

Prairie View A&M University Combined Research and Extension Plan of Work 2022-2026

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I. Plan Overview

1. Executive Summary

2022 Prairie View A&M University

Research and Extension Plan Overview

The Prairie View A&M University (PVAMU) College of Agriculture and Human Sciences (CAHS) plan for 2022-2026 anticipates many challenges and opportunities. Texas has more than 28 million citizens in 254 counties that stretch across 130 million acres of land. One in four Texas children live in poverty, and poverty rates for Latino (33 percent) and African American children (32 percent) are nearly three times higher than they are for White (11 percent) and Asian children (12 percent). Nineteen percent of Texas children live in “high poverty” neighborhoods, and that share is growing. According to the 2017 Census of Agriculture, there are more than 11,000 African American producers with a combination of 946,751 acres in farmland. Of the 408,506 producers in Texas, 37 percent are women. More than 90 percent of the farms and ranches encompass family farms, partnerships, or family-held corporations. Therefore, strategic programming and evaluation of culturally relevant, customer-specific outreach assistance are critical in transferring knowledge to farmers and other residents of rural and urban communities to create positive changes.

Texas ranks first in the number of cattle and calf operations, which accounts for 13 percent of the nationwide total. The food and fiber division in Texas totals around \$100 billion. Over the next five-year period, our goals are to transform our land grant program to address Texas' changing agriculture complexity, assist socially disadvantaged and traditionally underserved audiences, and provide leadership to Texas citizens. Given the strong history of both the Cooperative Agriculture Research Center (CARC) and the Cooperative Extension Program, we will be driven by the land grant vision and mission, along with CAHS and the entire university.

The CAHS dean is committed to the land grant research and extension mission and vision and is leading our college's efforts statewide. CARC and CEP are central to accomplishing the land grant mission of PVAMU. The university is part of the Texas A&M University System, which links 11 Texas universities' higher education programs under a ONE UNIVERSITY concept. As a result, CEP and CARC are required to follow the dedication to discovering new knowledge and community outreach setting to meet community and society's needs.

Throughout the 2022-2026 planning period, the primary focus will be on research that extends new knowledge and extension activities that advance agriculture, social, economic, and environmental well-being. The mission includes working with federal, state, and local agendas to grow and impact the state of Texas agriculture and the economic sector through research, development, and extension investment.

PVAMU has a 778-acre research and demonstration farm, which serves as a model platform for hands-on teaching, novel research, and engaging clientele. The Cooperative Extension Program responds to the needs of Texans, with emphasis on the underserved and socially disadvantaged population. The work of both CARC and CEP are integrated and guided by several vital systems: 1) Animal, 2) Plant, 3) Food, 4) Natural Resources and Environmental, and 5) Social and Applied Systems. Hence, the incorporation of CEP and CARC strengthens CAHS' capacity both within as well as external to PVAMU, and it positions CAHS to be a transforming leader.

By strengthening from within, CARC and CEP can build better external ties by creating local advisory committees and other agencies which mutually benefit and are significant contributors to a structured educational program development system to address identified needs.

The 2022-2026 planning period's primary goal is to help Texas citizens, emphasizing the socially disadvantaged and traditionally underserved citizens, to make incremental improvements in food, agricultural, social, and environmental economies. Expanding agriculture, growing jobs, and the economy require research and outreach support by CEP and CARC activities.

This Plan of Work, CAHS's current and future strategic plan, and NIFA's national priorities all report common ideas regarding food, agriculture, and the environment. The Planned Programs for 2022-2026 addresses these ideas and are designed to nurture knowledge gained, disseminate information, and advance scientific discoveries to help mitigate social, financial, environmental problems facing Texans today. The programs planned by research and extension can impact issues such as sustainable agriculture, mental health and wellness, climate change, ag-bioscience, global food safety, and food insecurity, Agrobotics, livestock management, childhood obesity, nutrition, homeless veterans, and teen nutrition peer mentoring.

