insights that can be taken directly to growers in the field.

While this focus may not align with traditional extramural funding priorities geared toward basic research, it reflects our commitment to practical, grower-focused solutions.

Every study is designed to support informed decision-making to quickly translate research into real-world outcomes.

Chloe Wilson collects yield data for a statewide strawberry trial that the lab cooperated in with Dr. Russ Wallace 2023

Research takes place both on-site and off-site in collaboration with industry partners and academic cooperators, ensuring relevance and practical application.

With its focus on sustainability, the lab prioritizes research focused on developing production systems that are both economically viable and environmentally responsible. This includes work on protected cultivation practices such as high tunnels, low tunnels, and shaded crop production systems. These efforts support season extension, improved crop quality, and reduced environmental impact.

One research priority for the lab is a focus on high-value, small-profile crops well-suited to small-acreage farms. These crops offer meaningful opportunities for diversification and can serve as entry points for limited-resource growers. Trials also emphasize production methods that reduce dependence on chemical pest control, supporting more ecologically sound and resilient farming systems.

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While constrained by available resources, the lab continues to expand its applied research portfolio. Current priorities include the evaluation of new tree fruit varieties such as apricots, peaches, and plums based on regional potential and grower demand. Additional efforts explore novel specialty crops that can be grown sustainably on small acreage to support whole-farm diversification and improve the economic resilience of local, direct-to-market producers.

Applied Research

In wine grape production, two of the most persistent challenges across 3 Texas' growing regions are Pierce's Disease (PD) and Cotton Root Rot (CRR). The lab's work grew out of its foundational role in the Pierce's Disease Task Force and continues to address these major limitations through ongoing research on PD-tolerant and -resistant varieties, evaluation of biocontrol product efficacy, diagnostics development, and exploration of ecological approaches to natural disease suppression.

In response to strong grower demand for previously tested, but unreleased Pierce's Disease–tolerant grape varieties, lab personnel have collaborated with U.C Davis Grape Breeding and Cornell Plant Pathology to produce disease-free propagation material and facilitate their release into the public domain. Building on that success, the lab is now working with the National Clean Plant Network to ensure these varieties are made available as clean, certified nursery stock to support widespread availability to growers.

CRR is a serious pathogen of grapes as well as many other fruit crops. The lab played a critical role in collaborations with the Department of Plant Pathology and Microbiology's student thesis work (Sheila McBride) and FMC®, contributing to the research that brought the first CRR control products to Texas growers; work that supported the state's first 24-(c) special local needs label for CRR management.

Following the expiration of that label and the introduction of a new product formulation, lab **personnel Jacy Lewis and Jim Kamas quickly recognized that the revised label did not include use of the product for control of CRR in grapes. This concern was elevated to FMC®'s product management team**, who took immediate steps to address the oversight. The lab is now actively collaborating with FMC® on new research to support a revised 24-(c) label for CRR control in Texas grape production.

Fig root infected with *Phymatotrichopsis ominvora* collected at the Lab by Jacy Lewis in 2022

Next steps include validating efficacy of labeled rates of flutriafol in other fruit crops including peaches and taking action to request label updates if necessary.

Highlights in Applied Research

Evaluating Efficacy of phage Bio-control for Pierce's Disease.

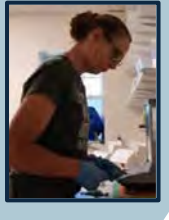
Partnering with FMC to work with regulators to renew approval for a 24-c label to control CRR in Texas Vineyards.

Supporting wine-grape growers with transitions into increased sustainability.

Developing models to incorporate ecosystem services with perennial crop systems to reduce pest pressure and increase sustainability

Understanding and defining a common language to describe Field Tolerance and Resistance

Developing protocols for rapid and accessible *X.f.* subspecies identification



Evaluating effectiveness of passive physical control methods for weed management.

The lab serves as a powerful example of Extension's ability to lead in spaces where community needs outpace institutional traditions. The lab demonstrates what is possible when Extension is empowered to innovate to meet growers and stakeholders needs, with timely, practical solutions backed by research.

