

## EPAF 2024 Abstracts

### Get Your Grove On! Growing Fruit in Florida

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**Background:** Florida's climate allows residents to plant many different fruit crops, and with current disease issues in the traditional citrus crop, residents are hungry for alternatives. Consumer-friendly information on alternative fruit crops for Florida is lacking. COVID-19 lockdowns caused Agents to seek out alternative methods to teach and offer required Continued Education Units (CEUs) for pesticide license holders. An online class series targeting residents interested in growing fruit, and pesticide operators in need of CEUs was developed to meet these needs in 2020.

**Objectives:** This class series had several objectives. 1) Increase knowledge of fruit crops and their care in Central Florida 2) Inspire adoption of BMPs when selecting and caring for these crops 3) Offer CEUs to Florida pesticide license holders. **Methods:** In the pilot year three Extension Agents developed a five-week class for 2020. In 2021 and 2022 a six-week series was developed between five Agents in three Florida counties. Each class covered BMPs for landscapes, and care of at least three separate fruit crops. The series was broadcast using Zoom and archived on YouTube. A post-class survey measured knowledge gain, while a three-month follow-up measured practice adoption. The series has been offered in 2020, 2021, and 2022 and in that time the care of 29 fruit crops has been covered. **Results:** Since 2020, 17 episodes have been created and engaged a total of 1,745 live viewers. Participants received 301 CEUs. 98% (1,244/1,261) of respondents reported knowledge gain. Since taking the class 80% (163/202) of respondents are growing the correct fruit trees for their landscape. According to that same survey 48% (98/202) have altered turf to fruit trees, planting a total of 37,477 square feet with edible plants. **Conclusions:** This highly successful program will be repeated in 2023, and both residents and pesticide license holders are asking for the dates.

### The Green Industries Best Management Practices Program in Florida

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**Background:** Pristine landscapes are common in Florida. However, a huge pressure of insects, diseases, weeds, and invasive organisms is affecting it. Therefore, it is very difficult and not sustainable to maintain it without causing a detrimental impact on the environment. In 2009, the Florida legislature recognized the GI-BMP program and made the training mandatory for

commercial fertilizer applicators. **Objectives:** Determine if the number of GI-BMP programs taught since its inception has served the landscape workforce demographics in Florida. **Methods:** Training classes are offered in English, Spanish, and Creole and are held at Extension offices and other locations around the state. Because UF/IFAS centralizes all the GI-BMP program data through the Florida-Friendly Landscaping program, it is very easy to quantify the demographics numbers. **Results:** From 2006 - 2022, 75,174 people participated in 2,427 Green Industries Best Management Practices (GI-BMPs) classes in English, Spanish, and Creole. 45,729 participants attended 2,091 classes in English, 7,231 participants attended 330 classes in Spanish, and 102 participants attended five classes in Creole, plus others who took the class either online or through DVD. At the end of the program, 63,957 participants completed a test and were eligible to obtain the State of Florida Limited Commercial Fertilizer Application Certification. The passing rates of the test were 91%, 73%, and 70% for the English, Hispanic, and Creole audience. **Conclusions:** In Florida, a big percentage of the workforce in the landscape industry speaks Spanish or Creole as their primary language. Some conservative numbers mention that 30% of the landscape workforce speaks Spanish. It is recommended to offer more training opportunities in Spanish and Creole and survey the agents to understand what barriers they face.

### Growing Cloverbuds: How to Reach Our Youngest Youth

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**Background:** Three counties added programming that focused on or included Cloverbud age youth. The county faculty increased their overall participation and retained early entry youth for one or more years as 4-H members, establishing a strong early foundation for long-term youth success in 4-H. **Objectives:** Faculty objectives included: increasing program offerings for ages 5 to 7, retaining and transitioning Cloverbuds to Junior members, and growing the overall county 4-H program. **Methods:** County One added Cloverbud-inclusive programming to reach younger youth. These programs included gardening, cooking, poultry science, and a club focused on outdoor adventures. In this county, there were two cooking clubs. One club specifically focused on building skills for ages 5 to 12. The outdoor adventures club limited membership to ages 5 to 12, focusing on activities and excursions that included parents alongside youth. County Two added Cloverbud-inclusive, poultry science, and specific programming, exploring the arts and “tasting” 4-H, to reach youth members. County Three added Cloverbud-inclusive “Taste of 4-H” summer camp and club, focusing on birds, gardening, entomology, animal science, and pets. **Results:** Through expanded offerings for ages 5 to 7, County One grew Cloverbud participation from 8% in 2017 to 21% in 2022. Cloverbud participation and continued enrollment through Junior level or higher increased by 70%. County Two grew Cloverbud participation, starting from the ground up in 2021. 22% of current youth members are Cloverbuds. County Three grew Cloverbud participation, starting from the group up in 2020. 19% of current youth members are Cloverbuds. **Conclusions:** County faculty found that increasing access to 4-H activities for ages 5 to 7 helped grow their local programs with youth members that stay involved for one or more years.

## Mind Health Matters: Engaging Brain Buzzers for Aging Adults

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**Background:** Older adults, who are socially isolated or lack meaningful social connections lead to cognitive decline and depression over time. Factors influencing depression and loneliness, such as lack of physical activity and unhealthy eating habits, also contribute to increased chronic disease risks. In response to these issues, Brain Buzzers was developed as an interactive cognitive workout program targeting seniors who frequent local senior centers in Duval County. **Objectives:** Brain Buzzers objectives are (1) to enhance cognitive wellness among seniors aged 50 and above through stimulating activities and (2) to promote socialization and reduce feelings of loneliness among older adults through group engagement. **Methods:** Brain Buzzers activities are cognitive exercises and social activities to improve mental dexterity and increase socialization. Each 60-minute workshop begins with 30 minutes of group activity to increase social interaction such as card and board games, followed by individual activities such as word puzzles, number challenges, trivia, and creative thinking exercises from the WITS Workout curriculum. The program is promoted through local senior communities via monthly event calendars and flyers posted in participating senior centers. **Results:** Results indicate significant improvements in socialization, with observed excitement among seniors upon facilitator entry, increased conversation, laughter, and the development of new friendships. Post-surveys reveal positive outcomes, with 45 participants reporting improved concentration, 56 expressing anticipation for workshops and social interaction, and 52 intending to engage in more interactive games outside of the sessions with family and friends. Three site coordinators reported seniors involved in Brain Buzzers increased socialization overall. Seniors' participation increased on the days of Brain Buzzers. **Conclusions:** The potential long-term implications of Brain Buzzers in enhancing cognitive health, promoting socialization, and potentially mitigating risks associated with depression and related health issues among seniors. Follow-up evaluations will be conducted during the summer months to confirm the long-term impacts.

## New Extension Online Learning Model Will Create Engaging and Practical Online Learning Experiences

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**Background:** During the COVID-19 pandemic, Extension quickly transitioned from primarily in-person educational programs to all virtual programs. While in-person programs will always be the cornerstone of Extension programming, we learned that online programming could also be effective. In 2022, the Extension Online Learning Advisory Committee (EOA) was formed to provide input and recommendations to improve the reach and impact of Extension programming, facilitate greater client engagement with online Extension programming, and advocate within Extension for the effective utilization of online programming. The committee wanted to be sure that Extension Online Learning was comparable to face-to-face programming in terms of learners' positive

experience and outcomes and the desire to tie the plan for Extension Online Learning to the new Extension Roadmap and Strategic Plan. **Objectives:** The committee was charged with developing a proposal to advise on branding, consistency and quality of content, pricing, marketing, client experience, needs assessment for content and instructor capacity building, accessibility/IDEA, and other issues related to teaching and learning through the Extension Online Learning initiative. **Methods:** The EOA met in the spring and summer of 2022 and then for a full-day planning retreat on September 9, 2022. Subcommittees and key goals were formed around the identified themes of those characteristics. Goals for subcommittees and additional resource needs were set, and availability was identified. **Results:** The EOA identified five major learned-centered goals, including key outcomes and action steps. The program would be implemented in four phases to build instructor and organizational capacity and account for additional staff, training, marketing, and equipment costs. **Conclusions:** This model will help Extension Online Learning go beyond putting presentations online and move toward creating engaging and practical online learning experiences that help fulfill Extension's purpose to build skills and capacity to sustain and enhance the quality of human life.

### Strategic Plan for Expanding Passion Fruit Production in Florida

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**Background:** In 2022 agricultural production costs, primarily fertilizer costs, increased the most on record. The USDA forecasts a decrease in net farm income for 2023 by 18.2%. This creates significant challenges for new farms to begin and existing farms to continue profitably much less expand. The need for profitable high value crops on small acreage has never been more important. Passion fruit is an emerging high value crop. **Objectives:** The objective is to help farms begin, grow, and become profitable with passion fruit production. **Methods:** Expanding production involves: establishing sustainable production methods, grower adoption of the crop, and effective marketing and sales. Two grants were applied for in 2022 with both being awarded. First, a SEEDIT grant and the second a SARE grant totaling \$327,941. Both will be used to fund the necessary research to propel passion fruit as a profitable alternative crop. Growers are directly supported with a recurring site visits, diagnostic service, step-by-step guidance, and two EDIS publications on the subject. A production meeting in Citra, FL was attended by (n=36) current and prospective growers to share the latest information and encourage two-way communication between IFAS and the growers. **Results:** Small farms (n=11) in North Central Florida have planted passion fruit on small acreage, averaging ¼ acre, in 2022. Additional small farms are in the process of establishing passion fruit. Small farms that planted in 2022 are beginning to produce an initial crop and those that planted in 2020 have achieved profitability. A post program evaluation indicated (n=8) 100% of participants gained knowledge and intended to implement one or more aspects of the program. **Conclusions:** Passion fruit is an emerging alternative crop that has significant growth potential to generate profitability for USDA 9b+ farms, at any size, and benefit consumers with high quality Florida Grown passion fruit.

### Industry Collaboration & Education to Expand Adoption of Sustainable Landscapes

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**Background:** Residential landscapes impact natural resources as habitat loss decreases biodiversity, irrigation stresses water resources, inappropriate fertilization reduces water quality, and misapplied pesticides harms non-target organisms. While many Floridians are aware of these issues, landscape aesthetics continue to be prioritized over mitigation of their effects. In 2022, UF/IFAS Extension Lake County partnered with the University of Central Florida, the UF/IFAS Program for Resource Efficient Communities, the Nature Conservancy, green industry partners, and developers to conduct a research educational session and tour at the annual statewide Outside Collaborative Conference. **Objectives:** Our objective was to educate green industry and built-environment professionals about the residential development process and the ongoing evaluation of potential sustainable landscaping practices within Sunbridge, a master planned community. Our aim was for 90% of surveyed attendees to self-report an increase in their knowledge. **Methods:** Our team delivered a 90-minute lecture on preliminary research findings of sustainable landscaping efforts. We also guided participants through our living laboratory research sites where we are evaluating soil remediation, arthropod food webs, and drought tolerant landscaping. A Qualtrics survey using a Likert scale was administered to conference attendees two- and six-weeks post event. **Results:** Fifty-six participants completed the survey, a response rate of 57%. Ninety-six percent of respondents increased their knowledge regarding development processes, 98% percent increased their knowledge on sustainable landscaping practices, and 98% percent stated that they were encouraged to contribute to sustainable development and/or landscaping efforts because of the sessions. Additionally, 83% of forty-one respondents reported that the educational sessions provided new ideas for entrepreneurial opportunities. **Conclusions:** After the conference, one developer adopted a master managed landscape plan for 33,000 homes using the methods we discussed. A developer in Duval County is contemplating adopting similar practices, and Lake and Seminole County leaders are considering incorporating these approaches in their landscaping codes.

### Meeting Teens Where They are Leads to Retention

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**Background:** For the last several years, County Council participation had shrunk to only officers attending regularly. It was clear the Council was not creating a sense of belonging. Due to this lack of participation, a complete reboot of leadership programming was needed. **Objectives:** The Teen Leadership Council club (TLC) was created to foster a sense of belonging as evidenced by a 65% retention rate and to empower members to develop a calendar using an original SMART goal. **Methods:** The County Council was replaced by TLC which was open to youth ages 13-18 and was a stand-alone club. The final County Council meeting that included TLC elections and an ice cream social was promoted in the weekly newsletter. Agents also sent personal invitations to age-

qualified youth. At the election, all seven officer positions were filled. Officers attended two one-day summer retreats where they engaged in team building and leadership exercises as well as created a SMART goal and Action Plan using an educational package created by the agents. Their three supporting objectives included marketing TLC, planning activities, and promoting a positive view of TLC. Each objective was met by completing related tasks. **Results:** TLC fostered a sense of belonging as evidenced by a 92.8% retention rate after eight months. The youth created a 9-month calendar to complete their Action Plan and achieve their SMART goal. When the club secretary was asked what she liked best about TLC, she replied, "Doing business with friends." **Conclusions:** By providing teens with programming designed to meet their developmental needs, youth became friends. Youth with the same developmental needs created a SMART goal and Action Plan which led to a shift from an adult-youth partnership to a youth-adult partnership. Ultimately, this resulted in a heightened sense of belonging and strong engagement by an age group that often falls away from 4-H.

## Wits Workout

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**Background:** Senior Citizens lack free programs in the community that promote brain health. As age increases, cognition typically decreases. The Wits Workout curriculum by the University of Illinois Extension fosters socialization and fun and gives participants applicable fundamentals to positively increase cognition. According to the National Institutes of Health, any approach that could decrease the negative effects of age on cognition could have a tremendous impact on quality of life. (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4906299/>) **Objectives:** To provide purposeful intellectual engagement opportunities for older adults, reduce stress, and promote socialization through group participation. **Methods:** The Wits Workout Curriculum promoted purposeful engagement through planned group activities. Each activity targeted areas of cognition such as long-term and short-term memory, recall, recognition, focus, and attention. A variety of educational activities were used from the Wits Workout Curriculum including printable activity handouts, recall exercises, trivia, word scrambles, reading comprehension activities, and more. The program was taught once a month with each lesson lasting an hour. **Results:** Monthly sessions were held with the Senior Center for more than a year. Attendance ranged from 15-23 seniors. 9 participants answered a survey and reported they enjoyed the brain activities used during the lessons. Participants increased socialization by working together to complete activities during class as well as keeping the activity sheets to review and/or finish later if not finished during class. **Conclusions:** By utilizing the Wits Curriculum, participants were able to engage with each other, complete lesson activities, and have fun while doing so. Participants looked forward to the next lesson and continued showing up to participate! One participant said they loved brainstorming, and the activities were educational. Another participant said they loved the training and intellectual challenges.

## Describing the Use of Online Distance Education Methods by Florida Extension Agents

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**Background:** Florida Extension agents are using online distance education in their programming as can be observed by webinar, online course, blog, and other offerings. However, there is no data on the actual usage by agents since 2004, leading to a gap in research describing how agents are deploying online distance education in their programming. **Objectives:** To describe the usage of online distance education by Extension Agents in Florida. **Methods:** An online survey was distributed to all Extension Agents in Florida (N = 314) in summer 2023. Agents shared their use rating on a five-point Likert-scale for 10 major online distance education methods. The collected data was analyzed using the statistics of frequency, mean, and standard deviation. **Results:** Overall, 31.4% (n = 100) of Extension agents responded to the survey. Email consultations (M = 4.5, SD = .9) was the most commonly used method, followed by social media (M = 3.6, SD = 1.2), blogs (M = 3.2, SD = 1.1), webinars and live broadcasts (M = 3.2, SD = 1.3), and online recorded videos (M = 3.1, SD = 1.1). Another lower tier of use was identified containing asynchronous online courses (M = 2.4, SD = 1.3) and synchronous online courses (M = 2.3, SD = 1.2). Finally, virtual field trips (M = 1.7, SD = .9), digital field experiences (M = 1.7, SD = .9), and artificial intelligence (M = 1.6, SD = .9) were the lowest used methods. **Conclusions:** While Extension agents in Florida are using online distance education, their use varies depending on the type of online distance education technology. This information will allow UF/IFAS Extension to better understand how agents are currently deploying online distance education in their programming, assess efforts to support and encourage its use and this information can inform further study and needs assessments.