CARC and CEP will continue to address critical issues identified through grassroots and other stakeholder input processes. CARC is the hub for research, and CEP is the center of community education. There are some planned outcomes and impacts scheduled for this planning period.

The Cooperative Agricultural Research Center is taking the following steps and making investments critical to planning period outcomes. Highlights of program priorities are:

By 2021, CARC will integrate basic and applied research approaches to advance the science and understanding of agriculture, natural resources, livestock, ag-biosciences, and environmental issues.

By 2021, CARC's new meat laboratory will be complete and prepared to be fully operational.

By 2023, CARC will achieve resiliency through research on the demonstration farm with agronomic crops, food, fiber, and ecological systems; incorporate experiential education on the farm; and renovate new greenhouse research space and poultry operation.

By 2023, the CEP and CARC collaboration among federal, state, and local entities will engage in new research for emerging specialty agronomic crops, emergency management, and disaster education to county agents.

By 2025, CARC will address issues related to nutrition, food safety/quality, food security/insecurity, and the related impacts on quality of life and examine the efficacy of producing high-value, low-volume medicinal and nutritional products.

Throughout this planning period, CARC is committed to relevant and innovative research strategies. In addition to funding for CARC research faculty, staff, and students, CARC also invests in the International Goat Research Center.

Likewise, the Cooperative Extension Program is taking the following steps as critical to planning period outcomes. Highlights program priorities are:

By 2022, CEP will continue to focus on individuals and low-income families to improve health, nutrition, safety, and economic security.

By 2023, CEP will grow education programming and outreach capacity in livestock management, crop production, health and wellness, workforce development, local foods, youth development, and social services. CEP will also contribute to building a sustainable, profitable, and competitive food and fiber system in Texas.

In 2022-2026, CEP will prepare youth to be productive, positive, and equipped with life skills to build local economic development capacity in Texas communities.

In 2022-2026, CEP will continue to support CAHS and university-wide outreach efforts such as Health Initiatives, Disaster Management, Small Farm Institute Program, and Farmers Market and expand access to Extension education, knowledge, and resources.

Through CEP and CARC, CAHS will continue to provide leadership to Texas' socially disadvantaged and traditionally underserved audiences and leverage and align its resources to meet citizens' and stakeholders' highest needs with the University's greatest strength. We will continue to build and grow collectively and work collaboratively throughout this planning period to advance our mission. To that end, CARC researchers hold joint appointments in CARC and the

Department of Agriculture, Nutrition, and Human Ecology. CARC and CEP will continue to partner with multiple colleges at PVAMU, Community-Based Organizations (CBO), local governments, and numerous other stakeholders to solve problems. CARC's primary research programs are located on PVAMU's Demonstration Farm and demonstration research projects located in counties. CEP has personnel co-located with Texas A&M AgriLife Extension in 35 counties across Texas. CEP Extension is planning a significant role in both rural and urban initiatives.

CEP and CARC will continue to partner with each other and multiple external partners to find new ways to educate Texans. We will continue to be characterized by engaging, discovering, and learning from partners, generating new knowledge and solving problems based on identified issues, and providing transformative leadership that meets societal needs and assisting socially disadvantaged citizens.

CARC and CEP will continue to be competitive in moving new transformational approaches, agriculture and ecosystem sciences, economic and social services, social and environmental drivers to address emerging and existing issues facing individuals, families, communities, and environmental systems in Texas. CEP and CARC will continue to gain insight from local stakeholders to develop signature programs for the next programming cycle. We sought to gather data and input from diverse venues. Clientele, stakeholders, committees, agents, specialists, scientists, program leaders, experts, and administrators have contributed information. Each issue has been treated on its merit, and the subsequent data analysis processes precipitated approximately 32 significant areas. At a formal retreat, the program leaders, experts, and administrators successfully reduced the number of significant issues to match the newly established National Institute of Food and Agriculture (NIFA) nine Science Emphasis Areas (SEAs). Subsequent prioritization produced 10 state-defined critical issues with appropriate description meant to formulate projects/programs in the USDA REEPort system.

