



**Southwest Center**

FOR AGRICULTURAL HEALTH, INJURY PREVENTION, AND EDUCATION

# ANNUAL REPORT

- 2023 / 2024 -



# CENTER SUMMARY

The Southwest Center for Agricultural Health, Injury Prevention, and Education (SW Ag Center) is nestled in the piney woods of East Texas at The University of Texas at Tyler Health Science Center. The SW Ag Center serves Public Health Region 6 which includes Arkansas, Louisiana, New Mexico, Oklahoma, and Texas. The mission of the SW Ag Center is to improve the safety and health of agricultural, forestry, and fishing (AgFF) workers. This is accomplished through research, intervention, and education projects that build and leverage a network of strategic partners who represent the workforce and range of agricultural production in the region.

Center Theme: Leveraging strategic partnerships to advance best practices that promote and protect the health and safety of AgFF populations.

The Center is composed of an experienced leadership team, dedicated staff, and regional advisors in an organizational structure that facilitates a cohesive, coordinated, and synergistic operation. Experienced researchers are leading six projects; three of which build upon prior research. The Center's impact is magnified by a feasibility studies program and outreach core that augment the funded scope of work and are responsive to emerging issues. The Center's feasibility studies program enhances research projects, supports mentorship relationships between senior and junior researchers, and directs resources to emerging issues within AgFF in the region. Outreach activities include the development of new resources, presentations, structured safety and health communication, cross center collaborations, and capacity building through outreach mini grants. The Center supports an agricultural safety and health intern each summer as well as graduate students and occupational medicine residents through practicum and capstone projects. Moreover, Center leadership actively engage in rural medical student education workshops and coursework which focus on the health and wellbeing of agricultural families and workers. Research and outreach are guided and improved by an integrated evaluation program that uses interconnected logic models and contribution analysis to assess goal attainment.

# LEADERSHIP

SW Ag Center leaders represent four organizations across three states. The members of this multidisciplinary team contribute to regional and national interest groups to guide agricultural occupational safety and health.



Vanessa Casanova, PhD  
UT Tyler Health Science Center  
Center Director



David Douphrate, PhD  
Texas A&M University  
Deputy Director



Jeffrey Levin, MD, DrPH  
UT Tyler Health Science Center  
Senior Advisor



Sharon Newbill, PhD  
Folkstone Anthropology  
Center Evaluator



Kevin Moore, PhD  
Oklahoma State University  
Pilot Studies Program



Eva Shipp, PhD  
Texas A&M University  
Outreach Core



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UT Tyler Health Science Center  
Program Manager



Jesus Sanchez  
UT Tyler Health Science Center  
Outreach Education Coordinator

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Contact information is listed at the end of this report.

# ADVISORS

The SW Ag Center's **Regional Advisory Committee (RAC)** is comprised of eight professionals who represent six states and numerous disciplines across agriculture, forestry, logging, and commercial fishing. RAC members provide strategic guidance to researchers and Center leadership at bi-annual board meetings.

- Chair: Tim Struttman, MSPH, Wabee Farm LLC | NC
- Jennifer Conner, DrPH, MPH, MAP, American Heart Association | SW Region
- Knesha Rose Davison, MPH, AgriSafe Network | LA
- Cornelis de Hoop, PhD, Louisiana State University Ag Center-Forest Products Center | LA
- Robert Hagevoort, PhD, New Mexico State University-Dairy | NM
- Matt Nonnenmann, PhD, University of Nebraska Medical Center | NE
- Mark Shirley, MS, Louisiana State University Ag Center- Marine | LA
- Robert Williams, CSP, Noble Research Institute | OK

At the beginning of the next fiscal year, five members will retire after 15+ years of service and the Center will welcome four new members: Alan Cook, MD (TX), Haley Gambill (LA), Allen Farley (AR), and Frannie Miller, PhD (NM).

**THANK YOU FOR 15+ YEARS OF SERVICE!**

Tim Struttman  
Cornelis de Hoop  
Robert Hagevoort  
Matt Nonnenmann  
Mark Shirley

The Outreach Core established the **Extension Advisory Team (EAT)** to provide feedback on outreach priorities and to assist with regional education and product dissemination. There are currently fourteen members on the EAT who represent cooperative extension offices in all five states in the SW Ag Center's region.