### Kickstarting Florida's Blackberry Production

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**Background:** Blackberry is the fourth most important berry crop in the U.S., accounting for \$549 million in sales during 2016. It has emerged as an important alternative crop for Florida growers. The 2017 USDA Agriculture Census reported 229 blackberry farms in Florida representing 241 acres. Many Florida growers, including citrus growers devastated by citrus greening, are interested in growing blackberry. **Objectives:** The blackberry research team has been working on addressing the primary choke factors of Florida blackberry production. These factors include the lack of sufficient knowledge for selecting varieties and lack of effective information and tools for crop and pest management. Available varieties were developed in high-chill environments, and they also vary substantially in chilling requirement, cane development, and fruiting characteristics. **Methods:** To break these chokepoints in an effective and efficient way and to promote a blackberry-based agricultural enterprise in Florida, we have organized a research and extension team. This team has been breeding for Florida suitable varieties, researching crop management

and fertility strategies, surveying and evaluating disease and pest management solutions, and providing research finding to growers via extension outreach. **Results:** Our trials have shown that certain cultivars produced 9,000 to 10,000 lbs/A compared to 1,000 – 4,000 lbs/A reported by many of the current Florida growers. Urea applications were found to be useful in managing bloom to overcome chilling requirements. Various management strategies are being evaluated to manage the different identified diseases, pests, and weeds issues. **Conclusions:** Conclusion: This SEED-IT-funded multi-disciplinary project is working on developing Florida-adapted cultivars with low chilling requirements, creating a crop production guide, and identifying and recommended pest management solutions. The Blackberry team has achieved some strides and continues to work on supporting and promoting the blackberry industry in Florida.

### Neighborhood Best Practices Program

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**Background:** Planned communities in Southwest Florida are on the rise. Large tracts of land are transitioning into residential developments with common areas comprised of landscaping, street trees, stormwater ponds and preservation areas. As such, the need for education on the sustainable management of these areas is also on the rise. The Neighborhood Best Practices program was developed to assist Homeowner Associations (HOAs), community association managers and residents in navigating the local resources available for addressing frequently asked questions. **Objectives:** The UF/IFAS Sarasota County Extension Neighborhood Best Practices Program was developed to connect HOA board members, community association managers and residents with resources from both Sarasota County and the University of Florida that will help them adopt more sustainable practices at the neighborhood level. **Methods:** Regular meetings with program staff were scheduled throughout the calendar year to brainstorm ideas, set deadlines, check on content development, and to continuously improve program structure. **Results:** Nine UF/IFAS Extension Sarasota County staff members developed nine content modules as part of an 11-hour, online, self-paced program on Canvas. Each module consists of narrated presentations, interactive activities, and a short quiz to recap the presented information. In total, there are 52 video presentations, as well as 33 interactive activities and quizzes. Eight individual factsheets were created to capture main concepts presented in each module. To assist with further learning opportunities, a comprehensive resource list was developed and included on the program’s front page. A custom PowerPoint template, icon, and certificate were created to give the program a cohesive feel. Methods of program promotion include the development of a webpage, blog, and media release. **Conclusions:** The Neighborhoods Best Practices Program is an example

of a successful collaboration among Extension faculty with future opportunities for a professional audience. Impacts are being evaluated, given the early nature of this program.

### Junior Fair Board: A New Breed of Volunteers

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**Background:** Our fair association had many members who served decades and were feeling burnt out and waning in their interest levels or available time, so a new program was created to empower recent graduates to participate at a more organized level. **Objectives:** (1) Recruit, train, and empower young adults ages 18-25 to jump into leadership at our tri-county fair. (2) Get appointed to committees where they have interest and previous knowledge as a participant to design relevant educational programs in partnership with the agent to reach the current youth audience each year. (3) Junior board members will be more likely to feel qualified and gain trust from the community to volunteer for or be elected to further service as a board member or show superintendent creating a grassroots succession plan for senior board for years to come. **Methods:** Agent designed, fair approved program. Annually recruits young adults to join association, apply and get selected. They serve a 1 year term and must actively participate for their term by helping put on educational programs and serving at fair events to be selected for concurrent terms. **Results:** This program has been repeated four years and there have been a total of 34 junior board members who have served. Of these 34, 7 have served 2 years or more, and 3 have served 4 years or more and five of them have been elected or appointed to the senior board as a board member or show superintendent for the tri-county fair which serves several hundred youth annually. **Conclusions:** These young adults have lightened the load for the senior board through their unique involvement, created new opportunities for youth through the addition of educational programs, been innovative in how we approach growth and development of the fair, and they have earned the trust and appreciation of the livestock community.

### Health Education Program Improves Knowledge of Chronic Disease Management to Mitigate the Impact of COVID-19 among Rural Adults

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**Background:** The COVID-19 pandemic highlighted disproportionate impacts and burdens of disease in rural African American populations. Rural African Americans, who have higher rates of comorbidities such as type 2 diabetes and hypertension, experienced higher rates of COVID-19

related morbidity and mortality. Increasing awareness of the link between chronic disease and severe COVID-19 illness and promoting better chronic disease management have the potential to improve health outcomes among rural adults at risk of severe illness due to COVID-19 infection. We implemented a brief health education program to support the prevention and management of chronic conditions among high-risk populations. **Objectives:** This program aimed to mitigate the impact of COVID-19 among rural adults with or at risk for chronic conditions by 1) increasing participants' knowledge of risk factors associated with chronic disease and severe illness due to COVID-19 and 2) increasing participants' adoption of healthy lifestyle behaviors. **Methods:** We utilized a community-engaged approach to develop and implement a three-lesson health education program. We focused on COVID-19 and chronic disease prevention and management related to prediabetes/diabetes, cholesterol, and hypertension. Extension educators from three rural counties collaborated with community partners to implement in-person or virtual group-based education programs. Over a 6-month period, 153 participants completed the 3-week program. We evaluated changes in knowledge and intention to change health lifestyle behaviors using posttest evaluations. **Results:** Participants' knowledge of risk factors associated with chronic disease and severe COVID-19 related morbidity and mortality improved. Additionally, increases occurred in the adoption of healthy lifestyle and coping behaviors, such as developing self-care plans to better manage chronic health conditions. **Conclusions:** Utilizing a community-engaged approach was effective in promoting changes in knowledge to support chronic disease prevention and/or management among rural adults at risk of severe illness from COVID-19 infection.

## Utilizing Technology and AI to Create More Time in Your Schedule

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**Background:** We are pulled in multiple directions due to an increased demand for our time. With the introduction of artificial intelligence (AI) into our work lives, we can spend less time planning to work and more time working. **Objectives:** AI software design and technology allow agents and staff to develop follow-up and task management plans. Additionally, these programs work together to enable participants to balance work and life properly. When time is saved at work, additional programming can be developed. **Methods:** Extension Agent and staff employ an AI scheduler to create a streamlined agenda and follow-up system to auto-populate their current calendars. **Results:** Using the AI programming system allowed the agent and staff to shave off two hours each day on administrative work, equating to an extra 40 monthly hours to focus on new programming. **Conclusions:** Creating an environment of success and a sense of accomplishment as multiple tasks were completed on time with AI time management tools. The ability to navigate new technology allowed the agent and her staff to stay on task. To-do lists have become a thing of the past for the agent and staff. Additionally, email follow-ups are scheduled automatically. This created a proper separation of work and home life. The agent and staff reported being more focused at work and at home.

## Developing a Variety Assessment Program for Florida Rice Growers

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**Background:** Rice is grown on ~27,000 acres of land in rotation with sugarcane and vegetables, and acts as a compatible crop for best management practices (BMPs) in the Everglades Agricultural Area (EAA). While UF/IFAS researchers and extension personnel are available to address the needs of rice growers, the industry lacks a dedicated rice breeding program, making growers dependent on varieties acquired from other rice-producing states. **Objectives:** A rice variety assessment program was developed to assess yield and disease-susceptibility in order to provide varietal recommendations for Florida rice growers. **Methods:** From 2016-2022, 16 small-plot rice variety trials were conducted within commercial rice fields to examine yield and disease-susceptibility of over 25 rice varieties released from breeding programs in Louisiana, Arkansas, Texas, and Mississippi. At harvest, plots were cut, threshed, and dried, and rough rice weight was measured, in addition to visual examination for disease incidence. Results from each trial were presented to growers during biannual rice commodity group meetings. **Results:** Three of the top-produced rice varieties in Florida (Jewel, Diamond, and Titan) were adopted by growers based on results from the variety assessment program, with yield increases up to 11.1% compared to previously grown varieties. In 2022, combined acreage of these varieties exceeded 65% of the total rice acreage in Florida. In addition, funding from the Florida rice industry was secured to purchase a laboratory rice mill for the UF/IFAS Everglades REC, which is expected to improve assessment of rice quality parameters. **Conclusions:** The rice variety assessment program continues to provide an influx of high yielding varieties, helping to ensure that rice remains a profitable rotational crop on muck soils.

## Extension Education of Best Management Practices Helps Central Florida Residents Save Water

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**Background:** Florida is facing critical water scarcity due to population growth and seasonal drought. The home landscape is an opportune setting to make changes in practices to conserve water. Extension programs on water conservation in the landscape can provide residents with the information they need to adopt new practices to conserve water. **Objectives:** The objective of this program is to reduce water usage in residential lawn and landscapes using UF/IFAS best management practices. **Methods:** In 2021-2023, UF/IFAS Extension residential horticulture programs in Central Florida educated 6,474 residents about water conservation practices in the home landscape. Recommendations included calibrating sprinkler systems to deliver  $\frac{1}{2}$  inch to  $\frac{3}{4}$  inch of water instead of 1 inch, reducing irrigation frequency during summer and winter, installation of soil moisture sensors, and converting to more efficient spray heads. A 6-month follow-up survey was sent to participants to capture behavior change. **Results:** The water savings due to adoption of best landscaping practices was approximately 11.6 million gallons, saving homeowners \$49,977 in utility bills. Further impacts can be derived from the life cycle assessment of water supply, where the reduction of this residential water use resulted in saving 40,022 kWh of energy and \$30,162 in treating and delivering water to the end users, reducing 28 metric tons of carbon dioxide equivalent

of greenhouse gas emissions, deferring the need for \$98,734 investment in alternative water supply infrastructure. **Conclusions:** The impacts of these water conservation efforts are even greater than the values represented here based on total program attendance. This shows the efforts of extension educational programs resulted in measurable water savings to help Florida households conserve water.

### Building Mastery and Workforce Development Through 4-H Team Programs

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**Background:** Youth are continually looking for opportunities to excel and be a standout against their peers for scholarships and college acceptance, which impacts the probability of a youth's employment in a field of interest. According to U.S. News & World Report, teens who can clearly outline their interests and show potential to college admissions are more likely to be admitted. Marion County 4-H focused efforts on team programs that allow youth to demonstrate mastery in an area(s) of interest at county, state, and national levels. **Objectives:** The objectives of team programming are to develop mastery in a subject area and increase workforce readiness by developing critical life skills such as effective communication, decision making, and rational problem solving. **Methods:** Marion County 4-H recruited volunteers with skillsets and knowledge focused on a variety of subject areas including forestry, meat science, livestock, horticulture, poultry/avian, robotics, and equine. 4-H faculty work directly with these volunteers to develop intentional and complete programs that occur throughout the year. Some participants were able to learn from industry and academia professionals nationwide. **Results:** As a result of volunteer recruitment and team program development, Marion County 4-H produced five senior judging teams that won overall at the state level in their respective competitions. Three of those teams placed in the top ten nationally. In addition, many of those youth have received/accepted offers for full scholarships for higher education in the subject area they competed in. All participating youth have developed various skills sought after by colleges and employers. **Conclusions:** 4-H offers youth a variety of team programming that give youth the opportunity to excel, regardless of the subject area that sparks their interest. The knowledge, skills, and workforce development gained through 4-H team programming put youth at the forefront of applicants when applying for opportunities into adulthood.

### Addressing Chronic Disease Through a Mediterranean Online Cooking Series

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**Background:** The top four causes of death in Polk County are lifestyle-related chronic diseases. The age-adjusted death rates are higher in Polk County than they are for the state of Florida for each of the four most common causes of death: heart disease, cancer, chronic lower respiratory disease, and stroke, as well as diabetes. Eating the Med (Mediterranean) way has been shown to reduce the burden or even prevent cardiovascular disease, diabetes, some cancers, and cognitive decline. **Objectives:** To increase knowledge of how to eat the Mediterranean way and to increase

chronic disease prevention behaviors, such as choosing healthier foods. **Methods:** Med Instead of Meds is a six-class series that teaches participants the seven steps to eating the Med Way. Two food demonstrations were included with each class. The classes were online, so participants were encouraged to cook along to learn to prepare and try the recipes. Each recipe the participants made was an entry into a drawing for five \$20 Publix gift cards. **Results:** Thirty-three people registered for the series, and an average of 20 people attended each session. Sixteen participants (48%) cooked recipes for the contest for a total of 88 recipe entries. Ninety-six percent of survey respondents (22 of 23) were very or extremely satisfied with the class, 96% increased their knowledge on how to eat more like the Mediterranean way, and 96% indicated four or more healthy changes they have made as a result of the class. Participation also correlated with overall health changes. Eight participants reported weight loss, five reduced blood pressure, three reduced cholesterol, and two reduced the amount of medicine they take. **Conclusions:** This class was not only enjoyed by participants but resulted in behavior change and improved health and could be used as a tool to help prevent chronic disease.

## What Post-Processing Imagery Analysis Can Replace Visual Stand Density Assessments in Pastures?

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**Background:** Bahia (*Paspalum notatum*) is one of the most utilized forages in Florida. Previous work demonstrated a highly significant difference between treatments. This is a continuation of an establishment trial from 2020 combining Bahia and Browntop millet (*Urochloa ramosa*). In 2021, we obtained drone imagery using different methods to determine if stand density can be measured without visual stand assessments. **Objectives:** Compare the visual stand assessment with the different types of aerial post-processing analysis of Bahia establishment. An unpaired t-test will be used to determine whether a significant difference exist. **Methods:** This was a completely randomized block design with three replications at 30 square meters each. These were evaluated using human estimation of ground coverage of Bahia, utilizing enhanced normalized difference vegetative index (ENDVI), thermal images of the plots from the drone, and ImageJ identified Bahia. ImageJ is an open source image analysis tool developed for counting cells in an image. By using color filters, it is possible to identify certain plants. **Results:** The plant health algorithms, thermal images, and ImageJ analysis were closely aligned to the visual assessments where Bahia was mixed with Browntop millet. However, there was no correlation between Bahia or Browntop millet when planted alone. As a tool to measure stand density, drone imagery using plant health algorithms or thermal images are not a suitable replacement for visual stand assessments. **Conclusions:** While drone images are useful to identify places of concern in pastures using ENDVI, it does not yield reliable results for estimating percent forage coverage when compared to a visual assessment. Thermal images and ImageJ, likewise, do not correlate to the visual assessment. The plant health algorithm that best highlighted the Bahia was ENDVI with spectral reverse.