State Defined Critical Issues:

Given the targeted audience that encompasses various ethnic groups, religions, cultural, and socioeconomic backgrounds, the outreach methods used to address the identified needs are client-focused and culturally sensitive. The state issues aligned with the nine SEAs addressed in this federal Plan of Work include the following:

Environmental Management: This critical issue focused on advancing scientific understanding and providing education and knowledge in managing natural resources and environmental systems using innovative technologies, laboratory and field experiments, numerical modeling, big data analysis, and best management practices. The broad coverage of the critical issue includes water conservation and protection, water quantity and quality, soil health and management, climate variability and climate extremes (e.g., floods and drought), stormwater and groundwater management, best management practices, smart agriculture and agricultural techniques, environmental awareness, wildlife management, sustainable forest management, best horticultural practices, and soil fertility for sustained and consistent yields of high quality. CEP Extension Agents work to educate ranchers and farmers, landowners, and producers on natural resource and environmental management.

Healthy Lifestyles: The prevalence and reduction of chronic illness and disease are the focus of health and wellness programming. Risk factors associated with high blood pressure, high cholesterol, excess weight, and lack of physical activity can lead to significant life limitations and death. Other health problems include cardiovascular disease, overweight/obesity, and high cholesterol. These health issues are exacerbated by poor nutrition, smoking, and inactivity. The combination of increased calorie intake and sedentary lifestyles has serious implications for youth and adults' health and well-being. The need exists to implement nutritional value programs in limited-resource communities to introduce highly nutritious specialty crops.

Disaster Management & Outreach: We strive to strengthen CAHS's capacity and commitment to understand and address disaster issues that impact underserved populations across all four program areas of CEP. We also strive to maintain close ties with USDA and related agency personnel while leveraging ongoing network relationships with local interest groups. We will utilize a comprehensive emergency management approach. Pertinent issues include refining strategies, addressing health disparities, training, and nurturing collaborative partnerships. Training will target disaster victims (individuals and families), agencies, universities, and political leaders. These efforts will encourage a pre-planning culture in times of disaster and give victims access to needed resources to maintain the quality of life and to be disaster resilient.

Fostering Strong Families: If our society's future is our children, then the key to human well-being rests primarily with parents and teachers. Parenting, though still one of the most underrated jobs in the community, is beginning to attract

some of the attention and consideration it deserves. Success at any job first requires a sound understanding of its purpose. The primary purpose of parenting has not changed throughout history. Financial management provides educational and technical information to limited-resource families to strengthen family systems and resiliency through information to understand how individuals and families obtain and use time, money, and human capital to achieve their standard of living and overall quality of life.

Food Safety and Education: To ensure food safety, an understanding of the complete food chain is essential. The research will be conducted on developing nutritious value-added food products from goat milk, goat meat, and specialty fruits and vegetables produced on the PVAMU farm. The safety of these foods from farm to table will be emphasized, including production, post-harvest storage, processing, distribution, and consumer handling and preparation. Microbial analyses will include traditional plate counting methods and molecular methods using DNA and RNA. The Extension personnel will provide educational information about the importance of food safety and the relationship between basic sanitation practices when handling food, reducing waste, and conserving nutrients to prevent foodborne illness.

Food Security in Texas Communities: Food Security is an issue that affects persons nationally and internationally. It is estimated that 12 percent of the United States population is food insecure. Compared to the national average, Texas ranked among the highest food insecurity rates in the United States. Food security must be addressed throughout the entire food chain — including production, processing, and distribution — to reduce food insecurity. The research will focus on the post-harvest storage and conversion of commodities to safe, nutritious, affordable, and culturally relevant foods to communities. Communities in Texas will serve as models for research that can be applied in other communities nationally and internationally. Collaboration with researchers in plant and animal sciences will be emphasized and fostered.