Highlights in Applied Research

The lab cooperated with Dr. Russ Wallace on a statewide strawberry trial that resulted in the new Commercial Strawberry Production Guide.

Figs- are a hardy, low-input, high value crop, yet reliable data on variety performance in Central Texas is limited. Ongoing trials at the lab and with grower collaborators are helping to fill this gap, generating region-specific insights to support informed decisions by producers.

Multiple projects in blackberries including evaluation of CRR resistance, quality of thornless and primocane varieties, evaluation of alternative trellis systems and using blackberries as a model system to evaluate the impact of soil amendments in perennial crop systems with Dr. Nicole Wagner Lab Texas State University

Lab-based research has focused on supporting fruit growers by evaluating low input crops selected for diversification, suitability for the growing agritourism industry, extending the production season, and increasing per-acre yields.

Pears are well adapted to the Texas climate, one limiting factor to production is fire blight . Varieties with strong potential for this resistance to fire blight with high fruit quality have been evaluated at the lab.

Development of best practices for production of primocane raspberries in protected cultivation. This represents a new crop opportunity for Texas producers.

As climate variability, shifting markets, and population growth challenge agricultural systems, facilities like the AgriLife Extension Viticulture and Fruit Lab offer scalable, regionally informed answers. They support not just yields and profit margins, but the viability of local agriculture, the resilience of rural communities and the shared stewardship of land and resources.

Value of a Dedicated Facility

While on-farm research provides critical insight, it has inherent limitations. Most growers are not trained researchers and may not be equipped to observe or capture subtle but important data in the early phases of a study.

Studies involving new technologies or production systems often require intensive oversight, particularly early on, to identify and address issues quickly. The need to travel to numerous locations, often at significant distance limits researcher capacity for frequent and consistent observations.

Some trials require the inclusion of "crop destruct," or even "whole plant destruct" phases which serve as disincentives for participation.

Testing of some proprietary and/or genetically modified technologies, or regulated crop protection products may have regulatory hurdles that are difficult to implement on a commercial farm. Some regulatory requirements include, public access limitations, limitations on who can apply products, limits on access to proprietary information or IP, or access to a certified BSL1 laboratory for sample processing and diagnostics required as part of a study.

When unexpected challenges arise, growers understandably must prioritize their own crops and operations. By necessity, research often must take a back seat.

A facility with the capacity to propagate plant material for many of its own studies can dramatically reduce research costs, making it possible to conduct trials that would otherwise be cost prohibitive.

Value of a Dedicated Facility

Often in applied research, where observational data plays a key role, it is ***The thing you notice when you were looking for something else***; **that ends up being *the thing that matters most.*** These opportunities for discovery can only happen when researchers are able to work in close proximity to their studies, following them closely, able to understand the cultural and environmental conditions influencing study outcomes in real time.

Following the freeze injury incurred by the fig trial at the lab in 2021, two important observations were made that impact planting recommendations.

- It was observed that many fig varieties may be root hardy to temperatures much lower than previously believed.
- It was observed that figs (previously believed to not be susceptible to Cotton Root Rot) could in fact be very susceptible following significant injury and under high disease pressure.

A likely variety specific susceptibility to Cotton Root Rot was observed in Blackberries, previously reported to only be mildly susceptible. This has led to valuable insights into trouble shooting poor performing blackberries in commercial plantings and the ability to make variety recommendations to reduce problems associated with this pathogen to growers.

A dedicated facility provides the controlled environment, infrastructure, and continuity needed to carry out high-risk, high input, long term or early-phase studies, ensuring that only well vetted study protocols are brought to farms for the final stage of collaborative testing. This serves as a win/win for researchers and producers.

Professional Collaborators

Collaborations with researchers across the Texas A&M University System and from both within and outside Texas, significantly enhance the depth, scope, and impact of the work conducted at this facility.

These partnerships bring fresh perspectives, complementary expertise, and access to specialized resources that strengthen our research outcomes. Working alongside faculty with diverse disciplinary backgrounds fosters innovation, allows for more comprehensive study designs, and expands the potential for competitive grant funding.

These collaborations also elevate the visibility of our work, helping to position the facility as a key contributor in conversations around perennial fruit crop and viticulture applied research. Most importantly, they ensure that the solutions we develop are not only locally relevant but also scientifically rigorous and broadly applicable.