## Quick – Take Cover – The Benefits of Using Cover Crops

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**Background:** Cover cropping is not a new concept, but it is gaining new traction. The use of cover crops can reduce fertilizer and herbicide use, improve soil health, prevent soil erosion while conserving soil moisture, protect water quality while conserving water, and resulted in long-term improvement in crop yield. Additionally, these benefits have a positive impact on our natural resources. **Objectives:** UF/IFAS Extension wants fruit and vegetable producers to learn the motives for utilizing cover crops, to understand the short and long-term benefits to farm ecology, facilitate field demonstration days, and discuss with other producers the types and cultivation methods for several cover crop species. **Methods:** Three farms agreed to experiment with the use of four thriving cover crop species, for our region, to reduce crop pests like weeds and nematodes. They also agreed to host field day demonstrations to teach other producers what they learned. **Results:** By Year 3, all three farms (total of 343 acres with cover crops experimentation) noticed subtle changes in the soil strata, a reduction in weeds and nematode pressure where cover crops were planted, and the ability to reduce their fertilizer and pesticide applications. Some cover crop species failed to perform. Preliminary data will be shared of the successes and the challenges of using cover crops. **Conclusions:** Conclusion: Producers were reluctant to try cover crops due to the financial expense. After three years of data, they are noticing an increase in soil organic matter; a suppression of soil pests like nematodes; they have reduced the summer herbicide treatment and the soil nutrient levels are slowly building in the soil. The potential economic benefit is currently being calculated by the farms for their acreage by the reduction of herbicide and pesticide applications, and the data will be shared in the presentation.

## Preparing Industry for a Sustainable Future in Green Infrastructure: The Living Shorelines Training for Marine Contractors Course

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**Background:** In 2018 partners from state and federal agencies, local governments, non-profits, universities, and private industry developed the Living Shorelines Training for Marine Contractors course. Living shorelines, in which natural elements, such as native shoreline vegetation and oyster reefs, are utilized as a sustainable and resilient method of shoreline protection and stabilization, reducing erosion, enhancing wildlife habitat, improving water quality, and adaptation to sea-level rise. Florida Sea Grant (FSG) extension faculty initiated teaching this course, virtually, in 2021. For 2023-2024, FSG obtained support from the FL Department of Environmental Protection to conduct in-person trainings in 12 locations throughout Florida. **Objectives:** The objective of the course is to train marine contractors and environmental professionals in the implementation of living shorelines as a 'green,' nature-based alternative to traditional, 'gray' infrastructure such as seawalls, bulkheads, and revetments. Our overall goals are to increase professional practice in living shorelines as a growing green industry. **Methods:** The course includes eight hours of

instruction covering the design, permitting, monitoring, and maintenance of living shorelines. Instruction is performed through lectures, videos, group activities, and field trips. Pre-and post-tests measure knowledge gain. Behavioral changes (e.g., increased living shoreline practice) are captured through surveys of previous participants. **Results:** In 2021, 36 private businesses acquired new skills in living shoreline practices, supporting 44 jobs with an estimated economic impact of \$3-\$4M and an investment value in the training at \$12-\$15K for each participant. Knowledge gain increased by 15%. So far in 2023, 70 people, over 3 courses, have received instruction across east, northwest, and southwest Florida. **Conclusions:** Initial results show great promise that professional training in living shorelines may further a green industry that will improve the health and resiliency of Florida's coastlines. The FSG project team, along with multiple partners will continue these efforts in 2024.

### County Day Camps: Leveraging Local Partnerships to Expand Program Capacity

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**Background:** Faculty in two counties share success stories about leveraging county support opportunities to grow program capacity through summer day camp expansion. **Objectives:** Faculty looked for ways to provide robust summer day camp program offerings that would: appeal to their communities, be feasible within local budget constraints, and help grow their 4-H programs. Each county used workforce development strategies to expand their program reach. **Methods:** Faculty worked with their County Extension Directors to draft program proposals for county government. In county one, the 4-H agent drafted a proposal to hire adult personnel to staff the camp. Adult staff also supervised teen volunteers in addition working with campers. In county two, the 4-H agent's proposal requested paid staff from the county's summer youth employment program. Extension faculty supervised the paid high school age youth who led summer camp activities. **Results:** County one began the expanded summer camp program in 2021. In 2021, eight staff members were hired for nine weeks of day camp. The camp served 77 youth ages 5 to 13. Six teens served as youth volunteers. In 2022, ten staff members were hired for 8 weeks of camp. The camp served 111 youth ages 5 to 13. Over the summer, 18 teens served as youth volunteers. County two began their expanded program during summer 2022. The program hired nine summer youth employment participants and enrolled 36 4-H youth ages 5 to 13. **Conclusions:** County faculty look for ways to grow youth participation with limited resources. Leveraging local partnerships to expand program capacity with workforce development strategies can provide ways to reach more clientele.

### Financial Friday: An Employee Wellness Program

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**Background:** Financial stress can cause numerous health and emotional problems, from sleepless nights, depression, anxiety, and substance abuse. These health problems can impact the work environment, from taking more sick days, reduced productivity, and costing thousands yearly in absenteeism, according to Employee Benefit News. An Extension program in financial counseling was offered to address financial wellness to Pasco County employees. **Objectives:** The

objective was for at least 50% of those surveyed to report an increase in knowledge on their financial skills or knowledge, and at least 30% will take action to improve their financial status within one month. **Methods:** The employee wellness coordinator from county government partnered with the agent upon seeing financial wellness was a top request from employees. The agent agreed to offer private financial coaching/counseling to the employees one Friday a month, and offer it on Zoom and in person, rotating the locations around the county each month. The wellness coordinator sent out email blasts to all employees, which included the agent's Qualtrics intake survey that gathered participants' contact information, preferred time and location, and background questions. Each session was one hour, and 4-5 times were offered. The agent and employee would put together a budget, list out debts, catch spending leaks, and more. **Results:** 17 sessions were done. 94% (n=16) increased their knowledge on their personal finance situation, and 76% (n=13) learned how to maintain a budget surplus. One month post session, out of 9 responses, 66% (n=6) reported better credit card practices, and 89% (n=8) took a step to reach a financial goal, such as paying off debt. **Conclusions:** Partnering with county government gave county administration a better idea of what Extension does, while also helping employees address their financial stress.

## Creating the Oriental Fruit Fly Host Database

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**Background:** The Oriental Fruit Fly, *Bactrocera dorsalis*, is one of the most destructive pests in the world with a host list of 437 species. This list includes a large number of Florida's fruit crops, vegetables and even some ornamental plants. **Objectives:** Because of the Oriental Fruit Fly's (OFF) potential to economically damage Florida's agriculture industry, an interactive database was needed to help Federal (US Department of Agricultural Animal and Plant Health Inspection Service) and State (Florida Department of Agriculture and Consumer Services) emergency programs focus their control efforts based on accurate fruit phenology information of all potential hosts in Florida at any given time. Information included in the database would include the county the host is found, common and scientific names of hosts, and months the hosts are fruiting. **Methods:** The commercial tropical fruit Extension agent met with staff from the UF/IFAS Tropical Research and Education Center (TREC) to brainstorm how to create this database. Herbariums, and online databases were searched to find which host were present in which counties. State Extension agents were also contacted to give data on hosts and fruiting phenology. The data was then compiled into a series of spreadsheets which was then funneled through PowerBI. **Results:** The OFF user-friendly database was successfully completed through collaboration of State Extension offices, and staff from UF/IFAS TREC. **Conclusions:** The database will be useful during emergency programs when tracking down fruiting hosts and during routine trapping when traps are seasonally rotated to hosts that are currently in fruit. Creation of the database was made possible by a grant from the US Department of Agricultural Animal and Plant Health Inspection Service.

## Cool-Season Forages: Ryegrass Planting Method Demonstration

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**Background:** Florida beef cattle ranchers utilize warm-season perennial grasses to provide grazing throughout the spring, summer, and fall. Unfortunately, forage availability during the winter months can be limited for grazing. Since 55% of the cost of maintaining a cow can be associated with winter feeding, some producers use cool-season forages to bridge the gap between growing seasons. **Objectives:** Our objective was to demonstrate different planting methods for ryegrass in Central Florida. **Methods:** Soil tests were conducted in July 2023 to evaluate nutrient needs before planting. On November 14, 2023, four plots measuring 3.048 meters wide, and 76 meters long were mowed and planted using different planting methods. Ryegrass was planted with a seeding rate of 13.608 kg per 0.405 hectares totaling 0.816 kg of ryegrass per each plot. The first method was planted by broadcast over-seeding and rolled. The second method was no-till drill and rolled. The third method was light disk, broadcast seed, and rolled. The fourth method was planted using an aerator, broadcast seed, and rolled. After planting, it rained a total of 0.095 meters during the first week. All plots were fertilized 15 days after planting using 16-4-8 (N-P-K) at 136 kg per 0.405 hectare and 84 days at 68 kg per 0.405 hectare, providing 21 and 10 kg Nitrogen per 0.405 hectare. **Results:** Visual observations conclude that the light disk method showed the best results following no-till drill, aerator, and broadcast seeding. A field day was conducted on February 23, 2024, where 62 participants saw firsthand the results of the different ryegrass planting methods. In post-meeting survey evaluations, sixty-one percent of participants increased their knowledge of cool-season forages by attending this program. **Conclusions:** Cool-season forage production can help provide high-quality nutrition to livestock during winter and spring and may be an option for producers in Central Florida.

## Quantifying Impacts of Water Quality Education: Developing A Workload Indicator

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**Background:** Florida is home to lakes, rivers and streams that are impaired by nitrogen and phosphorous. These water resources are economically and environmentally tied to the area through recreation, property values, wildlife support and aquifer recharge. Research from the Florida Department of Environmental Protection shows that nitrates enter the watershed from excess urban turfgrass fertilizer. **Objectives:** Primary objectives were to increase knowledge and move participants toward intention to change their behaviors. 3-6 months after the class we wanted at least 50% of program participants to report adopting at least one fertilizer practice as measured by a follow-up survey. We sought to transform the data into a workload indicator extension professionals statewide could utilize in programming and reporting. **Methods:** Sept. 2018 – Sept. 2024 Fertilizer Workshops educated participants on Best Management Practices (BMPs) for landscapes. Workshops targeted homeowners, who received a free bag of fertilizer, and FDACS licensed landscaping professionals, who received Continuing Educational Units. **Results:** 2,714 people were educated about fertilizer BMPs. We calculated the N leaching reduction from participants complying with recommended BMPs from follow up survey results and extrapolated an economic impact. Results revealed 613 participants used a 50% or more slow-release nitrogen fertilizer, reducing annual N leaching by 596 pounds which corresponds to an economic benefit of \$297,918. Additionally, 578 individuals reported following the restricted period requirements, which equated to a reduction of 1,143 pounds of N, worth \$571,353. The tool used to calculate this was published in an EDIS, delivered in an IST and integrated into Extension Workload reporting. **Conclusions:** These collaborative state-county educational efforts resulted in significant behavior changes which seeks to reduce local levels of nitrogen and phosphorous. The tool is available to extension agents and is being integrated and adopted statewide, and this process may be useful to identify impacts resulting from other initiatives.

**Clue Chasers: Forensic Science Day Camp**

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**Background:** While planning summer day camps, it was important to make science come alive and offer a day camp, unlike any previous camps. Including expert presenters or field trips was appealing. Giving kids a chance to do things they couldn't do anywhere else would make this St. Johns County 4-H summer day camp an attractive and memorable experience. **Objectives:** As a result of the day camp activities, 66% of youth will improve their communication skills, 80% will experience a sense of belonging, and 66% of youth will use what they learn in other activities. **Methods:** The camp was open to youth ages 11-18. The 4-H agent created and taught the six campers eight lessons, each focusing on a different forensic skill. The group activities included active listening, blood typing, textile identification, water testing, fingerprinting, eyewitness analysis, back-to-back drawing, and pollen identification. A St. Johns County Sheriff's Office Criminal Investigator presented several investigative techniques through hands-on group activities. She also gave the campers a tour of the CSI mobile unit. In the final team activity, the campers solved a murder mystery using four investigative tests while thinking critically. **Results:** In an assessment given at the end of camp, the following was found. All six campers answered all the

following questions (n=6). Communication skills: 83.3% of campers strongly agreed, “As a result of the back-to-back drawing activity, I will give simple and clear directions for a complicated task.” Sense of Belonging: 83.3% strongly agreed, “During the Clue Chasers camp, I felt like part of the group.” Learning a skill that can be applied outside the camp: 83.3% strongly agreed, “As a result of the mystery-solving activity, I will use several strategies to solve a complex problem.”

**Conclusions:** Youth participating in summer day camps that include group activities can experience a sense of belonging.

## Community Health Impacts of Lake County’s Discovery Garden

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**Background:** Research shows health benefits associated by interacting with nature. Many extension offices have gardens where visitors can experience these benefits. Few offices offer a variety of tours with pre/post surveys to collect information on garden health benefits. Extension gardens are an under-utilized data resource that extension agents should consider using.

**Objectives:** To show the community health impacts the Lake County Discovery Gardens provide by collecting data on perceived health benefits of garden tour participants. Additionally, this project aimed to see if perceived health benefits were different between docent, audio, and signage tours.

**Methods:** From January-April 2023, tours were held 1-2 days a week. The revolving schedule included Monday-Saturday. Tour times were 9am-1pm. All participants were asked to complete pre/post tour surveys. Docent tours were led by the Residential Horticulture Agent, or trained Master Gardener Volunteer. All participants were instructed on tour logistics before starting. Signs were covered during docent and audio tours. **Results:** Twenty-one tours were offered. 138 people participated in the tours with 118 completing the post survey. 68% of respondents stated they improved their mental health: 49% docent, 17% signage, 3% audio. Improved social connectedness was reported in 69% of all participants: 56% docent, 22% signage, 0% audio. Increased energy was reported by 47% of participants: 35% docent, 23% signage, 1% audio. An increased sense of well-being was reported in 73% of all participants: 80% docent, 22% signage, 1% audio. An improved outlook on life was reported by 56% of all participants: 42% docent, 13% signage, 1% audio. Increased physical activity was reported in 69% of all participants: 54% docent, 13% signage, 1% audio. **Conclusions:** While all tour types showed some level of reported health benefit, the docent tours reported them in higher numbers. Any extension garden can use these methods to show the health benefits perceived by their garden visitors.

## Strengthening Your Facilitation Skills Teaches Participants How to Guide Groups Towards Positive Change

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**Background:** Extension faculty often facilitate meetings with clientele and stakeholder groups. These meetings might have specific goals, such as strategic planning, program development, or conflict management. As community issues become more complex and Extension audiences become more diverse, faculty with strong facilitation skills will be more effective in leading groups toward positive change. In March 2022, specialists from Virginia Tech trained 16 county Extension faculty to deliver the Strengthening Your Facilitation Skills (SYFS) program. **Objectives:** SYFS is an educational program that teaches Extension faculty, community organizations, businesses, and local governments how to be effective facilitators. **Methods:** The two-day program uses lectures, group activities, discussion, and hands-on practice to teach participants the fundamentals of facilitation. Participants learn the stages of group development, techniques to help groups make decisions, and how to help groups reach a consensus. Participants learn how to manage group conflicts, such as managing disruptive behaviors or engaging quiet participants. Practice is essential to developing facilitation skills, so participants work in small groups to engage the audience through a facilitated discussion. Audience members are given a feedback form to assess the group's exercise. Feedback is provided verbally, and the forms are left with the facilitation group to help them learn and grow. **Results:** The faculty trained in 2022 meet monthly to plan SYFS programs and to learn about facilitation through shared experiences. The program was delivered to 24 Lee County and Orange County community members. Survey data for all participants show that knowledge increased by 65% and facilitation skills increased by 32%. **Conclusions:** The Strengthening Your Facilitation Skills program helps community members and Extension faculty guide groups toward positive change. More importantly, faculty trained in facilitation skills can leverage these skills, provide added value for stakeholders and partners, and enhance their Extension skillset.