Sustainable Livestock Management: In the large and small ruminant animal industry, livestock production, productivity, and management systems continue to grow in Texas. The culmination of these issues will focus on improving productivity with a variety of agricultural animals, such as cattle, goats, poultry, pigs, horses. The focus will be on improving livestock management, enhancing technologies and practices that increase livestock productivity, and conducting multiple levels of research investigating methods to increase the health and productivity of livestock through optimizing nutrition and reproduction at the genetic level to studying all aspects of food animal production. Also, we must utilize technology to ensure that agricultural operations are profitable and environmentally friendly. CEP Extension agents educate farmers and ranchers about research outcomes and develop sustainable farming and ranching operations with the economic viability and long-term viability through in-depth training in risk management, best practices, and agricultural business planning. They also assist with 4-H youth development activities in fostering the next generation of agriculturists.

Crop Production and Utilization: We are conducting research to discover new knowledge about genetics, growth, and disease resistance of field, grain, fruit, and vegetable crops and provide agronomic information on hybrids and variety. These issues include high-value, low-volume specialty crop production and major crops to improve the income situation and evaluate practices and systems concerning crop yield, profit, environmental, and ecological consequences for clientele. The research will focus on under-utilized fruits and vegetables, medicinal plants, legumes, and root crops and actively investigate corn, soybean, wheat, forage, oats, and alfalfa. Variety trials, crop growth, development, fertilizer treatments, different rotation, and cultural practices will be investigated to determine the best management practices for crop production and conduct genetic improvements and biochemical evaluation of plant products. CEP Agriculture agents do demonstration projects and provide training and education on risk management and agricultural business planning to improve economic returns and long-term viability with farmers.

Community, Resource, and Economic Development: We aim to increase entrepreneurship opportunities through small business training and consulting. Staff will work with individuals, communities, and organizations to inform and educate them on entrepreneurship, sustainable housing, disaster response, programs for limited resource individuals, asset and wealth building, saving and investing, credit building, debt management, and budgeting. We will increase community development and community services through non-profit capacity building. We will also develop and implement programs that address rural prosperity in economic development, technical innovation, improved quality of life, support of a rural workforce, and e-connectivity for rural America as identified by the Task Force on Agriculture and Rural Prosperity.

Preparing Youth for Life and Work: These issues pertain to youth and their adult leaders. Caring adults help youth navigate adolescence and transition to adulthood. They provide positive learning environments that foster a sense of belonging while facilitating mastery, independence, and generosity for young people. Youth and their adult leaders are empowered to take actions that promote health, develop positive social relationships, and contribute to society.

Participants will develop various life skills (leadership, livelihood, cognitive, interpersonal, etc.). This is accomplished primarily in three content areas: civic engagement, healthy living, and science.

Individual and Joint Efforts (CARC & CEP)

CEP will address four state issues: healthy lifestyles, fostering strong families and communities, resource and economic development, and preparing youth for life and work. The remaining six issues — environmental management, disaster management, outreach, food safety, and education, food security in Texas communities, sustainable livestock production, and crop production and utilization — will be undertaken as a collaborative team with CARC.

Overall, the goal is to ensure that our underserved communities and underrepresented families have greater access to the types of research, educational, and outreach services they need to solve everyday problems and issues.

2. FTE Estimates

Year	1890 Extension	1890 Research
2022	70.0	40.0
2023	73.0	42.0
2024	75.0	45.0
2025	75.0	45.0
2026	78.0	48.0

II. Merit / Peer Review Process

Extension programs initiated in Texas have funded in whole or in part from Smith-Lever or Section 1444 and 14445 funds requiring a merit review process. The review panel is comprised of the CEP executive associate director, program leaders, specialists, agents, dean of the College of Agriculture and Human Sciences, and the CARC director and scientists. The plan's particular focus is to determine if appropriate strategies are designated to reach the underserved and underrepresented clientele mandated by the United States Department of Agriculture. The plans are reviewed based on needs assessment, planned programs, outcomes, and evaluation. This collaborative leadership team is responsible for overseeing and managing all programs designed and implemented by Extension specialists and agents.