- Jordan Voges | TX
- Janelle Duffey | TX
- Skyler Shively | TX
- Miquela Smith | TX
- Mackenzie Thomas | TX
- Andrew Lewis | TX
- Ron Gill | TX
- Jim Rhodes | OK
- Anna Timmerman LA
- Cathy Agan | LA
- Johnny Gunsaulis | AR
- Rick Wimberly | AR
- Jessica Swapp | NM
- Talisha Valdez | NM

# RELEVANCE

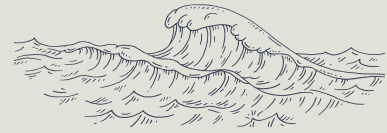
The SW Ag Center region boasts rich agricultural production with 384,400 farm operations, over 81 million forested acres, and 11,000 miles of coastline. The Center's research and outreach reaches into every state in the region and addresses worker groups across agriculture, forestry, logging, and commercial fishing. Research projects for the 2022-2027 cycle are focused on organic dust in confined animal feeding operations (organic dust exposure), large herd dairy farms, commercial fishermen, grain handling facilities, loggers, and motor vehicle crash surveillance.



81 million forested acres



384,400 farms



11,000 miles of coastline

## Build Capacity | Expand Reach

Feasibility studies provide a pathway for investigators to gain experience and gather pilot data that supports future research. The studies funded in 2023-2024 aimed to (1) reduce musculoskeletal disorders among nursery workers by implementing the Stay Strong, Stay Healthy exercise program, (2) understand the pathophysiological mechanisms mediating organic dust induced brain disorders, and (3) determine the effectiveness of virtual reality-based educational technology in a tractor and machinery safety course. The SW Ag Center continues to partner with the Southwest Center for Occupational and Environmental Health to host an annual research symposium to highlight the work of our feasibility study PIs.

Outreach activities address a wide range of issues through Monthly Safety Blasts, e-newsletters, social media posts, presentations, exhibits, trainings, educational materials, internships, practicum experiences, and mini grants. In 2023-2024, the SW Ag Center initiated slow moving vehicle (SMV) emblem distribution, attended 39 events, and awarded four outreach mini grants.



Keynote speaker for the Extreme Weather Convening organized by SPROUT NOLA with support from the SW Ag Center Outreach Mini Grant program.



# RESEARCH

The SW Ag Center region includes robust agricultural, forestry/logging, and commercial fishing enterprises. Research projects not only reach into each of those work sectors, but also address at-risk populations, including fishermen, dairy workers, and aging operators. The SW Ag Center’s research portfolio includes basic science (B), intervention (I), translation (T) and surveillance (S) projects. A summary is provided below.

## PROJECT SUMMARY

Project	Principal Investigator	States Covered
Role of Bacterial Extracellular Vesicles from Organic Dust in Lung Inflammation (B)	Vijay Boggaram, PhD, University of Texas at Tyler Health Science Center	Regional
Characterization and Comparison of Worker Health Status on Western US Dairy Farms (B)	David Douphrate, PhD, Texas A&M University School of Public Health	New Mexico, Texas
<b>New Supplement</b> H5N1 Worker Training Development, Delivery and Evaluation (T)	David Douphrate, PhD, Texas A&M University School of Public Health	Regional
Addressing Health Concerns among Commercial Fishermen by Implementing a Community-Based Intervention (I)	Shannon Guillot-Wright, PhD, University of Texas Health Science Center at Houston School of Public Health	Louisiana, Texas
Impact of Safety Climate on Respirator Use in Grain Handling Facilities (I)	Kevin Moore, PhD, Oklahoma State University	Oklahoma, Texas
Hearing Conservation for Loggers (T) (funded for 2025-2027)	Vanessa Casanova, PhD, University of Texas at Tyler Health Science Center	Arkansas
Integrating Motor Vehicle Crash and Injury Data in AgFF Surveillance and Research (S)	Eva Shipp, PhD, Texas A&M University School of Public Health	Regional

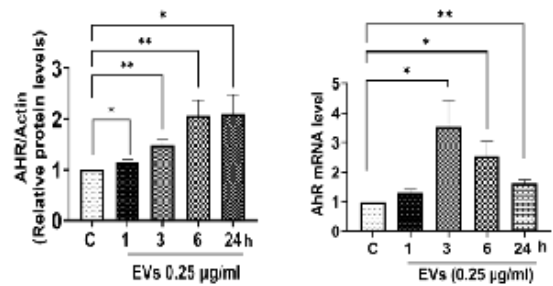
# Role of Bacterial Extracellular Vesicles from Organic Dust in Lung Inflammation