### **Increasing the Community's Appreciation of Local Agriculture**

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**Background:** Our county is known for its diverse agricultural commodities and its natural resources. It is the largest caladium producer in the world, as well as the second largest cattle and third to fourth largest citrus producer in Florida. These products are of great economic importance and interest to residents and visitors alike. According to our county's Natural Resources Department, we are also home to some of the last remaining scrub habitat on the Lake Wales Ridge and some of the nation's rarest species of plants and animals. **Objectives:** Introduce program participants to local agricultural practices and the challenges that producers may currently face. Increase participants' understanding of these practices and relay the efforts that agriculturalists are making to preserve and protect the county's natural resources. Increase the public's awareness of local agricultural operations and conservation efforts. **Methods:** UF/IFAS Extension Agents in our county collaborated with local agriculturalists to provide three day-long agriculture tours that focused on each of their areas of expertise; Livestock, Horticulture, and Ag &

Natural Resources. The participants were given the choice to attend one or multiple tours. Fifty-two seats were available in each bus giving us a total of 156 participants. The tours were promoted in the local newspaper, email lists, newsletters, social media, and promotional flyers. **Results:** In the post-tour survey, 93% of participants reported increasing their knowledge of Florida agriculture while 88% had a better understanding of the importance of the agriculture industry regarding food production and their role in preserving natural resources. Additionally, 95% of participants indicated they would look for Florida-grown and raised products when making their day-to-day purchases. **Conclusions:** The combined efforts of Agriculture Extension Agents can provide an immersive educational experience for program participants while promoting local agriculture and clarifying the challenges that our local stakeholders face.

### Examining SCUBA dive shop code of conduct and SCUBA diver behavior in the Kristin Jacobs Coral Reef Ecosystem Conservation Area (ECA)

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**Background:** SCUBA diver impact on coral reefs has been studied extensively around the world, however, apart from two studies performed in the Florida Keys National Marine Sanctuary, there are no studies that quantify diver use and impacts on Florida's Coral Reef (FCR). This project focused on SCUBA diving businesses in the ECA region (Miami-Dade, Broward, Palm Beach, and Martin counties) and will have applications for future management. **Objectives:** Conduct an observational study of SCUBA diving businesses and SCUBA divers in the ECA region. **Methods:** Study methodology contained a three-pronged approach: 1) visual evaluation of educational materials displayed in the SCUBA diving shops, 2) analysis of on-board dive briefings for coral reef-specific content, and 3) visual observations of SCUBA diver behavior underwater. **Results:** Eight SCUBA diving businesses were evaluated. Preliminary examination of the data indicates that most of the businesses do not currently offer any FCR-specific educational content in their storefronts, nor do they mention corals in their onboard dive briefings. Out of the approximately 30 SCUBA divers evaluated, physical contact with the reef (hands, legs or equipment touching, whether intentional or accidental) was minimal. **Conclusions:** The results of this study will serve as a justification for the future implementation of a voluntary education and conservation program targeting SCUBA diving businesses in this region. The results of this study will serve as the baseline for a follow-up study to take place in three to five years following implementation of this conservation program. This study has several positive implications for the FDEP Coral Reef Conservation Program, who manages this section of Florida's Coral Reef.

### Transforming Youth into Responsible, Active Citizens at Camp USA.

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**Background:** Youth can be an integral part of their community and become productive citizens when they are actively engaged in local issues and service-learning projects. A study by the Edna McConnell Clark Foundation revealed that youth civic engagement improves academic achievement, lowers suspension/dropout rates, and lowers rates of teen alcohol use and teen pregnancy (2002). **Objectives:** 4-H Agents would develop a program for youth ages 8-12 to be delivered in the form of day camps titled “Camp USA” that would teach Civic Education and allow civic engagement. **Methods:** The Civic Education portion of Camp USA included hands-on learning through interviews with national, state, and local leaders along with crafts, activities, and field trips to help youth better understand the structure of government, the political process, and the constitution. The Civic Engagement portion included local community service acts such as serving at senior food banks, community clean up days, and serving veterans. **Results:** 45 youth participated in “Camp USA”. 100% said participating in a community service project made them feel better about themselves and would like to continue participating in a service-learning project. Of the youth, 84% were able to explain and identify the 3 branches of government, 96% could explain the process of running for public office. 96% understood the Bill of Rights is the first 10 amendments to the constitution and 84% were able to identify at least 5 of the first 10 amendments of the constitution. 100% felt they were able to resolve conflict peacefully. **Conclusions:** Camp USA was very successful in increasing knowledge in youth 8-12 years old about the political process, the purpose of the US Constitution, and the three branches of government. The civic engagement activities allowed youth an opportunity to experience the joy of giving to others and having a positive impact on their community.

### **Funds and Financing: Alternatives to SHIP Down Payment Assistance**

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**Background:** Many participants come to Extension homebuyer courses because they learn that county funding is available to assist with buying a house. Each year millions of dollars are awarded by Congress and distributed through the State Housing Insurance Program (SHIP) to all counties in the state. Despite the large sums awarded, only a small percentage of residents receive SHIP funding to help them achieve the dream of home ownership (Florida Housing Finance Corporation; 2018). However, there are other sources of financial assistance and affordable mortgages that can help homebuyers. **Objectives:** Extension agents and home buyers benefit by learning about additional resources available to help purchase homes. Agents and participants gain access to a new resource guide. **Methods:** One Extension agent worked with community partners to create a resource guide and presentation on alternatives to SHIP. The guide lists sources of 100% financing, USDA loans, credit unions, and bank loan programs that include help with closing costs, reduced mortgage insurance, or other incentives. “Alternatives to Down Payment Assistance” was included as a new supplement to the lesson on mortgages in some home buyer education courses in 2022. Participants who completed the class received a copy of the resource guide. **Results:** In 2022, 1302 participants completed home buyer education courses. Six month follow up surveys show

that 21% (n=488) of participants purchased homes within six months of taking the class, but only 2% (n=488) reported receiving SHIP. Class participants reported in the post-class surveys that the resource guide helped them understand the different types of mortgages and increased their confidence in shopping for mortgages and seeking alternative assistance. **Conclusions:** Educational materials that provide strategies to access financial resources to purchase a home help Extension agents serve the community and help more families achieve home ownership.

## Empowering changemakers through positive youth development with 4-H Community Action Projects for the Environment

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**Background:** CAPE is a 4-H youth (11-18) program helping them navigate the process of exploring, developing, implementing, and reflecting on a project that addresses an environmental issue affecting their community by engaging with decision makers to make a change that benefits everyone. Linked to 4-H life skills, youth engage in exploring local environmental issues and community governance then identify an issue and a team project. Rather than assigning youth with a pre-determined service project, CAPE leads youth through a critical thinking process to make a persuasive request of decision-makers which improves their community. **Objectives:** Youth will increase civic literacy and governance skills through self and collective efficacy and increase life skills related to critical thinking, decision-making and communication. **Methods:** A co-development team from UF and FAMU worked together to create a curriculum matching the interests of youth and abilities of volunteers. A needs assessment in August 2021 (n=37 of 70 UF 4-H Agents; 82 of 1000 4-H Volunteers) found that most clubs meet once a month and the concept was appealing to most leaders despite being new to community decision making (29% of agents and 30% of leaders had engaged in the past). Participating counties completed the pilot, providing critical feedback. The pilot continued in 2022-23, expanding to other states and additional Florida counties. **Results:** The co-development team met regularly to discuss and share feedback from participating counties. Youth provided meeting reflections which were used to tailor the lessons to the 4-H framework. Results of the 2022-23 cohort will be discussed. **Conclusions:** The team streamlined and enhanced the curriculum to include eight sessions of instruction and meaningful activities leading youth to effect policy change related to an environmental issue. The program has been adapted to a variety of delivery modes beyond the community club and is available online.

## Connecting Youth in Urban Communities with Agriculture

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**Background:** In a big city, where over 80% of the land is covered in asphalt, where is the city's agriculture? Urban agriculture is important in enhancing food security, creating job opportunities, and creating sustainable agriculture. Involving diverse youth in education that encompasses the process of local agriculture supports societal engagement. **Objectives:** The 4-H agritech & food systems apprenticeship was developed to educate teens about urban agriculture. Teens learned about hydroponic farming, healthy living, nutrition, and seed breeding. This program was developed to address food insecurities in the opportunity zone where the farm is located.

**Methods:** 4-H Partnered with various levels of community partners to develop a robust foundation for our apprenticeship. Our program worked with school-based partners, local restaurants, and local growers with the support of extension agents and researchers. Our local hydroponic farm educates youth about urban agriculture and entrepreneurship. Our local restaurants allow us to host programs and provide guests with food and beverages. Our school partners paid interns \$1500 for five weeks to work with us and provide financial literacy. **Results:** Upon conclusion of the 4-H agritech & food systems apprenticeship, teens (n=6 for 2022) responded to post-surveys that, because of participating, they usually replied yes to the following statements based on their participation in 4-H. "I can figure things out for myself," "I can teach others what I have learned," "Encouraged to plan for my future," and "I learned how to help my community." **Conclusions:** Collaboration amongst over 10 community partners allowed us to create a successful summer apprenticeship program for high school students. This was the youth's first experience with the 4-H youth development program. Four of the six youths participating in our summer apprenticeship program have returned and invested in our youth development program. Youths participating in the program were also offered jobs at our local hydroponic farm.

## Educating Through Technology: Influencing Decision Makers and the Public on Water Quality

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**Background:** Florida has experienced dramatic impacts from red tide and other harmful algal blooms in recent years, leading residents to come together to demand action. The Sarasota County Commission identified water quality as among its highest priority issues and made significant policy and financial commitments. **Objectives:** Educating both decision makers and residents on

the complicated issue is a challenge and Extension was asked to take the lead across all county departments. The Water Quality initiative aimed to educate the greatest numbers possible on a diversity of water quality strategies by applying innovative technology-based strategies. **Methods:** A Water Quality Story Map was developed, communicating the diversity of actions taken by the county and the opportunities for residents to make changes. This interactive and appealing tool took nearly a year to develop, involved over a dozen county staff, and was presented to the County Commission. In addition, annual “Water Quality Virtual Update” webinars have summarized the science, as well as county and individual actions. Throughout the year, monthly videos are filmed, interviewing county staff from various departments on the latest water quality accomplishments and resident opportunities. Additional efforts include a new asynchronous course for neighborhoods on environmental best practices, a creative social media campaign on fertilizer reduction, and much more. **Results:** The live virtual events have reached hundreds and recordings continue to be accessed online. The Story Map was used by over 700 in its first seven months (plus media coverage) and the other online materials have been accessed by thousands. **Conclusions:** This comprehensive approach using virtual tools to educate has improved understanding of this complicated issue, increased awareness of the diversity of efforts, and encouraged residents to be part of the solution by implementing changes in their behavior that can affect water quality. The tools are easily replicable in other counties.

### Equipping Your Program with Lifesaving Tools for Success

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**Background:** According to the National Institute for Health, Cardiac arrest is responsible for 5% – 10% of all deaths among children aged 5–19 years. As we age, the risk of cardiac arrest increases. For adults between the ages of 35-64 years old, heart disease is one of the top three leading causes of death. Heart disease is the number one cause of death in people over 65 years old. CPR certification is one of the most crucial training courses anyone can participate in. **Objectives:** To empower youth development professionals and volunteers with the information to get certified in Cardiopulmonary Resuscitation (CPR) training and the ability to operate an Automated External Defibrillator (AED) and learn first aid basics. **Methods:** Training through the local Emergency Operations Center and the extension office was provided to 12 Master Gardener volunteers and four extension agents. **Results:** A class of 12 Master Gardener volunteers and four extension agents received CPR and AED certification after one of the volunteers had a cardiac issue. **Conclusions:** This program establishes and nurtures local partnerships with Emergency Operation Centers and paramedics for training. The ability to receive certification and lifesaving skills is empowering and builds confidence. The CPR/AED certified volunteers reported being more comfortable since the training. The certification also adds a workforce readiness skill. This class is now being offered to 4-H youth and includes suicide prevention training.

### Annie’s Project, Empowering Women in Agriculture through Building Networking Opportunities

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**Background:** “Women have been a critical part of farm operations across the country – and around the globe – for centuries. As women in agriculture, we have an opportunity to be the change we want to see in our industry.” retrieved 4/26/23 Women in Agriculture | USDA Leadership among women strengthens individuals and communities, driving a ripple effect toward self-reliance, prosperity, and food and nutritional security. **Objectives:** Participants will adopt strategies regarding five primary risk areas with agriculture entrepreneurs. Participants build a network of women in agriculture to create a support system to broaden their knowledge and improve their capacity for faster advancement and greater status and authority. **Methods:** Extension Agent, Annie’s Project National Office, and sponsors provide educational curriculum, networking opportunities, and resources through an 18-hour program. The five risk areas, human and personal, legal, financial, market, and production risks, will be covered by the curriculum and experts with hands-on experience. 50 % of the time is delegated to networking, creating a support system for participants. **Results:** A post-reflective survey showed that of 19 participants, 100% (n=12/12) gained at least 20% knowledge in the five risk areas. Further analysis showed 92% (n=11/12) had implemented at least one strategy presented in Human Resources, 83% had implemented at least one method to reduce risk in the Legal area, 58% had implemented at least one strategy in the Marketing area, and 50% had implemented at least one strategy presented in the Financial and in the Production risk areas. 42% (n=6/12) of the participants responding initiated at least one strategy in all five risk areas. The second cohort will be given the post-reflective survey, and data will be shared at the conference. **Conclusions:** Annie’s Project participants valued the training and built a networking group. The agent aims to partner with Farm Credit and increase participation with neighboring counties.

### Developing a Bilingual Landscaping Basics Booklet

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**Background:** The environmental horticulture industry in Florida is worth over \$10 billion annually, employs over 100,000 people, of which, 33% identify as Hispanic/Latino origin. Most horticulture jobs are focused on landscaping for aesthetics which results in reactionary pest management focused on quick chemical solutions rather than long term economic, environmental, and social sustainability in urban ecosystems. Not all landscape professionals require certification, and trainings are rarely offered in Spanish. **Objectives:** The United States Department of Agriculture National Institute of Food and Agriculture (USDA NIFA) has funds for Extension that support more complex projects than typical programs. Since 2021, a multi-county Extension team has developed a UF/IFAS Bookstore publication “Basics of Landscaping in Florida, Conceptos Básicos de Paisajismo en Florida” that is pocket-sized, waterproof, and brief so that multi-lingual landscape teams can communicate basic landscaping best practices that lead to long term landscape resilience with reduced reliance on chemical inputs. **Methods:** A basic bilingual training on

landscape best practices and integrated pest management (IPM) was needed and developed as part of the USDA, NIFA Award No. 2021-70006-35560. The project began in Fall 2021 and the booklets were completed in January 2024 and printed copies were received in April 2024. **Results:** The team is disseminating 3,000 booklets in professional landscaping classes and is reaching new audiences by offering the booklet for free in exchange for taking a Qualtrics survey. There are plans to do a long-term follow up survey to assess behavior change. The team is actively disseminating books, collecting survey data, and advertising that the book is also for sale in the UF/IFAS Bookstore. **Conclusions:** Grants can be an excellent tool to leverage and fund important projects, but they are inherently complicated and nuanced. This presentation will present funding options, considerations, and experiences developing bilingual training materials in addition to sharing preliminary Qualtrics survey results.