Dr. Alexandra Kahn- UC Berkely

- *Xylella fastidiosa* ecology
- *Resistance Evaluations*

Dr. Kyle Slusher-AgriLife Extension and Research

- Organic leafhopper control in vineyards
- *X.f.* in insect vectors

Dr. Pedro Uribe- AgriLife Extension

- Xylphi PD®
- *Xylella fastidiosa*
- *X.f. Insect Vectors*

Dr. David Appel- AgriLife Extension Emeritus

- Cotton Root Rot
- Pierce's Disease
- XylPhi PD®

Dr. Russ Wallace- AgriLife Extension Emeritus

- Raspberries
- Strawberries

Dr. Patrick O'Brien- AgriLife Extension and Research

- Grapes/ irrigation and dormancy

Professional Collaborators

Collaborations come in a variety of forms including:

- direct participation in applied research studies
- participation in variety trials
- propagating plant material for research studies
- providing expertise to multi-disciplinary research

Dr. Larry Stein- AgriLife Extension
- Blackberries
- Raspberries
- Olives
- Table Grapes

Dr. Thayne Montague- TTU and AgriLife Research
- Raspberries
- Strawberries
- Grapes

Dr. Nicole Wagner- Texas State University
- Blackberries
- Raspberries
- Soil Amendments

Kirk Williams- Texas Tech University
- Grapes (XylPhi PD®)

Dr. Tim Hartmann-AgriLife Extension
- Figs
- *X.f.* Disease and insect vectors

Stephen Janack- AgriLife Extension
- Pears
- Figs
- Olives

Dr. Monte Nesbitt-AgriLife Extension
- Olives

Dr. Marc Fucs-Cornell AgriTech
- Virus free resistant grape varieties

Dr. Hope Njuki Nakabuye-AgriLife Extension
- Grapes/ irrigation and dormancy

Bob Whitney-AgriLife Extension
- Organic leafhopper control in vineyards.
- Organic fruit and vineyard production

On-Farm Collaborations

There exists within Extension a long history of collaborative on-farm research. This is an invaluable part of any Applied Research program and it represents the trust and partnerships developed between Extension researchers and local stakeholders.

Commonly, this represents a final step in a multi-step, multi-year process of development, trial, and evaluation. We are deeply grateful to the producers who generously offer their time, land, and resources to support this work. Their involvement strengthens our outcomes by building capacity to test innovations and trial cultivars in real-world conditions helping ensure that solutions are practical, scalable, and relevant to the industry.

A special recognition to producers who have been generous enough to provide us with space for on farm trials.

Becker Vineyard	Blackmon Ranch Vineyard	Lewis Wines
Studebaker Farms	Hoover Valley Vineyards	Flat Creek Vineyards
William Chris Vineyards	Farmshare Austin	Singing Water Vineyards
Robert Clay Vineyards	Jenschke Orchards	Frio Canyon Vineyards
Harvest Hill Farm	Vogel Orchards	Hope Full Farm

Stakeholder Voices

"*I really appreciate all of your help… your stakeholders are very lucky to have you*!"
Holly Davis Technical Service Manager FMC®

"*The research, outreach and grower support provided by this program are essential to the success of viticulture in the Texas Hill Country…"The work being done under Jacy Lewis's leadership at the Lab is vital to the advancement of sustainable horticultural practices in Texas."*
Lydia F. Nida Viticulturalist and Co-founder Vine to Vino Consulting and Pebble Rock Cellars

"Jacey Lewis' research is introducing new techniques and possibilities to enhance our production. It would be valuable for this research to continue, with benefits extending beyond our local operations. ..When Jacey is out here you can tell she knows her stuff.."
Russ Studebaker-Studebaker Farms

"..we have worked in cooperation with the Extension Viticulture Lab...and know them to be a reliable and trustworthy resource.."
Bill Blackmon-Founder William Chris Wines and Blackmon Wines

"The research that Jacy Lewis is conducting with shade production is providing new prospects and product possibilities for specialty agriculture."
Barrett Jenschke – Jenschke Orchards