PI: Vijay Boggaram, PhD

University of Texas at Tyler Health Science Center

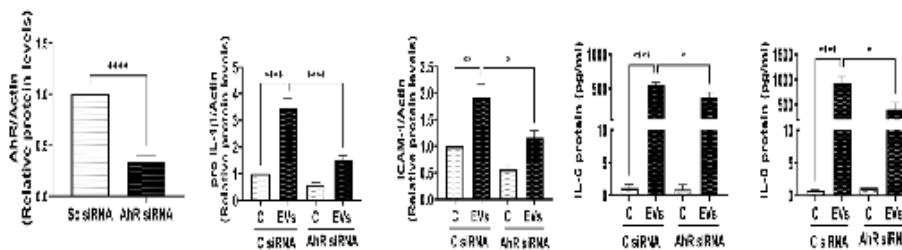


Aryl hydrocarbon receptor (AhR) is a cytosolic transcription factor and a receptor belonging to basic helix-loop-helix Per-Arnt-Sim (bHLH/PAS) family of transcription factors. It is activated by environmental chemicals, bacterial, and mammalian metabolites. The team found that bacterial extracellular vesicles isolated from poultry organic dust (hereafter referred to as dust EVs) increased AhR nuclear translocation and increased AhR protein expression in Beas2B bronchial epithelial cells. Increase in AhR protein expression was found to be due to an increase in AhR mRNA levels (Fig. 1).



**Fig. 1. Dust EVs increase AhR protein and mRNA levels in Beas2B bronchial epithelial cells.** Cells were treated with dust EVs for 24 h, and AhR protein and mRNA levels were measured by western blotting and real-time qRT-PCR, respectively and normalized to actin levels. Data shown are mean  $\pm$  SE (n = 3). \*p < 0.05 and \*\*P < 0.01.

Chemical inhibitors targeting NFkB (BAY 11-7082) and Stat3 (stattic) reduced increase of AhR indicating that NFkB and Stat3 activation control induction of AhR. NADPH oxidase (NOX) 1/4 dual inhibitor GKT137831 decreased dust EVs increase of AhR protein levels indicating the involvement of NOX derived ROS in the increase. TLR2 inhibitor CuCPT and TLR2 knockdown by siRNA transfection reduced dust EVs induction of AhR protein levels. Collectively, the findings point to a cell pathway, TLR2 - NOX (ROS) - NFkB/Stat3 mediating increase of AhR protein levels by dust EVs.



**Fig. 2. AhR is a positive mediator of induction of inflammatory mediators in Beas2B cells by dust EVs.** AhR protein levels were reduced by siRNA transfection and cells were treated with dust EVs (0.25 µg/ml) for 24 h. Levels of proIL-1 $\beta$  and ICAM-1 proteins were measured by western blotting and levels of IL-6 and IL-8 proteins were determined by ELISA. proIL-1 $\beta$  and ICAM-1 protein levels were normalized to actin. Data shown are mean  $\pm$  SE (n = 3). \*P < 0.05, \*\*P < 0.01 and \*\*\*\*P < 0.0001.

The team determined AhR's role in dust EVs induction of inflammatory mediators by investigating the effects of AhR knockdown. Reduction of AhR protein levels by siRNA transfection caused significant decreases in pro-IL-1 $\beta$ , ICAM-1, IL-8 and IL-6 protein levels induced by dust EVs indicating that AhR plays a positive role in the induction (Fig. 2). Additionally, AhR knockdown reduced reactive oxygen species (ROS) levels in cells treated with dust EVs (data not shown) suggesting that AhR may mediate induction of inflammatory mediators via oxidative stress. Our findings have indicated that AhR is an important regulator of induction of inflammatory mediators by dust EVs. AhR gene knockout mice are being bred to investigate AhR's role in the induction of lung inflammation by dust EVs.