### Growing Youth Through Gardens

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**Background:** Underserved youth benefit from educational programs that promote a connection to local agriculture and encourage the consumption of nutritious, locally sourced fruits and vegetables. Studies have shown that many U.S. citizens lack direct involvement with agriculture and require education on modern agricultural practices (Duncan and Broyles, 2006). To address this need, the 4-H, FCS, and MGVA Agents collaborated to educate students at Hope Forest Academy. This institute is designed for youth who have committed a felony or misdemeanor, making it an ideal setting to provide knowledge and skills that can positively impact their lives. **Objectives:** The program objectives are for youth to understand food systems, increase food security, develop cooking skills, and demonstrate generosity by giving excess food back to the community. **Methods:** The Residential Horticulture and 4-H Agents were crucial in starting the school garden. Once the garden was established, an educational plan was created to deliver lessons in conjunction with the garden. The garden plan consisted of 16 sessions, each including a topic, assignment, project, and survey for youth to complete. Additionally, the FCS Agent is teaching the youth to cook using ingredients from the garden and providing training so that they can obtain their SafeStaff Certification. **Results:** Six youths gained knowledge by planning and planting the garden, while nine youths learned how to harvest, prepare, and cook a healthy meal using produce from the garden. Next week they will take their SafeStaff Certification, showcasing their knowledge. Additionally, the garden has helped reach underrepresented and underserved youth audiences, providing them with opportunities to learn about sustainable living and healthy eating habits. **Conclusions:** The gardens have proven to be an excellent learning laboratory. This comprehensive program promotes sustainable living and gardening and equips the youth with valuable skills for their future.

[Bite Diary: Revealing patterns and factors of human-mosquito contact in Florida using a smart phone app-based survey](#)

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**Background:** Mosquito-borne diseases represent an important public health problem in Florida. Landscape change, economic disparity, human movement, and climate change are rapidly transforming the dynamics of mosquito-borne disease transmission. Effective disease control strategies must, therefore, be informed by these anthropogenic factors. However, current research and surveillance narrowly focus on mosquito populations, overlooking the critical human-mosquito contact dynamics that drive disease spread. **Objectives:** To bridge this gap, we endeavor to quantify human exposure to mosquito bites and pinpoint the human factors that are key drivers of mosquito-borne disease transmission. **Methods:** We provided extension on mosquito bite prevention to the Pelican Island Audubon Society in Vero Beach and several Master Gardener Volunteer Programs along the eastern coast of Florida in 2023. Participants were then asked to log all mosquito bites and provide information about conditions under which bites were received using the novel, mobile app-based survey, Bite Diary, for one week following the extension program. At the end of the one-week mosquito bite monitoring period, we administered a standardized online survey to collect information on the participants' mosquito bite prevention practices. **Results:** Only a small portion of the 68 survey respondents experienced a higher exposure to bites than others, with an average of 0.57 bites per person per day. Notably, over 90% of bites occurred outdoors, typically in participants' home environments and during activities such as gardening. Participants who perceived severe bite reactions also reported using repellent more frequently during the study period ( $p=0.021$ ). Additionally, there was a high app usage rate, with over 80% of participants reporting that they “always” used Bite Diary to record bites during the monitoring period. **Conclusions:** Our findings suggest that bite surveys are practical tools for assessing the human factors that influence mosquito bite exposure and important health behaviors.

**Implementing a STEM Challenge at the County Fair to Reach 4-H and Non 4-H Youth**  
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**Background:** Research by the Afterschool Alliance (2011) shows that youth who have positive attitudes toward STEM fields are more likely to continue participating in STEM programs. One of my responsibilities is to create partnerships to expand STEM program offerings. Inspired by the STEM Challenge at the North Florida Fair, I approached the Executive Director of the Clay County Agricultural Fair to incorporate a Youth STEM Challenge. **Objectives:** The goals of the Youth STEM Challenge consisted of two participation goals and two knowledge gain goals: • Increase youth attendance at the Fair. • Engage agricultural youth in STEM programming. • 60% of youth participants will report an increase of STEM content knowledge. • 60% of youth will demonstrate critical thinking, communication, and teamwork skills. **Methods:** I consulted Dr. Heather Kent who

coordinates North Florida Fair STEM Challenge. We met via TEAMS and via email to discuss the North Florida Fair STEM Challenge and how I could replicate the challenge. From there, I implemented a workshop to train adult volunteers and youth about the contest and developed a Google Site study guide. **Results:** I utilized post surveys, judges' rubrics, and my own observations to evaluate the program. The following results occurred: • Forty-five percent of youth were solely participating in the Youth STEM Challenge contest. • Thirty-four percent of youth were involved in an agricultural 4-H or FFA club. • Fifty-two percent of youth reported their STEM content knowledge increased. • One hundred percent of youth demonstrated critical thinking, communication, and teamwork. • Seventy-five percent of youth felt more confident in competing in the Youth STEM Challenge after participating in the preparatory workshop and using the resources on the Google Site. **Conclusions:** The Youth STEM Challenge was successfully implemented and engaged youth in STEM activities at the Fair. In our county, 31% of youth returned for a second consecutive year to participate in the challenge.

## Creating Safe Spaces for Youth

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**Background:** Tebbe and Moradi (2016) found the suicide attempt rate of the general population to be 2-9% while that of the transgender individuals to be 26-45%. In her research, Moores (2022) consistently found data indicating LGBTQIA+ youth, especially transgender and non-binary, felt unsafe in schools (59.5%), avoided using bathrooms in school (42.7%), and avoided after-school programs (70.5%). Youth, regardless of their identity, need to feel a sense of safety and belonging to thrive. **Objectives:** The primary objective of this research was to determine if there was a need for gender neutrality policies in 4-H programs. The secondary objective was to educate university, Extension, and 4-H administrators on the topic of gender neutrality. The tertiary objective was to create professional development materials to educate all the above and volunteers on the importance of gender neutrality in 4-H. **Methods:** Data was collected using a multi-faceted approach of surveys and interviews of 4-H agents, 4-H administrators, and Extension administrators representing different parts of the country. Data was analyzed, a literature review was conducted, and the dissertation was published. Once the research was concluded, we began offering professional development sessions nationally, sharing the findings, challenges, and solutions. **Results:** Nine national and three state professional development sessions have been provided educating on creating safe spaces for youth, issues and barriers faced by LGBTQIA+ youth, stakeholder intervention, and why inclusivity is suicide prevention. There is an increased number of professionals displaying their pronouns on virtual events. More data collection consists of open-ended gender questions and more diversity, equity, and inclusion committees are forming. **Conclusions:** Creating Safe Spaces for LGBTQIA+ youth in 4-H is suicide prevention, mental health affirming, and necessary for the future of our young people. Gender is fluid, not fixed, and youth development needs to be flexible to create open and welcoming environments.

## Creating a Unified Team Toolkit

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**Background:** Working in a county with multiple 4-H professionals can be both beneficial and challenging. Sharing the responsibilities for delivering an effective 4-H program influences a healthy work environment. However, division can occur when there is ineffective communication and undefined roles. **Objectives:** To divide responsibilities equitably among professionals; to consider agents' professional goals, expertise, and interests; and to create a supportive department culture. **Methods:** Using the Creating a Unified 4-H Department Toolkit, current and new agents work through four exercises to discover skills and interests and determine staff members' roles. The Toolkit can be self-directed or facilitated by a third party such as a regional specialized agent or county extension director. For professionals currently in a positive and supportive 4-H department looking to analyze and update current roles and responsibilities, a third-party facilitator is not needed. **Results:** 85.7% of current agents report their professional goals were considered when roles were determined. (n=5) 100% of new agents report they have clear roles and responsibilities. (n=5). 100% of both the existing agents and the new agents reported that it made the transition of adding a new agent easier than they expected because responsibilities are equitably divided. (n=5) When used with dysfunctional existing teams, professionals reported that communication improved, the program ran more smoothly, and the atmosphere was more supportive. (n=2) **Conclusions:** Using the Creating a Unified 4-H Department Toolkit helps facilitate a healthy work environment. By using the Toolkit, department staff can develop the skills needed to work with an effective multi-professional team. They can recognize strengths and deficiencies in their own program, allowing them to objectively assess their current situation and develop a plan of action for creating a healthy work environment. Professionals who use the program also have greater job satisfaction because of a supportive environment.

## Work Ready Florida: Preparing Florida Teenagers for Careers in Agriculture

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**Background:** The future of the United States economy depends on a pipeline of skilled workers ready to fill some of the most needed roles in society, including those in the field of agriculture. However, the United States faces a shortage of about 200,000 people with deep analytical skills (McKinsey Report, 2011) and general STEM skills (Carnevale, et al., 2011), and half of all high school students report they are not prepared for either college or career after high school (National 4-H Council, 2015). **Objectives:** As a result of participation in virtual 4-H agricultural technology clubs, youth will: 1. Develop the following targeted workforce skills: critical thinking, problem solving, teamwork, communication skills, analytical skills; 2. Develop industry-specific and subject-matter specific technical workforce skills aligned with and leading to AEST certification; 3.

Develop an awareness and understanding of the career pathways and requirements necessary to enter the workforce in agricultural industries; and 4. Develop relationships with stakeholders involved in the agricultural industry. Florida high school youth attending WFR virtual field trips will: 5. Increase awareness of and confidence in agricultural technology; and 6. Increase understanding of the breadth of technology career pathways in agriculture. **Methods:** Participation kicked off at Florida 4-H University in 2022. The club met twice per month via Zoom. Three electronic field trips were conducted at UF/IFAS facilities and Florida A&M University. Topics covered in club meetings included soil science, horticulture, and animal science. Information was intended to enlighten participants on careers in Florida agriculture and to prepare youth for AEST certification. **Results:** Seventy-three Florida teenagers have participated in the Work Ready Florida 4-H Club. These youth have learned about several facets related to Florida agriculture. **Conclusions:** Teenagers need career preparation and pathway programs like Work Ready Florida to supplement school programs.

## Exploring The Influence of Income and Education on Investment in Well Water Testing in Florida

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**Background:** Access to safe drinking water is fundamental, particularly in Florida where 12% of the population relies on private wells. Residents' willingness to invest in well water testing can significantly impact personal health. Understanding the socio-economic factors influencing this willingness is essential for developing effective Extension programs and ensuring well water safety across communities. **Objectives:** This study investigated how income and education levels influence well users' decisions to invest in well water testing. **Methods:** Utilizing survey data from the Florida Well Owner Network program (n=314), a cumulative logit model was employed to assess the impact of income and education on willingness to invest in water testing. The analysis considered these factors individually and combined to inform outreach strategies. **Results:** The statistical analysis revealed no significant differences in willingness to invest water safety across income and education levels. **Conclusions:** This finding suggests a widespread recognition of the importance of water testing for personal health, regardless income and education levels. It encourages the implementation of universally targeted water safety education programs. More data distributing across income and education are needed to validate this observation. Future research will explore additional variables that might influence water testing behaviors, such as regional differences, personal experience with water-related issues, or the availability of local water testing facilities. This expanded understanding will enhance outreach strategies to ensure their effectiveness in promoting drinking water safety.

## County Events Day Workshop

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**Background:** With an average of 60 youth competing annually within the county program, 4-H County Events Day provides a platform for young speakers to hone their presentation skills. Parents have expressed the need of offering opportunities for 4-H youth to deliver successful speeches, which led to the creation of the County Events Day Workshop. **Objectives:** The County Events Day Workshop aims to help 4-H youth plan, develop, and deliver presentations at the county competition. Youth participating in this program will earn a blue ribbon during County Events. **Methods:** The County Events Day Workshop consisted of four sessions, each two hours in length, and held once a week. Each session focused on a specific aspect of presenting, with the first week dedicated to topic selection. During the second week, 4-H'ers developed their presentation outline and selected necessary displays. In the third week, participants finalized their presentations and participated in a practice round. Finally, during the fourth week, participants did their final presentations. **Results:** Seven youth attended the County Events Day Workshop and they successfully presented during the county competition. Seven youths earned a blue ribbon with three youths receiving a purple ribbon indicating the best of their division. Five youths are currently registered to present during District Events to compete amongst five counties. Parents reported that the program assisted their youth in developing presentations in a timely fashion instead of procrastinating. Youth self-reported that the program was beneficial as it prepared them to be successful during the competition. **Conclusions:** Exposure to public speaking prepares youth for better outcomes with school, clubs, community events, and job interviews, as participation in speaking activities reduces public speaking anxiety. (Silliman, 2016) Youth who participate in public speaking opportunities are more like to increase public speaking skills, confidence, and the ability to organize and present ideas.

## Connecting 4-H Social-Emotional Learning and FCS Nutrition/Food Safety – Maximizing Impact Through Collaboration

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**Background:** During the Summer of 2022, 4-H and FCS collaborated with the goal of providing hands-on learning experiences to youth in the western region of Palm Beach County – otherwise known as the “Glades.” 4-H programming focused on social-emotional learning through utilizing real-life experiences and materials. FCS programming focused on nutrition and food safety through opportunities for youth to follow a food recipe, consume the final product, and record their experiences. **Objectives:** This 4-H/FCS collaboration allowed youth to gain knowledge and practice hands-on learning around nutrition, food safety, and social-emotional concepts. **Methods:** The audience for this collaboration were youth in grades K-5. The staffing required for this endeavor were two extension professionals. The total cost was \$558 for materials, snacks, and journals. Respective site providers worked with the extension office to accommodate between four and six 90-minute sessions, with one session per week. At these sites, youth were divided into two groups (K-2 and 3-5). Daniel worked with one group focusing on social-emotional learning, while Yesenia worked with a group focusing on nutrition and food safety. Following 45 minutes, the

groups would swap. **Results:** About 50 youth received a minimum of 6 hours of 4-H/FCS programming. The participants were given the opportunity to complete a pre/post survey to record the results of any knowledge gained during the 4-6 weeks of programming. Most survey respondents reported knowledge gain and communicated behavior change. All external organizations demonstrated increased awareness of UF/IFAS Extension and programs offered. Partnerships (internal and external to UF/IFAS) resulting in further programs were formed. **Conclusions:** The Glades region of Palm Beach County is recognized as an underserved and impoverished area, with a median household income below half of the county average. This collaboration provided youth with limited opportunity to receive UF/IFAS Extension programming and experience the 4-H Essential Elements.

### Preserving Paradise: Community Engagement for Environmental Conservation along the Ormond Scenic Loop and Trail

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**Background:** The Ormond Scenic Loop and Trail, spanning over 30 miles, traverses some of coastal central Florida's most captivating and ecologically diverse landscapes. With the region experiencing population growth and increased urbanization, it's crucial for homeowners to deepen their understanding of the flora and fauna along this route and embrace responsible stewardship practices. **Objectives:** To achieve this, the University of Florida's Institute of Food and Agricultural Sciences (UF/IFAS) Extension aimed to establish partnerships and deliver educational programs under a 12-month pilot initiative called ReGrow the Loop. The partner related objectives included engaging ten new partners, offering 20 educational classes to Volusia County residents. **Methods:** A collaborative effort was initiated with community partners organizing around 20 educational events throughout the year. These monthly events featured in-person presentations, educational social media content, environmental tours, and site assessments aimed at identifying the plants and wildlife within the Ormond Scenic Loop and Trail area. Participants were encouraged to commit to a pledge, indicating their intention to incorporate the knowledge gained from these events into their daily habits to positively impact the environment. Two plant give-away events rewarded attendees for participation and engagement. **Results:** Due to successfully uniting with 17 new community and governmental partners, the program successfully hosted 23 educational events and engaged over 330 residents across nine municipalities. Impressively, 70% of participants attended more than three educational events and signed the Scenic Loop pledge, demonstrating a strong commitment to behavioral changes that promote and restore environmental habitat diversity. **Conclusions:** Conclusion: The ReGrow the Loop initiative demonstrates the potential for impactful grassroots efforts to promote environmental stewardship. Through education, engagement, and collaboration, communities can work together to preserve and restore the natural beauty and biodiversity of their surroundings.