"the TAMU AgriLife Extension Viticulture and Sustainable Fruit Lab has been integral to building the skills of new growers interested in fruit production in Texas."
Michelle Akindiya-Farmershare Austin Education Director

"*The Fruit Lab in Fredericksburg has been absolutely instrumental in building a sustainable wine industry throughout the Hill Country. The dedicated research and support provided by the team there have been vital to our success. Quite simply, the Hill Country wine industry would not be where it is today without the continued work and innovation coming out of that lab. We are deeply grateful for the expertise and commitment of everyone who has been involved."*
Chris Brundrett- Founder William Chris Wine Company

Current Staff

Jacy Lewis- Program Manager and Subject Matter Specialist

Jacy has an M.S. in Biology from TTU and is a PhD candidate in the department of horticultural sciences at TAMU. She has worked for Extension for 21 years in various capacities for the departments of horticultural sciences, entomology and plant pathology.

Jacy moved to the Hill Country from the High Plains in 2009 while working for the AgriLife Pierces Disease Task Force. She currently lives in Blanco with her husband Jim and her 11 year old son Jonah.

After stepping away from her role advocating for children in foster care to focus on her son, she continues to volunteer as a peer mentor for Hand2Hold and is an active advocate for autistic children, adults and their families.

Leslie Pressler- Administrative Coordinator II

Leslie attended Texas A&M University. She has worked for the Texas A&M AgriLife Extension Viticulture & Sustainable Fruit Lab here in Fredericksburg since 2019.

Leslie was raised in College Station, Texas and moved to Fredericksburg in 2004 and married her husband, Michael, a Fredericksburg native, and Fredericksburg Fire EMS Captain. The Pressler's have three sons-Mason, 17, Simon, 15, Weston , 9.

Leslie is an active member of the Friends of Fredericksburg Fire EMS serving as Treasurer. FFFE assists with Department needs when responding to emergencies. Leslie also volunteers with the Gillespie County 4H Stock show.

Chloe Wilson-Farm Manager

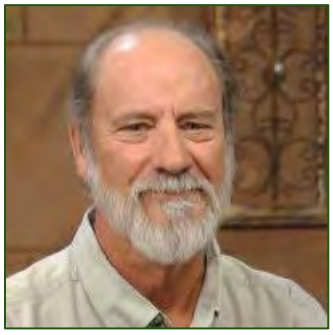
Chloe has a B.S. in Plant and Soil Science from Texas Tech and is currently pursuing a M.S. in Horticulture from Texas Tech. She has worked in the horticulture industry for the last 6 years focusing on ornamentals, tree care, flower farming, and fruit. She has worked for TAMU for the last 2 years.

Chloe grew up in Falls City ,Texas on a small cattle farm. Farming has always been in her life and her future goals include owning her own flower farm.

She recently moved to Fredericksburg with her cat, Scarlet, after living in San Antonio for the past 6 years.

Recent Staff

Jim Kamas- Associate Professor and Extension Specialist Retired



Jim Kamas served as an Associate Professor and State Extension Fruit and Viticulture Specialist with AgriLife Extension and the Department of Horticultural Sciences for over 28 years and retired in 2024. During his tenure, Jim provided dedicated support to wine-grape growers and fruit producers across Texas through extensive extension outreach and applied research initiatives. His efforts significantly supported the laboratory both directly and indirectly through funding obtained for sponsored research and by helping to secure major private contributions that advanced the lab's outreach and research capabilities.

Brianna Crowley- Program Specialist Viticulture

Brianna Crowley served as a Program Specialist with AgriLife Extension for 6 years, during which time she became a skilled viticulturist. She leveraged her strong background in plant pathology to support applied research and outreach efforts for growers. Brianna’s hands-on approach and dedication to field viticulture proved to be a valuable asset to both the program and Central Texas stakeholders. In 2024, she drew on these strengths to transition to private industry, where she now works as a Technical Winegrowing Analyst.

For just over 12 months, the lab has operated with a single subject matter specialist (Jacy Lewis) following the resignation and retirement of two long-serving team members last summer. Although this staffing change has temporarily limited our capacity for outreach and applied research, we remain fully committed to the mission of Extension.