# Characterization & Comparison of Worker Health Status on Western US Large Herd Dairy Farms

PI: David Douphrate, PhD  
Texas A&M University



Maintaining a healthy workforce is vital for ensuring large-herd dairy farm sustainability. Agricultural workers face multiple health challenges due to a myriad of factors. The identification of worker health needs and healthcare delivery mechanisms are paramount. Utilizing a Total Worker Health® approach, the team will characterize the health status of workers on large-herd dairy farms in the western U.S. (Aim 1), which will include: the identification of job factors associated with health status of dairy farm workers; an estimation of COVID-19 prevalence and experiences among dairy farm workers; and a determination of on- and off-farm healthcare service delivery priorities, access barriers, feasibility, and utilization among dairy farm workers. The PI will also estimate prevalence of cardiovascular, renal, and musculoskeletal risk factors among dairy farm workers by utilizing point-of-care biometric testing during on-farm health risk screening events (Aim 2). Project researchers will assess healthcare utilization among participants referred to local health care providers due to identified health risks during on-farm health risk screenings. Lastly, Dr. Douphrate and his team will evaluate on-farm health risk screening satisfaction and benefits among dairy workers (Aim 3).

During the second year of the five-year project, the research team continued with survey administration to dairy farm workers. Additionally, the research team began on-farm health risk screening data collection. Health screenings include BMI estimation, blood pressure, diabetes (A1C) and kidney function (eGFR), behavioral, and musculoskeletal screenings. To date, a total of 225 surveys have been administered and 135 health screenings have been performed.

Deliverable	Completed				
Intake questionnaire	225				
Health screening	135				
Satisfaction questionnaire	65				
Follow-ups	4				

## Quotes from participants (collected during satisfaction questionnaire):

*“Very good, I feel like it’s necessary to check yourself, but sometimes we have barriers like cost, time, or excuses. It’s important.”*

*“The good thing is that you meet us at work, and it benefits all of us. Good program.”*

*“I loved all the one-to-one attention and how fast all the tests were.”*

*“I think this was needed on the farm. We don’t have time to go to the doctors, so this was perfect.”*

*“Really liked how friendly the staff was with me. Felt comfortable.”*



# EMERGING ISSUE

A new development took place during the second year of the cycle. In March 2024, USDA confirmed High Pathogenic Avian Influenza (HPAI) H5N1 virus infection in dairy cows for the first time. Since May 2024, multiple human cases have been confirmed among dairy workers in multiple states. Since the outbreak of H5N1 among U.S. dairy farms, worker health and safety training resources have been limited to educate workers on how to identify the symptoms of H5N1, as well as how to protect themselves and their families from being exposed to H5N1. The research team at Texas A&M University School of Public Health has been involved in the H5N1 response, meeting with producers as well as dairy associations regarding response measures. Due to the current dairy worker research focus, as well as a multi-year history of working with dairy producers, supplementary funding has been awarded to the SW Ag Center and Dr. Douphrate's research team to develop, deliver and evaluate H5N1 training vignettes to more effectively inform dairy workers on the hazards associated with avian influenza.

## NEW FUNDING FOR H5N1

PI: David Douphrate, PhD



# Addressing Health Concerns among Commercial Fishermen by Implementing a Community-Based Intervention

**PI: Shannon Guillot-Wright, PhD**

**University of Texas Health Science Center at Houston**



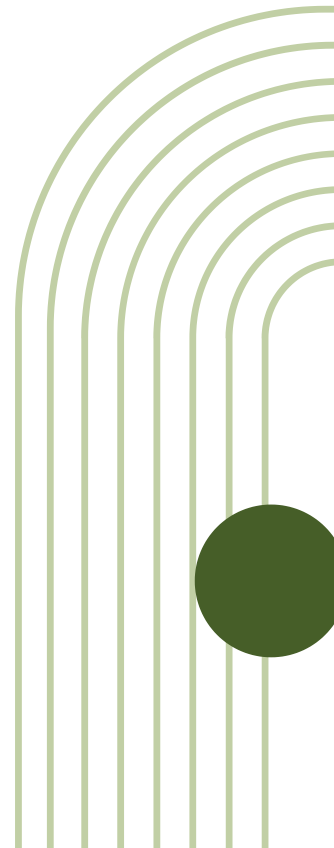
Despite the known dangers for waterfront workers, little has been done to address their access to primary health care, behavioral health, and social needs (i.e., food insecurity). To address this gap in knowledge and action, Dr. Guillot-Wright and her team piloted a free mobile health clinic (i.e., Docside Clinic™) in Galveston, Texas beginning in 2021. The clinic has had over 1000 patient encounters and received funding from the SW Ag Center to expand into Port Arthur, Texas and Abbeville, Louisiana. After conducting interviews and analyzing the needs of fishermen in Port Arthur and Abbeville, the team partnered with a locally owned and operated Dock, Federally Qualified Health Center (FQHC), food bank, and the US Coast Guard, as well as UTHealth's Center for Violence Prevention and Occupational Health Residency Program to provide fishermen in Port Arthur with vaccinations, medicine, food, first aid kits, first aid wilderness guides, and hygienic items, as well as services for psychological health and substance misuse. To date, two clinics have taken place in Port Arthur, with a monthly schedule established to provide continuity of care. After only two clinics at the Port Arthur docks, over 70 fishermen were reached and the community has demonstrated active participation. Future plans include replicating the clinic in Abbeville, but tailored to their specific needs and communities, as well as surveying Port Arthur and Abbeville participants to ensure the clinic is meeting their long-term physical, health, and social needs.