## Sustainable Urban Food Production Program

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**Background:** Since September 2019, the six-week "Sustainable Urban Food System program" has been led by Dr. Jiangxiao Qiu from UF/IFAS Fort Lauderdale Research Center and UF/IFAS Extension agents Lorna Bravo in Broward and Jessica Ryals in Collier County. The team launched the first Sustainable Urban Food Production program in South Florida after hearing stakeholders' feedback to focus educational efforts on urban food production for small-beginning farmers within the context of Florida. **Objectives:** This multi-disciplinary approach brings together UF statewide researchers and county extension faculty. The program audience is geared toward small farmers, urban farmers, community gardeners, homeowners, schoolteachers, entrepreneurs, urban planners, regulatory personnel, and marginalized communities starting or expanding food production in urban settings. **Methods:** We introduced a six-week short-course Urban Food Production module in Broward County. Participants learned sustainable urban agriculture practices, regulations, business, marketing plans, financial resources, urban food production systems, water conservation, and best management practices. Participants used various technologies, including rain barrels, drip irrigation, composting, and hydroponics. They expanded their knowledge by growing UF Lettuce lines in a Hydro Kit (Deep-water culture system model) designed for this purpose. **Results:** Multi-year pre- and post-survey results showed subject-specific knowledge increases (>90%) and significant interest (85% –100%) in behavioral changes or behavioral intention changes. Participants reported increased knowledge and interest in developing business and marketing plans (91 – 96%) and implementing technologies into urban agricultural practices. Our survey also revealed knowledge gains and willingness to behavior changes (96 – 100%) related to adopting practices for food safety, cottage food operations, and post-food harvesting. **Conclusions:** Current efforts are underway in expanding (1) a statewide program, (2) a virtual Sustainable Urban Food Program available to participants across the U.S. and overseas, (3) synergistically integrate core modules into extension programs such as Florida Master Gardeners, Climate Resilience, Florida, and Florida Master Naturalist.

## Evaluating the Impact of the 'Naturally Florida' Podcast on Listener Behavior

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**Background:** With the rise of digital media as a key educational tool, the 'Naturally Florida' podcast has been disseminating knowledge about Florida's ecosystems and promoting wildlife conservation behaviors among the public. This podcast, a collaborative effort between the Natural Resources Extension Agents in Pinellas and Polk Counties, serves as a model for engaging community members through research-supported digital outreach. The proposed session will detail the methods used to evaluate the impact of these digital outreach efforts. **Objectives:** To assess the effectiveness of the podcast in promoting conservation behaviors, specifically determining if at least 75% of listeners adopt recommended conservation practices annually. **Methods:** The podcast reaches over 1,500 subscribers and maintains a high engagement rate, with

90% average consumption per episode. Annual surveys assess the impact of the podcast on behavior change, with a focus on self-reported conservation practices such as reducing pesticide use, installing native vegetation, building wildlife habitats, and removing invasive species. **Results:** From 2021 to 2023, the survey garnered 95 responses from an estimated 1,030 unique engaged listeners, indicating a 9% response rate. Of these, 94% reported adopting at least one recommended conservation behavior, with significant actions noted in pesticide reduction and habitat improvement. The most impactful behaviors included reducing pesticide use, enhancing wildlife habitats through native plant installations, and proactive management of invasive species. **Conclusions:** The 'Naturally Florida' podcast effectively extends the reach of traditional conservation education by leveraging digital media. The significant behavior changes reported by listeners highlight the potential of podcasts as tools for environmental stewardship and community engagement in natural resource conservation.

### STEM-ulating Scientific Minds in K-5

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**Background:** A need was identified in partnership with the local school district to improve STEM education in K-5. After analyzing fifth-grade science assessment data, this was determined as a problematic area in youth, which fell 14% below the state average. The district decided it would be beneficial to partner with 4-H to create hands-on learning projects that cover multiple scientific aspects. **Objectives:** The objective of this project is for 90% of participants to accurately record and analyze data in a lab report after creating a hypothesis and conducting an experiment. **Methods:** The 4-H agent spends one day introducing the project to each grade level. Then, the agent provides teachers with lesson plans to execute the experiment. The topics and complexity vary throughout each grade level, but each conducts a hands-on experiment that tests a hypothesis. Each experiment analyzes dependent and independent variables. The topics in each grade are Kindergarten- My Little Greenhouse Seed Germination, First- Egg Parachutes, Second- Butterfly Life Cycle and Plants, Third- Pop Rockets, Fourth- Embryology, and Fifth- Solar Ovens. Upon project completion, the agent returns to analyze scientific data with participants. **Results:** In the 2022-2023 4-H year, there were 1,281 participants, with 1,304 participating in 2023-2024. Ninety-six percent of participants could analyze and interpret project outcomes. Through the experience, youth have a more positive perception of science and learn scientific concepts. The number of participants in the district science fair increased by 25%. **Conclusions:** Over the next five years, we expect to see state assessment scores increase. It is expected that participation in science fairs will continue to increase. In the long term, we expect to see an increase in critical thinking, research skills, data analysis, resilience, and communication. These skills will lead to college and career readiness for successful, productive adults.

### Cooking Up Life Skills Through the Florida 4-H Food Challenge

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**Background:** The Florida 4-H Food Challenge, modeled after the Texas A&M 4-H Food Challenge, aims to improve the dietary habits of children by providing them with cooking experience.

**Objectives:** The program has two objectives: to train Extension agents and volunteers about the 4-H Food Challenge using positive youth development practices and to spark youth interest in food preparation and nutrition. **Methods:** Since 2022, four trainings for adults and three workshops for youth have been conducted, which included lectures, hands-on activities, and mock food challenges. In 2023, three competitive events were held for youth from across the state. **Results:** A post training survey from 27 out of 35 adult participants showed an 85% (n=27) increase in confidence and knowledge and 100% (n=27) planned to implement the 4-H Food Challenge experience at the county level within six months. As a result of this effort, 12 teams consisting of 43 youth participants were prepared to demonstrate their mastery of life skills and compete at district and state Food Challenge competitions, which provided an opportunity for youth to receive feedback on their strengths and challenges. Interest in the program is growing, and upcoming training opportunities for adults and youth workshops are underway. **Conclusions:** The continuous effort to train Extension agents and volunteers and to engage youth in educational workshops will help them gain skills needed for a lifetime in food and nutrition.

### Empowering Volunteers to Educate Through Social Media

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**Background:** The Agent's advisory committee suggested that social media be used more for education and outreach. The agent formed a Social Media Project Group to assist with creating content. **Objectives:** The two objectives of the newly formed Social Media Master Gardener Project group were 1) to educate the public on sustainable gardening principles using social media and 2) to empower volunteers to use their writing, photography, videography, graphic design, and leadership skills. **Methods:** Volunteers were recruited for the project and an organizational meeting was held using Zoom. Volunteers took positions such as writer, photographer, videographer, graphic designer, and blogger. The group chose a name, a project leader, and began creating content for Facebook and Instagram. **Results:** The social media content for Duval County Ag Extension is now produced by volunteers. The group has a Teams channel where files are stored and shared. There is an approval calendar with regularly scheduled posts, and volunteers use the Canva graphic design software to produce content. Volunteers write original content for a blog, and short videos are created for social media sharing. Our Facebook reach for April 2022 was 5,192, a 408% increase over the reach for April 2021. Facebook reach for April 2023 was 8,657, a 67% increase over April 2022. We now have 4,478 Facebook followers. **Conclusions:** Volunteers can be empowered to create good social media content and grow your reach into your digital community.

### Small Farm Schools Improve the Sustainability of the Agricultural Community in Santa Rosa County

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**Background:** The population in Santa Rosa County continues to grow. Thankfully the agricultural community is robust due to continued interest from new growers and the willingness to diversify among existing farms. To help address the interest in diversifying crop portfolios of existing farms and to cater to beginning farmers, four farm school series (totaling 26 individual workshops) were conducted from 2020 to 2023. **Objectives:** The purposes of the schools were to introduce farmers to various aspects of fruit and vegetable production and farm management, to introduce value-added product options, and promote better business decisions. **Methods:** The schools were conducted for 190 total participants representing 690 acres in production. The schools also included farm tours to give participants firsthand knowledge from local, experienced farmers. The 2020 school was conducted through Zoom. The 2021, 2022, and 2023 schools were conducted in person starting with lectures, followed by open discussion and hands-on activities. The 2023 classes were offered at a discounted rate for the entire series or á la carte to allow attendees to choose individual workshops based on their interests. Workshop topics included: Suitable and Marketable Crops for the Florida Panhandle; Fertility and Soils; Irrigation Installation and Management; Whole Farm Pest Management; and Business and Marketing. In-person participants received printed presentations and supporting materials, flash drives with digital copies of printed materials, and an assortment of giveaways. **Results:** Self-reported farming knowledge increased by 100% across all topics and 42% of attendees planned to make at least one practice change with an evaluation response rate of 74% (141/190). Program participants indicated a value of \$8.84/acre per year, in the form of savings or increased profit, from the knowledge they gained from the school. **Conclusions:** Small Farms Schools enhance relationships with existing farmers, reach new clientele, and improve the sustainability of the agricultural community.

## Florida 101 Agent Collaboration Introduces Residents to their Local Environment and Extension

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**Background:** Florida received an average of 2,000 new residents each day in 2022. Many first-time residents are unfamiliar with their new home's climate and ecosystems. If residents can learn about the conditions and wildlife of their new home, they can better appreciate it and make choices that protect themselves and the environment. **Objectives:** The goal of the Florida 101 program is to use a multi-disciplinary approach to educate recent arrivals about the natural resources in their area and foster responsible citizenship among Florida residents. **Methods:** The

course was an office-wide collaboration, with the Sea Grant, Horticulture, and Agriculture and Natural Resources Agents each presenting a session, followed by a joint field excursion. Sessions met once a week for four weeks and topics included coastal living, Florida yards, and Florida species, habitats, and agriculture. **Results:** The course has been offered twice to a total of 52 residents. Participants demonstrated a 22% knowledge gain of wildlife, ecosystems, and Florida Friendly Landscaping™ principles based on a pre- and post-test and reported a 34% increase in knowledge of environmental stewardship practices. In a 6-month follow up survey of the first cohort, 91% respondents (n=10) adopted one or more new behaviors, including reducing use of fertilizer and single-use plastics. Five respondents used the information they learned in class in a professional context and four have participated in additional Extension programs. **Conclusions:** This program increased the knowledge and connection of residents to their new home and fostered behavior change to protect these ecosystems. In addition, Florida 101 introduced new residents to the breadth of UF/IFAS Extension programs and has led to additional participation in extension programs. Future goals for the program include partnering with other county agents to develop standard educational materials for a statewide Florida 101 program.

### Leon County 4-H Mini Grant: Empowering Clubs for Success

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**Background:** Annual funding is essential for sustaining 4-H clubs, yet traditional fundraising methods can be time-consuming and resource-intensive. To ensure clubs start the year well-funded and aligned with Positive Youth Development practices, Leon County 4-H implemented a Mini Grant program. This initiative not only provided necessary funds but also facilitated the development of club curricula that align with 4-H mandates and prioritize workforce skill development. **Objectives:** The Leon County 4-H Mini Grant aimed to provide clubs with the financial resources necessary for their projects while ensuring that club curricula align with at least one of the 4-H mandates (Healthy Living, STEM, or Civic Engagement). By also emphasizing the cultivation of communication, higher-order thinking, and appreciation of differences, the mini grant empowers volunteers to design impactful projects that foster youth development. **Methods:** Volunteers received an online, fillable PDF application in June, with staggered deadlines for individual components to keep them on track. Detailed guidance, including information on the county school calendar and mini-grant examples, was provided to simplify the process. Informal check-ins via Zoom or phone during the summer facilitated support and guidance for clubs throughout the application process that ended in August. **Results:** Out of seven clubs, five clubs were successfully funded through the Mini Grant program. This initiative ensured that clubs had the necessary financial support to execute their projects while promoting adherence to 4-H mandates and priority life skills development. **Conclusions:** The Leon County 4-H Mini Grant program exemplifies flexibility and adaptability, allowing clubs to propose innovative projects that reflect the values and goals of 4-H. By providing a structured application process, the program enables agents to ensure compliance with requirements while gauging clubs' funding needs and creative ideas. This approach fosters a sense of ownership and empowerment among volunteers, ultimately enhancing the effectiveness and sustainability of 4-H clubs in Leon County.

## Discovering the Science in Every Recipe Through a 4-H Day Camp

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**Background:** Cooking engages youth to experience food science which illustrates how food is prepared and changes from one state to another. Applying scientific principles can be utilized to prepare healthier recipes to improve nutrition for youth and their families. **Objectives:** 45% of attendees will gain knowledge in nutrient roles to support health, science and application in cooking while following and practicing proper food safety. **Methods:** Cooking with Lake County is a 5-day, 6-hour, cooking camp for 4-H youth aged 8-13. Each day featured different food groups, application of healthy cooking methods, related science experiments and activity breaks. The camp concluded with the youth preparing a homemade meal for their families. A journal that was developed included 5 experiments, observation sheets and recipe cards for 14 recipes prepared during camp. **Results:** A total of 13 youth participated in the program. Parents were surveyed post program as well as a three-month follow up. Paper surveys were collected via paper from 13 parents (100%) at the conclusion of camp. Post program surveys reported youth increased knowledge 100% (13) in food safety, healthy cooking methods and nutrient roles to support health, 85% (11) in basic cooking skills, and 92% (12) how science is used in cooking. A three-month follow-up parent survey was collected electronically via Qualtrics from 38% (5) of respondents. Of those collected, 100% (5) reported youth adopting proper food safety practices, knife skills and healthier cooking methods, and 80% (4) reported reading recipes for healthy meal selections. **Conclusions:** Creating experiential learning opportunities to connect science to food allows youth to apply knowledge to make healthy food choices each day which can lead to improving health outcomes.

## Creating Remote Learning Opportunities and Resources to Increase Accessibility of Food Safety Education

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**Background:** Produce safety training programs are designed to educate farmers on identification and reduction of risks through implementation of food safety practices. Trainings are typically in-person and instructor-led, which require time and money; barriers which prevent beginning and disadvantaged farmers from attending. **Objectives:** To address this inequity, the University of Florida (UF/IFAS) collaborated with Florida Agricultural and Mechanical University (FAMU) to create digital food safety resources, and to connect farmers and students with remote food safety trainings. The overall objective is to make food safety education more accessible to small, beginning, and minority farmers. **Methods:** Students and farmers, representing target audiences, attended Produce Safety Alliance (PSA) grower trainings offered remotely by UF/IFAS. A subset of these students and farmers were used to create an advisory council to conduct focus groups.

Results of the focus groups, workshop evaluations, and surveys, were used to guide the development of short “Produce Safety in Minutes” (PSM) videos, instructor-led recorded webinars, and discussion-based recorded case studies. **Results:** Six students and 22 farmers have successfully participated and received certificates in the remote PSA Trainings. Produce Safety resources including PSM videos (18), instructor-led webinars (8), and case-studies (5), have been recorded. Resources targeted topics such as handwashing, monitoring toilet and handwashing facilities, cleaning and sanitizing, compost handling, etc. The advisory board review indicated the resources created increased their knowledge of the topic, are appropriate to be used as a training tool on their operation, and representative of the diverse groups of people working in the produce industry. Farmers and students who participated in the PSA trainings are more prepared for Produce Safety Rule Inspection or to pursue a career in the produce industry. **Conclusions:** Accessible remote videos improve convenience of produce safety information to small, beginning, and minority farmers where traditional training settings require barriers to entry.