At the lab we are proactively maximizing our available resources to ensure that our stakeholders continue to receive high-quality applied research, personalized outreach, and impactful educational programming.

A Cohesive Team with a Shared Vision

The success of this program relies on a cohesive, cross-trained team, working together toward shared goals. The importance of teamwork in a facility like this cannot be overstated. Historically, the lab has benefited from staff who value collaboration and who are committed to fulfilling the Extension mission through a shared commitment to educational outreach and applied research.

Leslie and Jacy work together to install bird netting in the orchard . 2021

As the pace of regional growth in viticulture and fruit production accelerates, meeting needs for timely, high-quality programming demands the active, coordinated efforts of all lab personnel. The lab's growing impact has been built on the complementary strengths of a fully engaged, five-person team. When every role is filled with invested team members, the lab is able to meet its full potential.

Leslie works with the team to install new cooling pads in the greenhouse after the return to work. 2020

Operating largely as a self-sufficient unit without dedicated support staff , the lab requires every team member to contribute across all aspects of facility management. This includes not only attention to individual core responsibilities, but also support in cleaning, maintenance, and groundskeeping.

A Cohesive Team with a Shared Vision

Laboratory staff pool resources and work as a team in preparing and delivering regional and statewide educational programs, organizing field days, and conducting on-site work in the vineyard and orchard, as well as in plant propagation, pest management, and field and lab-based research.

Every member of the team—from subject matter specialists and administrative staff to the farm manager—is WPS pesticide handler certified and trained to work in a BSL-1 laboratory environment.

Jim Kamas tags vines for a study in Mason TX 2021

This universal level of training and commitment ensures the lab can function efficiently, safely, and effectively with limited personnel and resources.
This kind of cooperation is essential to the continued success of a small but impactful facility. Without it, the integrity and productivity of the program would be compromised.

Bri works with summer staff to install the second raspberry trial in 2019

Leslie, Mason, David, Chloe, and Brianna work with Jacy at a field trial in Comfort TX 2024

Financial Story

Historically, the Viticulture and Sustainable Fruit Applied Research Program Lab has sustained its operations through a diverse but carefully balanced combination of funding sources. These include:

- **Senate Bill 881 allocations**, which **provide $50,000 annually** in baseline operational support. These funds are utilized for costs such as the land lease, utilities, general maintenance and repairs for the primary building, storage buildings and 3 greenhouses, office and farm equipment and consumable building supplies including cleaning and hygiene products, and infrastructure and research costs related to the vineyard.
- **Restricted and unrestricted gifts** from individual donors, industry groups and foundations who support the mission and long-term goals of the lab; A large percentage of our total operating funds come from these sources.
- **Sponsored research funding**, secured through competitive grants and industry partnerships that enable the lab to pursue applied research addressing critical challenges faced by Texas growers.
- **Program-generated revenue**, including educational events and in previous years revenue from sell of pest management guides.
- **Institutional support from AgriLife Extension**, including partial coverage of staff salaries and a one-time infrastructure investment in 2021 that funded extensive repairs to the lab's greenhouses, shade structures, and HVAC system following storm damage.

This blended funding model has enabled the lab to remain solvent and productive, even as operational costs have risen significantly over the past decade. However, the static nature of state appropriations and the episodic timing of donor and sponsored research support continue to constrain long-term planning and expansion.

Sponsored Research

FY 2025

The lab is currently operating with a single sponsored research project:

- Efficacy studies of the biocontrol agent Xylphi PD® renewed for the 5th season in 2025.

Unfunded Proposals include:

- Precision seasonal irrigation management strategies for improved cold hardiness, dormancy regulation, and water use efficiency in Texas High Plains vineyards
- Texas Commercial Crush Report and Vineyard Production Survey for Crop Years 2024 and 2025
- Development of Economically Sustainable Raspberry Production Best Practices for Texas Specialty Crop Producers
- Evaluation of Trap Crops and Insecticides to Manage Pierce's Disease Vectors in Grapes

Submitted awaiting decisions:

- Characterization of subspecies of *Xylella fastidiosa* in insect vectors and host plants in 3 Texas growing regions.