All proposed research projects funded under either Evans-Allen, Experiment Station (Hatch), or otherwise undergo a merit review process. Each proposal submitted for support is routed through an internal review committee for review, and if deemed necessary, each proposal is routed through the University Committee on Research. The Research Director selects individuals to serve as members of an internal review panel in consultation with the University's vice president for Research. At a minimum, three individuals review and evaluate each proposed project prior to approval for external submittal and/or internal fund allocation. Scientific peer review is incorporated in that all project reports, including the Current Research Information System, must show evidence of external review. Written comments should be included with final proposals for campus routing. Routing proposals through quality control checkpoints (research director, dean of the college, and vice president for Research) is designed to ensure that proposals meet RFP guidelines and meet scientific merit qualifications. All proposals are quality checked by our on-campus Office of Sponsored Programs.

III. Stakeholder Input

1. Actions to Seek

We will be gathering input from stakeholders through local clientele, town hall meetings, advisory committee recommendations, and special interest groups. We contacted traditional as well as non-traditional stakeholder groups and

individuals. Issues also were identified through the Texas Community Futures Forum (TCFF) database and prioritized through joint retreats with Extension and Research. We use well-established media outlets, and popular social media applications to announce programs and activities. Extension staff developed annual plans during the fall program planning conference with programs focused on issues identified and validated by local stakeholders. We share the program results with our stakeholders and use Volunteer Satisfaction Survey results to encourage high participation.

2. Methods to Identify

Well-established community relationships allow various groups to be identified to collect input, such as advisory committees, needs assessment, Leadership Advisory Board, and various interest groups. Extension agents utilize open listening sessions or local town hall meetings, and customer satisfaction surveys to get grassroots involvement in the program planning and data collection process. We advertise on the university's website, other websites, and social media applications to highlight our work and seek volunteers.

3. Methods to Collect

Data will be collected during educational outreach programs, town hall meetings, online surveys, smartphone applications, TCFF online needs assessment tool, college-wide needs assessment, and issue prioritization retreats. Also, data is collected through paper surveys, electronic surveys to email distribution lists, and target smartphones for surveys via texts and QR codes.

Online tools used to collect stakeholder inputs include:

- Email
- Qualtrics
- Google
- Forms
- TCFF System
- QR Codes
- Microsoft Teams

Counties performed needs assessments through their advisory committees to address the national priority areas. They collaborated with CEP, CARC, and other departments working in partnership with staff in Family and Consumer Sciences, Agriculture and Natural Resources, Community and Economic Development, and 4-H and Youth Development to address and solve specific problems within the State of Texas. The CEP initiated the Stakeholders' Opinion Survey as the initial step of issue identification. County Extension agents distributed and collected stakeholder's input regarding the critical issues in each county. Using NVivo (qualitative statistical analytical software), we analyzed the thousands of issues, extracted themes, and synthesized macro-issues into manageable working groups. The conclusion was two dozen data-driven, critical issues for our experts to perform the final validation.

The process to solidify our designated number of critical issues began with our stakeholders' opinions, agents' and specialists' contributions, systematic statistical analytical methodology, and our administrators, faculty, and scientists editing and amending the final product. We organized a two-day retreat to assemble the CAHS dean, CEP director, program leaders, and specialists, and CARC director, scientists, and faculty. These experienced and highly qualified personnel collaborated to consider all the issues identified, present their ideas, execute the critical issue prioritization process, formulate the programs, and produce the reporting information.

As with any instrumentation, we addressed the validity (face validity, construct validity, and content validity). Criterion validity will be observed during the implementation stage of our programs. We completed several iterations of listing issues, combining issues, using deductive reasoning to reduce sub-themes, prioritizing the list again until we reduced the list of issues from more than 100 to 32.

We implemented the following stages to arrive at the desired number of critical issues:

- Design stakeholder need and assessment tool
- Collect data from stakeholders
- Display comprehensive issue list (using NVivo qualitative software application)

Categorize issues under NIFA SEAs
Take prioritization poll
Generate prioritized issue list
List top 9-10 critical issues
Develop project/program matrix
Allocate FTE
Complete project/program matrix

At the end of our issue prioritization retreat with CARC and CEP members to formulate the critical issues, we produced a list to be used during Program Planning.