### Reverse field day- An Extension outreach program

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**Background:** Adoption of best management practices is a top priority in the Suwannee Valley region of Florida. Extension agents and Researchers at North Florida Research and Education Centre- Suwannee Valley (NFREC-SV) are involved in various nutrient management and variety trials to educate our farmers. In recent years involvement of producers in programs like field days and crop update meetings has declined. **Objectives:** To develop a better farmer- Extension Agent-Specialist relationship by having one to one interaction and encourage in adoption of scientific advancements in crop management. **Methods:** NFREC-SV initiated a program named Reverse Field Day in the year 2023. In the first year we had 3 reverse field days where a group of specialists ranging from agronomist, pathologist, entomologists, economist, nematologists, and other experts came together and visited 10 farmers (total of 16,500 acres) ranging from small producers with 100 acres to large producers growing 10,000 acres of peanuts and corn. **Results:** It was a win-win situation for all of us. Farmers got a chance to have a detailed one to one interaction with the experts which was missing during events like traditional field days. Extension agents showed that the experts are available to help farmers on their request leading to a better relationship and trust with the local community. Specialists understood the technicality of on farm work and complications that our farmers face while growing the crop and to device better management practices through research. The program got 100% positive feedback from all the participants. **Conclusions:** This could be a future program which can help us to regain trust of our audience, make them understand and adopt practical solutions available and foster behavior change fulfilling the goal of the land grant institution like University of Florida.

## Which Tour is Right for You? A comparative analysis of tour types and associated educational impacts in an Extension Garden.

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**Background:** Fourth-seven counties in the UF/IFAS network report managing at least one extension garden. Few of these gardens offer a variety of tour formats with fewer collecting any data related to the impacts of the tours. These interpretive sites are underutilized data resources that managers can use to improve programming and report impacts. **Objectives:** During this project we sought to determine which tour types best provide educational and behavioral change impacts to participants. Tour types included docent-led, audio-guided, and signage-based tours. **Methods:** From January-April 2023, then again from August-December 2023 tours were held 1-2 days a week. The revolving schedule included Monday-Saturday. Spring tour times were 9am-1pm and fall tour times were 12-4pm. All tours focused on the same Florida-Friendly Landscaping™ (FFL) principles for easy comparison. All participants were asked to complete pre/post tour surveys. Docent tours were led by the Residential Horticulture Agent, or trained Master Gardener Volunteer. All participants were instructed on tour logistics before starting. Signs were covered during docent and audio tours. **Results:** Eighty-six people completed the pre/post surveys for the Docent Tour, 36 for the signage tours and 24 for the audio tour. When comparing each of the 9 FFL principles, all tours showed learning and behavioral change in all areas. Docent tours were statistically better in a few FFL areas. All tours showed low impact in recycling yard waste, reducing stormwater runoff and protecting the waterfront. **Conclusions:** While docent tours were statistically slightly better at reaching program objective in some topic areas, tours are overall statistically similar. This knowledge allows garden managers to determine the best tour type for their location and budget, knowing that any of these three tour options will help them to reach their goals.

## Cultivating and Growing a 4-H Program in a Rural County

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**Background:** The 4-H program is a valuable resource for positive youth development and education, providing hands-on learning experiences and opportunities for personal growth and community engagement. In rural counties, the challenges of limited resources and a dispersed population can make it difficult to establish and sustain a thriving 4-H program. **Objectives:** Attendees will learn about the key elements needed to build a strong, sustainable, and effective 4-H program that meets the needs of youth and communities in rural areas. This proposal is relevant for professionals and volunteers working in youth development, education, and community engagement. **Methods:** In 2022, Holmes County 4-H found success as the 4-H Agent leveraged community partnerships with the local school district, 5 faith-based organizations, 4 civic organizations, 1 private school, and a variety of state agencies. The Agent recruited, trained, and encouraged 28 screened volunteers and 124 episodic volunteers to support youth programming. **Results:** As a result, Holmes County 4-H included 73 new youth members and 9 new 4-H community clubs. Holmes County 4-H also received nearly \$30,000 in monetary and in-kind contributions. **Conclusions:** Strategically partnering with volunteers and community stakeholders

from different areas of the county allowed Holmes County 4-H to develop new programming with increased accessibility. Web-based communication was leveraged, and 104 positive youth development posts were published. The posts were designed with the intent of marketing educational information, increasing enrollment, promoting 4-H events and activities, and recognizing members and volunteers. The online presence (Facebook, Instagram, and 4-H website) resulted in over 24,000 views, likes, and shares. As programs were complete, the Agent was able to partner with volunteers and members of the Advisory Committee and Expansion and Review Committee to evaluate outcomes, discover new community partners, and refine future programming.

### First Research and Extension Efforts on *Listronotus sparsus*, an Emerging Weevil Pest of Celery and Parsley in Florida

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**Background:** Florida is a major producer of apiaceous crops, including celery, parsley, cilantro, and dill. In 2021, south Florida vegetable producers reported an increase in unusual insect injury to their crop including significant tunneling through the petioles, crowns, and roots of parsley and celery. These injuries were comparable to that of carrot weevils (*Listronotus oregonensis* and *L. texanus*), serious pests of apiaceous crops in Canada, the Great Lakes region, and Texas. Thus, *L. sparsus* is an emerging weevil pest representing a significant threat to celery, parsley, and other apiaceous crops in Florida. **Objectives:** A research and extension program was developed to identify the weevil, study its biology, provide management recommendations, and involve multi-county stakeholders in educational programs. The goals of our Extension program were to improve knowledge of *L. sparsus* biology among stakeholders, improve identification skills, and increase adoption of recommended insecticides for weevil control in celery and parsley. **Methods:** In collaboration with a UF/ IFAS entomologist, we conducted diverse educational activities, including field and office consultations, insecticide trials, and workshops. A broad audience of leafy vegetable stakeholders participated in educational activities focusing on weevil management. Surveys were distributed to document knowledge gain and intended change in management practices. **Results:** An increase in knowledge on the biology of *L. sparsus* for producers and their crop consultants in Florida was observed. Identification skills for *L. sparsus* have increased. The largest growers of celery and parsley in Florida managing nearly 2,000 acres applied or intend to apply the recommended insecticides for weevil management. These producers have expressed interest in diversifying their spray program with reduced-risk insecticides. **Conclusions:** The adoption of these recommendations and gained knowledge are expected to lead to a more effective weevil management strategy, which will enhance the profitability and competitiveness of the Florida celery and parsley industries.

### Two-sided Education

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**Background:** For more than 25-years, the Central District Livestock Agents Group (CFLAG) has offered a hands-on beef cattle reproduction school at the Deseret Ranch. To provide this education, multiple partners come together to teach. Each year participants invest time, money, and resources to experience and learn from reproductive technology they can use on their farm.

**Objectives:** Knowledge related to beef cattle reproductive physiology varies from rancher to rancher. Our goal as extension professionals is to bring real-world, hands-on, practical knowledge to our clientele in a way they can understand. Extension Agents bridge this gap daily. Although extension professionals may have a beef cattle background, few have specific expertise in reproductive management. By partnering with UF Specialists and graduate students that specialize in beef cattle reproductive physiology, our clientele can benefit from learning the most current technologies. **Methods:** Each year, CFLAG Agents develop a 5-day agenda that includes multiple classroom presentations and chute-side, hands-on activities. Various speakers that include UF Extension Agents and Specialists, both University and local Veterinarians, and Industry Professionals supply expertise in cattle handling, palpation, ultrasound, blood sampling, nutrition, genetics, vaccination, diseases and many more topics. Graduate students from the North Florida Research and Education Center that are working on degrees in reproduction use this program to gain first-hand knowledge of extension education and related activities. They learn how to be an extension agent while sharing their knowledge related to reproductive physiology. **Results:** Five graduate students, that have participated in this program for multiple years gained extension experiences and are now serving as professors at the University of Georgia, Virginia Tech, and an industry professional as a reproduction specialist and sales team leader. **Conclusions:** Both Extension Agents and graduate students benefited when working together to provide programming to the clientele in a two-sided education.

## Demonstrating the Advancements of Automated Irrigation Technology for Adoption in Fruit and Vegetable Crops

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**Background:** In north-central Florida, I launched an educational program to introduce automation technologies to fruit and vegetable producers using drip irrigation systems, aiming to enhance efficiency and sustainability in crop management. **Objectives:** My objective was to develop

portable and adaptable automation technologies tailored to the region's specific challenges then demonstrate that technology to producers creating adoption of the technology. **Methods:** I conducted demonstrations of these technologies at full production scale on collaborating producers' fields on a total of 80 acre annually. I showcased them at multiple annual events targeted at fruit and vegetable producers. **Results:** I showcased automation technology at three field days and two producer meetings, reaching over 300 producers and farm staff last year. Soil moisture data indicates that automation allows more frequent and shorter irrigation events resulting in less leaching of nutrient in the soil profile conserving nutrient and saving producers money. Producers also recognized potential cost savings, notably in labor efficiency, reporting significant reductions in labor hours per acre, saving approximately 80 labor hours per 40-acre field. After these demonstrations the adoption of automation technologies expanded rapidly across the region from the initial 80-acre demonstration to 750 acres of 2000 total acres of watermelons in county and approximately 2000 acres of 7000 acres region wide. **Conclusions:** Overall, my educational program has played a crucial role in educating producers on new technologies and promoting the adoption of automation in drip-irrigated crop production in north-central Florida. By addressing regional challenges and engaging producers through demonstrations and outreach, we have facilitated sustainable practices and increased efficiency in fruit and vegetable production. This model of extension led demonstration of technology could also serve as a model for wherever drip irrigation systems are used for crops or for where advancements in agriculture technology are being made.

### Seeds of Change: Assessing the Impact of Master Gardener Volunteer Plant Clinics Vinson, A.\*, [alyvinson@ufl.edu](mailto:alyvinson@ufl.edu), FANREP, UF/IFAS Extension Manatee County

**Background:** Master Gardener Volunteers staff Plant Diagnostic Help Clinics throughout the state of Florida. They answer questions from the public on all manner of horticultural concerns including plant disease, maintenance, selection, insect identification, wildlife concerns and many more. As volunteers, they provide solutions based on UF/IFAS recommendations. A survey instrument and process framework were developed to assess client behavior change associated with these interactions. **Objectives:** While numbers of clientele contacts or diagnostic evaluations are often required components of reporting, a method to assess behavior change and overall impact was necessary. **Methods:** A simple survey was developed using Qualtrics by the Horticulture Agent. Master Gardener Volunteers collect email addresses for all clients at the Extension office clinic, online inquiries, and community mobile clinics. The survey is then delivered one month after the clinic visit, on a constant bi-weekly schedule. The agent codes the data and categorizes it according to Florida-Friendly Landscaping™ behaviors. **Results:** To date, 161 clients have responded to the behavior change portion of the survey. 111 (70%) indicated that they had changed their behavior based on the recommendations they received. Of those responses, the majority indicated that clients were watering based on IFAS recommendations, changing their fertilization practices, selecting plants based on their site conditions and implementing IPM strategies. **Conclusions:** Master Gardener Volunteers are a vital component of each county's horticultural program, this assessment methodology shows that the interactions with clients are resulting in reportable and more importantly, impactful, behavior change.

## Developing Cloverbuds with a Multi-Programmatic Approach

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**Background:** Cloverbuds, 5 to 7 year olds, are a unique and exciting age group to work with that often have limited opportunities due to the restrictions based on their development and safety considerations. Cloverbuds are at an exploratory age where they are often still working to find what sparks their interest and will put them on a trajectory to thrive. UF/IFAS Extension is in a unique position to expose them to multiple program areas to get them on that trajectory. **Objectives:** 4-H cloverbud programming is organized to: increase opportunities for youth ages 5 to 7 years of age in the 4-H program, increase programming exposure in a variety of program areas, and spark interest while developing subject matter knowledge, social skills and confidence. **Methods:** 4-H is always looking for ways to increase opportunities for cloverbuds in an educational and impactful way. Through a variety of hands-on teaching methods, UF/IFAS Extension faculty from a wide range of program areas impact youth through day camps and garden projects. This programming encourages youth to explore their world, is experiential in nature and offers experiences individually, in teams and even together with their families. **Results:** Cloverbud youth in multi-programmatic programming demonstrated the ability to speak in front of the group, follow steps in proper planting and basic food preparation (n=11). Youth involved in the cloverbud or shared gardening projects involving a cloverbud (n=12), demonstrated record keeping skills, proper planting techniques and harvested at least one vegetable. **Conclusions:** The goal of cloverbud programming is to promote healthy development through experiential experiences which is benefitted by exposure to multiple program areas helping to put youth on a trajectory to thrive. The “growth mind-set” (Dweck, 2006) which includes being open to challenges and discovery is critical to healthy development (Arnold et al, 2017).

## Boosting Home Vegetable Gardening Success with Containers

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**Background:** In rural Putnam County, food insecurity and limited fresh produce availability result in poor nutrition, with 15.4% lacking consistent food access, one of Florida's highest rates. Home gardening attempts often face challenges like crop failure, leading to decreased confidence and reluctance to continue cultivation efforts. Container gardening education can enhance success rates and confidence, fostering future growth and higher yields. **Objectives:** This container vegetable gardening program educates participants on successful gardening techniques. By providing essential resources and comprehensive instruction, the program aims to improve

gardening skills, boost confidence, and encourage the expansion of container vegetable garden

**Methods:** The Putnam County Soil and Water Conservation Board (PC SWCB) sponsored a container vegetable gardening program, providing EarthBox®, soil, fertilizer, and plants/seeds. The three-hour program in September 2022 and 2023 covered topics like plant selection, watering, fertilizing, pest identification, and EarthBox® setup. Follow-up surveys were conducted in March 2024 for both years' classes. **Results:** Out of 84 participants, 27 completed the survey. Results showed a significant shift in skill level perception, with 61% initially rating themselves as beginner to advanced beginner, increasing to 70% describing their skill level as intermediate to proficient after the program. Success rates also improved, with 51% moderately successful before the class, rising to 58% very successful post-program. Furthermore, 74% reported expanding their container vegetable gardens, with 50% expanding by 4 or more. **Conclusions:** The program offered essential education for successful vegetable gardening. Utilizing self-watering pots such as the EarthBox® enhances success rates and boosts confidence. This newfound confidence often inspires individuals to expand their gardens and experiment with various vegetable types, ultimately fostering a healthier community. Plans for a third program in fall 2024 are contingent upon funding availability.

## Training Trainers Extends Extension: Hydroponics in the Classroom

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**Background:** Florida ranks second in the United States for vegetable production, and the second largest industry in Florida is agriculture. Labor and land are costly inputs for agricultural production. Despite abundant rains, water is managed for growing populations forcing efficient use across industries. Hydroponics can potentially produce similar yields as traditional agriculture using less water, land, and labor. **Objectives:** Equipping urban audiences with tools to grow food hydroponically provides options for feeding the growing urban population in non-traditional environments. **Methods:** Set it and Forget it Hydroponics workshops were developed and delivered (27) to Central Floridians since 2017 (n=1,642). To supplement practice adoption, a YouTube video was developed entitled Hannah Wooten Hydroponic Lettuce (<https://www.youtube.com/watch?v=GQey35Tt24I>) receiving over 608,000 views. Workshop demand exceeded supply, so a train-the-trainer hydroponics workshop was created and delivered to (n=100) teachers, Master Gardener Volunteers, and Food and Nutrition Program staff. The lessons included constructing a hydroponics kit in class plus additional materials, and Google Drive access to a PowerPoint and handouts. The resources were ready for classroom deployment which resulted in the greatest successes. **Results:** Regular workshop participants completing post-event evaluations (n= 642) report 100% knowledge gain about hydroponic production and 95% intend to grow their own food hydroponically using hydroponic kits built in class. Annual Qualtrics evaluations of the “trained trainers” in hydroponics (n=21) indicate 76% incorporated hydroponics into lessons resulting in at least 1,924 hydroponic systems built and used for teaching in urban classrooms. Comparing the outcomes, if 95% of the 1,642 regular class participants made hydroponics systems as indicated, that results in 1,560 new hydroponic systems (less than 1 per participant), compared to “trained trainers” resulting in 91 hydroponic systems built per trainer (91 per participant). **Conclusions:** Training trainers is an efficient use of Extension Agents’ time and resources because the capacity is expanded exponentially.