## MENTORING SPOTLIGHT

An occupational medicine resident from UT Health Science Center will work with Dr. Guillot-Wright and her team to assist in the Docside clinics to better understand public health service delivery.

Volunteers serving commercial fishermen at a Docside clinic.



# Impact on Safety Climate on Respirator Use in Grain Handling Facilities

**PI: Kevin Moore, PhD**  
**Oklahoma State University**



Grain workers are particularly vulnerable to respiratory diseases due to their consistent exposure to organic dusts, which can lead to a range of health issues, including chronic bronchitis, occupational asthma, and hypersensitivity pneumonitis. Despite the recognized hazards and the implementation of safety regulations, many workers in the grain industry continue to face significant challenges in using respiratory protection effectively. A concerning gap exists in the adherence to safety protocols, with many companies lacking comprehensive respiratory protection programs and proper training. This issue is compounded by the physically demanding work environments, which discourage the use of respirators, especially in hot conditions. Moreover, the safety climate within these organizations plays a critical role in shaping employee behaviors and attitudes towards safety practices. This project is driven by the long-term goal of developing intervention programs aimed at increasing respirator use among grain workers to improve their safety and health outcomes.

The objective of this project is to assess how safety climate within commercial grain handling facilities in Texas and Oklahoma influences workers' behaviors concerning respiratory protection. The study is structured around three specific aims: (1) to evaluate corporate values and policies related to safety and respiratory protection; (2) to explore worker motivations and behaviors concerning respirator use; and (3) to measure and correlate worker motivations and safety climate with actual respiratory protection practices. By examining the dynamics between corporate policies, supervisory practices, and worker behaviors, this research seeks to identify barriers to effective respirator use and provide insights for developing targeted interventions.



Grain handling facility

In the past year, we have focused on building our research team and gathering data on the grain handling companies operating in Oklahoma and Texas. We have identified approximately 80 companies operating 300 facilities in these states. Storage capacities range from 45,000 bushels to several very large facilities with more than 7 million bushels of capacity. To more evenly distribute the number of facilities in each of our analysis categories we will likely redefine our facility sizes as: large companies (more than 1.0-million-bushel capacity), medium companies (0.5-1.0-million-bushel capacity), and small companies (less than 0.5-million-bushel capacity). We have also found that with the exception of large facilities, grain storage facilities have very little online presence. This will limit our evaluation of espoused values to the largest companies, which tend to have a presence nationally. These findings will inform the next stage of our project as we begin holding focus groups and interviews to explore the relationship between safety climate and use of respiratory protection.

# Integrating Motor Vehicle Crash and Injury Data in AgFF Surveillance and Research

PI: Eva Shipp, PhD

Texas A&M University



This project builds on the Southwest Agricultural Crash Surveillance System (SW AgCrash) by extending the regional crash database (AR, LA, NM, OK, TX) and developing metrics to assist in monitoring of fatal and nonfatal injuries in AgFF workers in this region. Given widely recognized limitations of traditional occupational injury reporting systems, the overarching goal of this project is to improve the surveillance of injury events involving motor vehicles both on and off the public roadway in the southwest region. Methods include traditional biostatistics, free-text analytics, including machine learning methods, and stakeholder capacity building approaches. The database currently houses over 9.5 million records (2005-2023 depending on the state). Over 10,500 of these records are farm or logging related based on fields in the structured data. In the current reporting period, the team maintained the public-facing fatality AgFF dashboard that covers the entire U.S. and presented it at the NIOSH NORA Agriculture, Forestry, and Fishing Sector Council meeting. The team also constructed a restricted-use dashboard for events of all crash severities. The team presented its work on a new methodology for auto-analyzing crash narratives for injury indicators. Results were presented at the 2024 Association of Transportation Safety Information Professionals Traffic Records Forum in San Diego, CA.