4. How Considered

Extension agents and specialists meet with diverse groups to analyze issues and the most effective methodology to plan programs to address them. Program priorities lead to in-depth planning sessions to develop outcome-based activities. Extension program leaders and planners consider all input from multiple sources, including our wide-ranging and well-informed stakeholders. As time and county demographics change, so do our clientele's needs, resources, health, etc. Our in-depth programs also must change in the short term, and we must incorporate data and ideas for long-term planning and data-driven decision making.

We are mindful of the chronic illnesses (diabetes, high blood pressure, etc.), healthy lifestyles, childhood obesity, housing, business, and farming needs of our limited resource clientele during our step-by-step planning. Our attention to detail allows us to move beyond critical issue identification to program designing. These programs now become the units of analysis for consideration by CARC researchers to format research and CEP agents to design relevant educational programs.

We provide education, information, direct/indirect assistance, face-to-face advisement, and professional referrals to the clientele in urban and rural counties. For immediate disaster response, like hurricane or major fire, we rely on local input for logistical support and coordination. The collected information allows us to find emergency centers that provide shelter and temporary locations to get food, water, and clothing. We use it to inform our clientele of available medical facilities and places to register and itemize their personal needs. Post-disaster, this valuable information makes it easier for us to plan our programs based on the underrepresented clientele's location and specific needs.

IV. Critical Issues

1 Environmental Management

Description:

This critical issue focused on advancing scientific understanding and providing education and knowledge in managing natural resources and environmental systems using innovative technologies, laboratory and field experiments, numerical modeling, big data analysis, and best management practices. The broad coverage of the critical issue includes water conservation and protection, water quantity and quality, soil health and management, climate variability and climate extremes (e.g., floods and drought), stormwater and groundwater management, best management practices, smart agriculture, smart agricultural techniques, environmental awareness, wildlife management, sustainable forest management, best horticultural practices, and soil fertility for sustained and consistent yields of high quality.

Term: Long

Science Emphasis Areas

Agroclimate Science
Environmental Systems

2 Healthy Lifestyles

Description:

The prevalence and reduction of chronic illness and disease are the focus of health and wellness programming.

Risk factors associated with high blood pressure, high cholesterol, excess weight, and lack of physical activity can lead to significant life limitations and death. Other health problems include cardiovascular disease, overweight/obesity, and high cholesterol. All these health issues are exacerbated by poor nutrition, smoking, and inactivity. The combination of increased calorie intake and sedentary lifestyles has serious implications for youth and adults' health and well-being. There is a need to implement nutritional value programs in limited-resource communities to introduce highly nutritious specialty crops.

Term: Long

Science Emphasis Areas

Family & Consumer Sciences

3 Disaster Management & Outreach

Description:

CAHS seeks to strengthen its capacity and commitment to understand and address disaster issues that impact underserved populations across all four CEP program areas. It also strives to maintain close ties with USDA and related agency personnel while using ongoing work relations with local interest groups. It will utilize a comprehensive emergency management approach and address issues such as refining strategies, addressing health disparities, training, and nurturing collaborative partnerships. The training will encourage a pre-planning culture in times of disaster and give victims access to needed resources to maintain the quality of life and be disaster resilient.

Term: Long

Science Emphasis Areas

Family & Consumer Sciences

4 Fostering Strong Families

Description:

If our society's future is our children, then the key to human well-being rests primarily with parents and teachers. Parenting, though still one of the most underrated jobs in society, is beginning to attract some of the attention and consideration it deserves. Success at any job first requires a sound understanding of its purpose. The essential purpose of parenting has not changed throughout history. Financial management provides educational and technical information to limited-resource families to strengthen family systems and resiliency through information to understand how individuals and families obtain and use time, money, and human capital to achieve their standard of living and overall quality of life.