FYs 2012 -2024

Laboratory personnel secured over **$1 million** in sponsored research during this time.

Notable Projects include:

- Identifying Superior PD resistant varieties and root stocks
- Nutrient and Management Practices to improve growth and sustainability of Olive Trees in Texas
- Feasibility studies for use of Flutriafol and Rootstocks to control Cotton Root Rot.
- Exploring a Sustainable Production Certification Program for Texas Winegrape Growers
- Evaluation of traditionally bred Vitis germplasm in PD prone regions of Texas
- Evaluation of environmental screens for hail and frost protection in Texas vineyards
- Efficacy Study for Phage BioControl Product in high pressure Texas vineyards
- Role of Flutriafol in management of GVTD's

While opportunities for funding in applied agricultural sciences are limited it is an area where we would like to grow. We are developing partnerships with researchers in other departments, institutions, non-profits and in the private sector to aid in achieving this goal.

Program Gifts

We are deeply grateful to the donors whose support has made our work possible. The individuals and organizations who have contributed to this program are too numerous to name. The mission-driven work at this facility would not be possible without the generosity of multiple stakeholders.

We would like to show special recognition to these major contributors to our program

A cornerstone of the program's development has been the generous support from **Frio Canyon Vineyards** and the **Amy and Tim Leach Foundation**, whose support made possible the purchase of the Viticulture and Sustainable Fruit Applied Research Laboratory, as well as annual discretionary funding for its operations. These yearly gifts sustained the lab's core activities including applied research in viticulture and fruit crops until the retirement of Jim Kamas in 2024. Thanks to this support, the lab was able to carry out a full scope of research in both small fruit and tree fruit production, while also expanding applied research and Extension outreach in viticulture.

Area wine grape growers have always supported our facility and research initiatives through on farm grower partnerships, individual contributions and hosting fundraising events. When the lab experienced a budget shortfall in its establishment years, **Texas Hill Country Wineries** assisted the lab in raising over 60k dollars to bridge the gap.

A generous contribution from the **Andrew McGowen and the Floyd and Elizabeth McGowen Foundation** has supported the expansion of our raspberry production research across multiple sites in Texas. While research is ongoing, it has already resulted in AgriLife Extension's first fact sheet on raspberry production and multiple educational talks across the state. Additional outputs are anticipated, including presentations at professional meetings and the submission of peer-reviewed journal articles. The most impactful part of this study is the direct role it is playing in expanding opportunities for production of a new crop for area fruit growers, including non-profits focused on food security.

The Wine & Food Foundation has supported the lab with multiple generous gifts of unrestricted funds in support of the lab's programs.

Strategic Value and the Path Forward

Funding opportunities in applied agricultural sciences are limited, this represents a key area for growth. We would like to expand existing applied research programs, initiate new studies and increase community outreach.

Long term goals include working with existing and perspective producers to grow and expand the fruit and agritourism industry in Texas while continuing to support the growth and development of the Texas wine industry.

- **Take a leadership role in interdisciplinary and interinstitutional partnerships** to broaden the relevance and appeal of our work to a wider range of funding agencies.
- **Align proposals closely with stakeholder priorities** by tailoring research goals to directly address current challenges in sustainability, changing markets, climate resilience, and food systems.
- **Leverage pilot data generated through donor supported studies** to create competitive grant applications that demonstrate proven impact and feasibility.
- **Increase collaboration with industry stakeholders** to identify co-funding opportunities and ensure real-world applicability.
- **Pursue smaller, targeted grants** as stepping-stones to build a track record of success with applied research funding.
- **Engage with philanthropic foundations** interested in sustainability, food security, and rural development.
- **Showcase success stories** from the lab to demonstrate our impact to potential funders and policy makers.
- **Continue to develop applied research and outreach programs** in sustainable viticulture practices to support the needs of our growing wine industry.
- **Expand small fruit and tree fruit trials and studies** to support the developing agritourism industry in the Texas Hill Country and statewide.

Texas A&M AgriLife Extension

Viticulture and Fruit Lab

Texas A&M AgriLife Extension

Author contact: jacy.lewis@ag.tamu.edu or jacyllewis@tamu.edu: 806-789-9356

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