In the last reporting period, the largest accomplishment was the progress made updating models to identify factors associated with higher severity crashes. Preliminary findings are available for Texas for the period from 2010 to 2023. A total of 927 crashes for events involving one log truck and an additional motor vehicle were analyzed using multiple logistic regression. About 20% of these multi-vehicle crashes resulted in at least one nonfatal injury or fatality. Selected factors associated with these higher severity crashes included the following variables: dark/dusk/dawn lighting condition versus daylight (OR=2.10; 95% CI: 1.36-3.24), lack of restraint for the log truck driver (OR=2.23; 95% CI: 1.07-4.61) or other driver (OR=2.18; 95% CI: 1.05-4.55), collision type of rearend (OR=2.09; 95% CI: 1.03-4.24), left turn (OR=4.01; 95% CI: 2.10-7.65), or angle (OR=5.19; 95% CI: 2.55-10.55) versus sideswipe, and a speed related issue for the log truck driver when the posted speed limit was  $\leq 55$ mph (OR=4.46; 95% CI: 2.13-9.32) or 60+mph (OR= 6.08; 95% CI=3.08-11.97) versus no drivers with a speed-related issue on a  $\leq 55$ mph roadway.



Farm equipment and log truck on the roadway.

# FEASIBILITY/PILOT STUDIES



During the second year of the program, two 12-month projects and one 6-month project were funded, engaging principal investigators (PIs) with varying levels of experience in agricultural safety and health research.

## Effects of Organic Dust Inhalation on Neuroinflammation

PIs: Yanyan Wang, PhD, University of Texas at Tyler



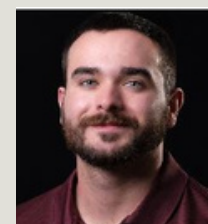
Vijay Boggaram, PhD, University of Texas at Tyler Health Science Center



This project aims to determine the effects of organic dust inhalation on neuroinflammation in mice. Agricultural workers in concentrated animal feeding operations, such as poultry farms, are at risk of exposure to high levels of airborne dust. Inhalation of organic dust is associated with respiratory symptoms and diseases, and the resulting inflammation may also impact other organs, including the brain. Currently, no studies have examined the effects of poultry farm dust inhalation on brain inflammation and neurological dysfunction. This study aims to uncover whether organic dust from agricultural sectors can induce brain inflammation and contribute to impaired neuromotor functions in mice. If links are established, the findings could offer crucial insights into the impact of organic dust inhalation on cognitive and neuromotor impairments in agricultural workers.

## Staying Strong on the Job: A Study of Exercise Benefits and Beliefs in Agricultural Workers

PI: Nicholas Spokely, PhD student, Oklahoma State University



This project aims to reduce musculoskeletal disorders among nursery workers by implementing the Stay Strong, Stay Healthy (SSSH) exercise program. SSSH, an eight-week program designed to enhance muscle strength, flexibility, balance, coordination, and sleep quality while reducing fall risks, has shown promising results among senior populations. This pilot study seeks to assess the program's effectiveness in a younger cohort within an agricultural work environment.

## Pilot Test of a Virtual Reality-Based Tractor Safety Training

PI: Justin Pulley, PhD, Tarleton State University



Dr. Pulley's project focuses on applying virtual reality (VR) technology to enhance youth tractor training. Student participants are divided into two groups: one group receives the standard classroom and hands-on training, while the other group undergoes a tractor driving VR simulation in addition to the standard training. The driving and skills test scores of both groups will be compared to evaluate the effectiveness of the VR-enhanced training activity.

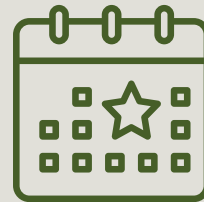


# OUTREACH

The Outreach team employed an array of marketing strategies to connect with AgFF audiences throughout the region. Among the 39 outreach events, 22 engaged new audiences, including women's groups, livestock associations, commodity groups, 4-H, and FFA. These new audiences represent an expansion of the network of strategic partners. The Center was directly contacted and invited to 21 events, a testament to its growing visibility and the trust it has garnered within the region.

The SW Ag Center continued its regular communication through monthly safety blasts, bi-annual e-newsletters, and social media posts.