Term: Long

Science Emphasis Areas

Family & Consumer Sciences

5 Food Safety and Education

Description:

To ensure the safety of foods, an understanding of the complete food chain is essential. The research will develop nutritious value-added food products from goat milk, goat meat, and specialty fruits and vegetables produced on the PVAMU farm. The safety of these foods from farm to table will be emphasized, including production, post-harvest storage, processing, distribution, and consumer handling and preparation. Microbial analyses will include traditional plate counting methods and molecular methods using DNA and RNA. Extension will provide educational information about the importance of food safety and the relationship between basic sanitation practices when handling food, reducing waste, and conserving nutrients to prevent foodborne illness.

Term: Long

Science Emphasis Areas

Food Safety

6 Sustainable Livestock Management

Description:

In the large and small ruminant animal industry, livestock production, productivity, and management system continue to grow in Texas. This issue will focus on improving productivity with a variety of agricultural animals (i.e., cattle, goats, poultry, horses), improving livestock management, technologies, and practices. This issue will also conduct multiple research investigations on health, productivity, nutrition, reproduction, genetic, and studying all aspects of livestock productivity. Additionally, technology will be utilized to determine profitably and educate farmers and ranchers about developing sustainable farming/ranching operations with the economic and long-term viability through in-depth risk management training and best practices.

Term: Long

Science Emphasis Areas

Sustainable Agricultural Production Systems

7 Crop Production and Utilization

Description:

We can discover new knowledge about genetics, growth, and disease resistance of field, grain, fruit, and vegetable crops and provide agronomic information through research. This includes high-value low volume specialty crop production and major crops to improve income and evaluate practices and systems of crop yield and profit for clientele. The research will focus on under-utilized fruit and vegetable, medicinal plants including industrial hemp, legumes, and root crops, and actively investigate agronomic crops (i.e., corn, wheat, forage, and oats). Variety trials, crop growth, development, fertilizer treatments, and cultural practices to investigate best management practices for crop production and conduct genetic improvements and biochemical evaluation of plant products.

Term: Long

Science Emphasis Areas

Sustainable Agricultural Production Systems

8 Community and Economic Development

Description:

Entrepreneurship opportunities can increase through small business training and consulting. Staff will work with individuals, communities, and groups to inform and educate them on issues related to sustainable housing, disaster response, senior programs and resources, programs for limited resource individuals, asset and wealth building, saving and investing, credit building, debt management, and budgeting. We can also increase community development and community services through non-profit capacity building. Additionally, that address rural prosperity in economic development, technical innovation, improved quality of life, support of a rural workforce, and e-connectivity for rural America as identified by the Task Force on Agriculture and Rural Prosperity programs will be developed and implemented.

Term: Long

Science Emphasis Areas

Family & Consumer Sciences

9 Preparing Youth for Life and Work

Description:

The program supports youth and their adult leaders. Caring adults help youth navigate adolescence and transition to adulthood. They provide positive learning environments that foster a sense of belonging while facilitating mastery, independence, and generosity for young people. Youth and their adult leaders are empowered to take actions that promote health, develop positive social relationships, and contribute to society. Participants can develop a variety of life skills (leadership, livelihood, cognitive, interpersonal, etc.). This is accomplished primarily in three content areas: civic engagement, healthy living, and science.

Term: Long

Science Emphasis Areas

Youth Development

10 Food Security in Texas Communities

Description:

Food security is an issue that affects persons globally. In the United States, it has been estimated that 12 percent of the population is food insecure. Texas ranked among the highest rates of food insecurity in the United States. Food security must be addressed throughout the entire food chain, including production, processing, and distribution, to reduce insecurity. The research will focus on the post-harvest storage and conversion of commodities to safe, nutritious, affordable, and culturally relevant foods to communities. Communities in Texas will serve as models for research that can be applied in other communities nationally and internationally. Collaboration with researchers in plant and animal sciences will be emphasized and fostered.

Term: Long

Science Emphasis Areas

Human Nutrition

Sustainable Agricultural Production Systems