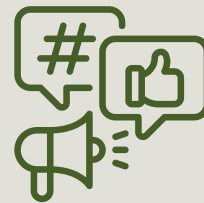
Over the past year, SW Ag Center staff led the NIOSH Ag Centers' ECO (evaluators, coordinators, and outreach personnel) group through bi-monthly meetings and communication with the funding agency. Center personnel also participated in the AgriSafe Board of Directors, Texas and New Mexico AgrAbility Advisory Boards, ISASH Interest Groups, Progressive Agriculture Foundation Advisory Board, International Commercial Fishing PFD Working Group, ROPS Safety Initiative, and multiple NIOSH Sector Councils.



39 outreach events



28,500+ people reached



78 social media posts



7,000+ materials distributed



# CAPACITY BUILDING SUPPLEMENT

The SW Ag Center's Outreach Program was awarded a supplement to offer occupational safety and health research experience to a budding professional. Adriana Rincones holds a bachelor's degree in occupational therapy and master's degrees in strategic foresight and public health. With over 14 years of experience in environmental and occupational health and safety, Adriana dedicated the last 12 months to building her skillset in data analysis. Adriana analyzed the data collected through a needs assessment. She thoroughly cleaned the data and applied multiple rounds of exclusion criteria. Descriptive statistics were employed to summarize demographics, occupations, and industries. A tally matrix was used to identify priority health and safety concerns, available resources, preferred platforms, common injuries, and safety implementation. The needs assessment data offered valuable insights into health and safety topics, strategies, and platforms that are preferred by respondents. This information will serve as a roadmap for the SW Ag Center to continue enhancing its research, educational programs, and communication strategies. Adriana was mentored by Center Director, Vanessa Casanova, PhD, and Center Evaluator, Sharon Newbill, PhD.

## *SUPPORTING FUTURE OCCUPATIONAL SAFETY & HEALTH PROFESSIONALS*



Vanessa Casanova, PhD  
and Adriana Rincones

“During this project, I was part of an exceptional team that worked collaboratively to support and mentor me all the time. Their mentorship has been invaluable, especially in areas where I needed to strengthen my skills, such as conducting research and writing scientifically. I honed my ability to clean and analyze data. I also gained valuable insight into the importance of clearly defining objectives, which played a crucial role in designing a survey that efficiently addressed the needs and concerns of agricultural workers. This experience has expanded my knowledge and skills in research methodology and enhanced my ability to communicate and engage with workforces effectively.”

-Adriana Rincones



## REACHING FARTHER

Doug Simemrman, retired ag teacher and former mayor of Cumby, Texas, enthusiastically serves as an outreach consultant for the SW Ag Center. He walks the walk and talks the talk while bringing safety and health messages directly to producers and educators.

### 2023-2024 Events

- Ag Technology Conference | TX
- Joint Stockman Conference | NM
- Cattleman Convention | LA
- Four States Ag Expo | TX
- Fannin County Livestock University | TX
- Texas & Southwestern Cattle Raisers Convention | TX
- Independent Cattleman's Convention
- Sheep & Goat Raisers Convention | TX
- Ag Teachers Association of Texas Conference | TX
- Cattleman's Convention | AR
- Beef Cattle Short Course | TX
- Texas & Southwest Cattle Raisers Ranch Gathering | TX

Over  
5,900  
People  
Reached!







OSU Staff instructing youth in ATV safety.

### **Farm Safety Certificate Program**

Project Leaders: Erin Kimbrough & Makenzie Thomas, Texas A&M AgriLife Extension Service

Goal: To launch the Farm Safety Certificate Program to improve the health and safety of agriculture producers in Texas through in-person and online safety training.

### **Oklahoma 4-H ATV Rider Course**

Project Leader: Ravyn Bevard, Oklahoma State University

Goal: To educate youth and adults in the safe operation of ATVs with hands-on rider training.

# **OUTREACH MINI GRANTS**

The SW Ag Center awarded four outreach mini grants (OMGs) in 2023-2024 through two full year awards and two mid year awards. OMGs were active in Texas, Oklahoma, and Louisiana. OMG summaries are provided below.

### **SPROUT 2024 Extreme Weather Convening**

Project Leader: Marguerite Green, SPROUT NOLA

Goal: To convene a gathering for small-scale producers to share technical and mental strategies for addressing extreme weather on Louisiana farms.

### **Agriculturally Focused Mental Health First Aid Programming for Current and Future Industry Members**

Project Leaders: Jean Lonie Dudley, PhD & Chandra Andrew, PhD, Tarleton State University

Goal: To offer mental health first aid training to upper class students, agricultural educators, and agricultural industry groups.



# CASH INTERNSHIP

## CAREERS IN AG SAFETY AND HEALTH

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The Careers in Ag Safety and Health (CASH) Internship is jointly sponsored by the SW Ag Center and the Noble Research Institute. The experience is designed to help budding agricultural professionals sow the seeds for a prosperous and bountiful career.

The 2024 CASH Intern was Carlyne Savage. Carlyne is from Moore Station, Texas where her family owns a small farm and goat's milk soap company. She is a junior at Texas A&M University-Commerce majoring in AgriBusiness and is on track to graduate in the fall of 2025.

Entrepreneurship is one of her greatest passions and she aspires to have her own agricultural enterprise in the future. As a business major, Carlyne understands the importance of workplace safety and was eager to broaden her horizons through the CASH internship this summer. Through her experiences, she realized the importance of occupational safety in agriculture and came to appreciate the broad landscape of health and safety.

At the conclusion of the summer, Carlyne said, "One of the most impactful things I will take from this internship is the importance of mental health among agriculturists. I plan to advocate for this by promoting the AgriStress Helpline at my university."

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### PARTNER HIGHLIGHT



The Noble Research Institute is the nation's largest independent agricultural research organization focused on guiding farmers and ranchers to regenerate America's grazing lands. They have partnered with the SW Ag Center for the past 10 years to offer agricultural occupational health and safety summer internships.

# LEVERAGED PROJECTS

\$400,000+  
in leveraged  
funds last  
year

Over the last year, the SW Ag Center has continued its partnership with the Texas Department of Agriculture (TDA) and the AgriSafe Network to provide stress assistance to the AgFF industry across Texas. This year the SW Ag Center reached 20,000 youth through FFA, 4-H, the Texas Ag Teachers' Association, and local level organizations. A billboard campaign was launched in west Texas and a direct mail campaign was sent to 103,000 agricultural producers. Another 13,000 people were engaged through the Texas State Fair.



Over the past two years, the SW Ag Center has partnered with Texas A&M Transportation Institute and Texas A&M School of Public Health to develop a log truck driver safety program. The safety series includes eight topics: curves and loading, distracted driving, load securement, overhang and flagging, seatbelt use, trailer clean up, trimming, and turning. To date, five in-person trainings have been conducted in Arkansas and Texas to educate log truck drivers. Additional trainings are planned for the Ark-La-Tex region.

## WHAT'S NEXT

In the next 12 months, the partnership with TDA will focus on promoting mental health, stress assistance, and suicide prevention among commercial fishing and forestry/logging work groups with new campaign images and outreach engagements. Images with fishing scenes and wildlife will be used to appeal to diverse audiences.





# EVALUATION

The evaluation question for the current cycle, “How to evaluate a mature program?”, concentrates on the translation of research to practice and embraces NIOSH implementation science research. Specifically, the evaluation infuses PRISM contextual elements (e.g., Practical, Robust, Implementation, Sustainable Model) and the RE-AIM framework (Reach, Effectiveness, Adoption, Implementation, Maintenance) to identify outputs and intermediate outcomes. A notable finding during Year 2 was “in-reach” - a new term operationally defined as when producers and/or consumers of SW Ag Center educational products and materials or of research PI expertise voluntarily “reach in” to the Center for help. The requests became so prevalent and regular that the Center began recording in-reach in the Outreach Log. In Year 1, in-reach accounted for 25% of outreach activities. In Yr 2, in-reach accounted for 54% of activities.

In-reach may take the form of a workshop, a presentation, or expert advice about an emerging issue. Or the recipient of routine Center outreach materials may take the initiative to “pay it forward” to workers in their sphere of influence. See testimonies below from two Center partners.

## ***WHAT IS “IN-REACH?”***

“I just wanted to follow up and update you all on the materials that the Southwest Ag Center provided me. Since I received them, I was able to do outreach in Southern New Mexico and provide those supplies to farmworkers in various settings. ... I only have a few more items left, the cooling towels, the bandages, the heat brochures, a few of the thistle and insect’s brochures, but my plan is to distribute those in the summer once farmworkers are more in the fields.”

- Community Justice Worker, Centro Legal Campesino

“After the Center recommended flags for the back of log trucks, Ward Timber applied for a \$1500 grant to purchase more of the [logging] flags for their drivers.”

-- Eva Shipp, Research PI note subsequent to Log Truck Driving Safety Training in Texas

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