## Food Safety Supervisor Training Supports Implementation of Food Safety Practices and Cultivation of Food Safety Culture

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**Background:** The Produce Safety Rule, audit schemes, and buyer requirements require farms to implement food safety programs. Food safety managers and supervisors often assume a leadership role in managing food safety programs, including conducting risk assessments, managing implementation of practices, creating worker training programs, and staying abreast of evolving requirements. **Objectives:** The objective is to provide food safety supervisors with education, experiences, and resources to facilitate implementation and management of food safety programs on the farm, and support cultivation of food safety culture. **Methods:** Based on advisory committee feedback, a one-day training was created to share information and resources to support food safety managers with implementation of food safety requirements. Presentations and activities covered five topics: Managing a Worker Training Program; Pre-Harvest Water; Water Treatment; Harvest and Post-Harvest Cleaning and Sanitation; and Food Defense and Traceability. Two question-and-answer panels facilitated discussion among participants. A breakout activity allowed attendees to realize the importance of well-written SOP's. Qualtrics evaluation captured program quality, skills, and intended behavior changes. A six-month follow up survey to capture on-farm changes as a result of participating in the training will be sent to the attendees. **Results:** Twenty-five food safety supervisors representing 13 farms attended the program. Post-training evaluations (n=15) indicated attendees learned concepts or lessons that will result in changed food safety practices or behaviors. The changed practices include updating SOP's, modifying worker training programs, setting a good example, and increasing documentation of food safety practices. Attendees also reported increased understanding of the importance of creating a food safety culture and indicated the discussion among participants was a beneficial part of participating. **Conclusions:** Attendees benefitted from the training by receiving more in-depth information on food safety topics, sharing experiences with fellow food safety supervisors, and receiving resources to support managing a food safety program.

## Extension Interest and Needs Assessment of Hispanics in Florida

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**Background:** The Hispanic community is the fastest-growing minority group in the United States and Florida boasts the third-largest Hispanic population in the country. However, Hispanics in

Florida can face significant language barriers to accessing and benefiting from extension programs. To enhance the efficacy of Cooperative Extension, it is imperative to make extension materials accessible to the Hispanic community. Unfortunately, the availability of Spanish-language extension materials is limited. Addressing this gap requires prioritizing needs assessments tailored to the Hispanic community. **Objectives:** The objectives of our study were to determine the interest levels of Hispanic audiences in Extension topics and determine the preferred Extension resources for Hispanic audiences **Methods:** We used a questionnaire to gather survey responses from Hispanic Florida residents over the age of 18 (n = 481). The final survey included a list of topics related to multiple program areas including agriculture; natural resources; community and economic development; health and wellbeing. Respondents indicated their level of interest in each topic using a 5-point scale. Preferences for different types of extension resources were also recorded. **Results:** We found that 47% of respondents preferred Spanish and 33% indicated a preference for both languages. We found that only 34% of respondents were aware of Extension. Topics with highest interest included mental health, emergency preparedness, nutrition, and healthy relationships alongside topics such as wildlife conservation, coral reefs, trees, and flowers. We also found that online resources (videos, tools, documents) were among the most highly preferred resource types among respondents. **Conclusions:** Despite widespread unawareness of Extension services, there is a notable interest in Extension topics and activities, highlighting the potential for increased engagement within Hispanic communities. This underscores the importance of further efforts to make extension resources accessible and relevant to these communities, mainly by prioritizing translating information from English to Spanish to facilitate assimilation by this group.

## Serve Week

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**Background:** Serve Week is a 4-H program typically held in the summertime where students who are rising 9th-12th graders register to participate in community service projects that are planned for a weeklong experience. **Objectives:** During this program, students will accumulate anywhere from 30-45 service hours (2) students will gain an appreciation and awareness for community organizations and their ongoing projects or create projects to meet community need through thoughtful design and youth adult partnership (3) youth will be more likely to accumulate enough hours to qualify for Bright Futures scholarship programs and meet other community service criteria for scholarships after participating in this program. **Methods:** The projects are put together in partnership with other community non-profit organizations, county departments, and other community groups to help the youth to engage more with their local community and see what the needs are in their area. **Results:** This program has been repeated for 7 summers now and it is a favorite for both 4-H members and non-members alike. We have engaged with 83 students, 19 organizations/projects, and have had a grand total of 3,071 hours accumulated by students. **Conclusions:** Serve week makes it possible for students to become more engaged in their communities, earn community service hours preparing them for scholarship applications, and they

are more likely to continue to serve their communities in the future due to knowledge of community needs and strengthened relationships and passions for serving others.

## The Power of Flowers: Growing a Cut Flower Extension Program

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**Background:** Since 2021, several farmers in Columbia and surrounding counties contacted the Extension Office for help starting flower farms. There was also a large interest from residents in backyard cut flower gardens and floral arranging. A multi-pronged approach was developed to address community interest, including job training, demonstration gardens, farm support, and workshops. **Objectives:** The program's objectives include increasing knowledge of flower farming, altering behavior to incorporate best management practices for growing and harvesting, increasing knowledge of value-added skills such as floral arranging, increasing economic opportunities and job skills for youth, and providing a space to explore horticulture to increase personal wellbeing. **Methods:** Methods included working with the high school horticulture program to teach job skills, creating a demonstration garden at the extension office, and providing workshops on how to grow flowers in both production or backyard settings. Floral design workshops or demonstrations were also used to teach flower design principles. **Results:** Seven classes to 299 youth were provided in floral design. The high school junior FFA then began a floral shop at the school. It transitioned off-campus and became a floral business where three students work part-time. Three hundred and twenty square feet of cut flower beds were installed at the Extension Office. Currently over 15 different varieties of flowers grow for public viewing. Five how-to-grow cut flower workshops were provided to 74 people. While 173 people attended six demonstration or floral arranging workshops. One hundred percent of 2024 backyard cut flower attendees (n=6) agreed that they were planning on installing a cut flower garden after the class and increased their knowledge. **Conclusions:** This program has the potential to provide job training, increase interest in growing flowers, and support farmers, not just in the county, but surrounding areas. This program is easily expandable to other parts of the state.

## Capturing Audiences Through the Lens of Technology

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**Background:** During the COVID-19 pandemic, traditional Extension programming changed. Those years highlighted the importance of Extension adapting and utilizing new technologies to reach the public. A new technology quickly being adapted by educational institutions is the use of HyFlex classrooms. The HyFlex classroom allows learners to be online and in person simultaneously. These classrooms have ensured the continuation of educational programs during and after the pandemic as many of our clientele have grown accustomed to virtual learning. **Objectives:** Establish and utilize a HyFlex classroom as a teaching model to allow clientele flexibility in learning, increase overall participation and allow for access to the same resources regardless of location and transportation, reduced costs for participants as it eliminates transportation, and improve learning experience providing a more personalized and customized learning environment.

**Methods:** Volusia and Orange Counties received funding from the Central Extension District Director's office and the IFAS Extension Administration office to purchase equipment. Due to differences in networks and classroom logistics, both counties had to work with their respective county IT department and UF/IFAS IT to install the components of the classroom. **Results:** Our HyFlex classrooms have offered a blend of traditional face-to-face classroom instruction with the convenience of remote online learning. To date, both counties have conducted a combined total of 78 programs utilizing this new technology. In addition to programming, both have partnered with local associations to offer the convenience of remote learning. Both offices have used HyFlex for conducting Agent interviews and faculty/staff meetings which provided candidates and employees flexibility in their schedules. **Conclusions:** Having the ability to offer a hybrid style of learning has really impressed our clientele and has elevated the quality and reach of our programming. With this new technology we ensure the continuity of educational programming and provide Extension clientele with a flexible and accessible learning experience.

### Farm Forward: Cultivating a Healthier Agriculture Workforce through Safety and Awareness

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**Background:** Florida's agricultural industry, while vital to the state's economy, presents inherent risks to workers. These risks include pesticide exposure, health concerns, and improper equipment use. Language barriers and limited access to healthcare information severely affects workers and limits access to basic preventive medical care. This disproportionately affects Hispanic workers (close to 80% of workers and 30% of Florida's population). **Objectives:** This project aimed to address these challenges by providing Ag Safety Days with bilingual (Spanish and English) workshops focusing on safety and wellbeing practices. Additionally, health fairs were held concurrently, offering medical services to participants. **Methods:** The UF/IFAS Extension faculty planned, developed, and implemented two in-person Ag Safety Days in DeSoto and Highlands Counties. Workshops were offered in Spanish and English, with a convenient health fair component for participants to take advantage of. Educational topics included personal protective equipment use, pesticide label comprehension, storage and disposal of pesticides, tractor safety, heat stress management, personal healthcare, and Worker Protection Standards Law. Fair Participants received health screenings, vaccinations, and access to medical information. Results were provided with opportunities for follow-up care with local healthcare providers. **Results:** 293 farmworkers participated in these events. Participants (respondents n=70) indicated intended practice implementation in areas such as safe handling of application equipment (48%; n=34), routine examination of pesticide labels (48%; n=34), and protection against pesticide exposure (52%; n=36). 56% (n=39) took advantage of health services offered during the events. 70% (n=49)

indicated that they would follow up with a doctor after a diagnosis such as diabetes or high cholesterol. **Conclusions:** Bilingual workshops addressed language barriers, and health fairs offered essential care to a population that lacks regular access to healthcare. This model can be replicated to enhance farmworker safety and well-being across Florida's agricultural industry.

### The Florida 4-H Pollinator Habitat Program

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**Background:** Pollinators are a critical part of our food system but many youth are not aware of the role they play. Teens are in a unique position to influence other youth through educational experiences to help provide critical knowledge of pollinators and their habitats so that they can be good stewards of their environment. The Florida 4-H Pollinator Habitat program was created through a partnership and funding from Corteva™ Agriscience and National 4-H Council to develop teens to spread knowledge to improve the overall state of pollinators in the state. **Objectives:** The objectives of the program include: educating youth about pollinators and their position in the food system, develop leadership and teaching skills in teens, and increasing engagement with communities. **Methods:** The Florida 4-H Pollinator Habitat Program included a variety of teaching methods and teen led programs to be successful. The following components were incorporated: teen participation in the National 4-H Agriscience Summit, virtual trainings, two-day in person training, development of a pollinator habitat, social media pollinator awareness marketing and multiple programs hosted by teen 4-H ambassadors. **Results:** 4-H teens taught approximately 1400 youth across the state while developing their leadership and communication skills. 86% of teens surveyed reported being inspired to educate younger youth and 75% demonstrated growth in their abilities to teach using experiential learning. In addition, youth ambassador representatives that attended the National Junior Horticulture Association Convention won first place with their pollinator demonstration adapted from the program they offered to youth through this program. **Conclusions:** The initiative and leadership the youth ambassadors have developed and demonstrated has truly made a positive impact on their local communities, as well as their own personal development.

### Using a Learn-by-Doing Approach to Planning, Conducting, and Evaluating Extension/4-H Events & Activities: A Step-by-Step Process for Engaging Stakeholders

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**Background:** Events and activities are often the means for Extension 4-H Youth Development to provide learning-by-doing. The planning process being presented integrates experiential learning in the planning and evaluating of events and activities, not just in the conducting of them. By engaging underrepresented audiences, this also increases the likelihood of increasing the participation of more diverse clientele. **Objectives:** To help Extension/4-H professionals to be more efficient while creating events and activities that engage the participants and families in achieving program

outcomes. **Methods:** This session will present a step-by-step, learn-by-doing process for planning Extension events and activities. The presenter has not only used it with Extension/4-H and community-based audiences but has also taught volunteers, staff, and youth in using it. **Results:** This systematic process has proven effective for involving youth and adults in planning programs and events in a variety of settings. Evaluation results from a wide variety of programs have readily yielded both positive learning outcomes as well as more fun for both planners and participants. In addition, it has helped build trust and buy-in among stakeholders, including underrepresented audiences. **Conclusions:** Planning events and activities is an important but often labor- and time-intensive process for Extension/4-H professionals and can be intimidating for those who have had little training or experience in planning events, whether big or small, simple or complex. Engaging clientele in planning, conducting, and evaluating such programs can reduce stress for faculty and staff while developing leadership skills and other workforce competencies of clientele; as well as gaining buy-in from stakeholders, especially underrepresented audiences.

### Advertising Extension Programs on a Budget – Social Media Edition

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**Background:** Growing the reach of Extension can be difficult with our many programs and competition for visibility in large communities. Utilizing social media advertising to promote specific events, programs and information to key audiences can help grow the reach of Extension to new contacts at an affordable price compared to other advertising. **Objectives:** Extension agents across the state utilize social media advertising to reach new audiences, increase engagement and boost program attendance. Presenters will share case studies in which agents leveraged Facebook advertising to increase participation in both virtual and in-person programs. **Methods:** UF/IFAS Extension agents identified key programs that would benefit from increased exposure. Working alongside UF/IFAS Communications or by utilizing existing templates, agents developed branded materials to post and boost on their county Facebook page. Utilizing the provided Meta metrics, success and ROI was measured and tied directly back to the advertisements. The steps taken in the case studies shared are simple to learn, widely accessible and achievable for most programs. **Results:** Each agent presenting can demonstrate success from their efforts including increased event attendance and engaging new contacts that otherwise were not familiar with Extension. Growth resulting from these boosts kicks off a domino effect of increased engagement with the Extension office whether that be online or via word-of-mouth exposure. **Conclusions:** Social media advertising is not the only solution for promoting Extension programs but can play an important role in reaching new audiences and growing an Extension county's visibility. When considering ways to reach your goals in promotion and marketing, consider social media advertising as one tool in the toolkit.

## Building Trust, Vision, and Unity in a County Extension Office

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**Background:** Creating a strong team culture is critical for organizational success. Effective teamwork centers on understanding and appreciating the diverse personalities and strengths of team members and building a foundation of trust and communication (Lencioni, 2002).

**Objectives:** As a new team in a county extension office, we worked to build trust and communication and develop a mission, vision, and values to guide the team's decision making and create a shared sense of purpose through monthly meetings. **Methods:** Efforts taken included personality assessments, a SWOT analysis, a team dysfunction assessment, developing a vision statement, identifying our core office values, and setting goals and objectives. Through these efforts, we gained valuable insights into individual's working styles, identified and addressed areas where the team was struggling, and developed shared goals. **Results:** Early outcomes of these efforts have included an increase in office energy as team members are motivated by a shared vision, enhanced accountability as team members better understand their roles and responsibilities, increased trust among team members, and increased collaboration that has amplified Extension's reach and visibility throughout the community. **Conclusions:** During this presentation, our team will provide more information on the structure we used to complete this process, the various activities we utilized, the outcomes, and ideas on how to implement this accessible approach to creating a stronger team and office culture.

## Establishing a Statewide Extension Vocational Education Program for Inmates: Progress and Opportunities

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**Background:** The risks and costs of inmate recidivism are significant. Four in ten inmates released from state prisons are reincarcerated within three years at a cost of \$30K annually per inmate. The Bureau of Justice Assistance found inmates who participated in education programs during their confinement were less likely to recidivate. **Objectives:** Our objective is to offer inmates credentialing and life skills to improve their lives and help them transition into society. **Methods:** UF/IFAS Extension began collaborating with the Florida Department of Corrections (FDOC) in 2021 to offer inmate certificate programs at the Martin Correctional Institution (MCI), including business basics, Green Industry Best Management Practices (GI-BMP), and beginning farmer. **Results:** Participating inmates gained knowledge (e.g., +22% (n=39) for GI-BMP, +27% (n=19) for business basics, and +37% (n=33) for beginning farmer). In follow-up surveys, inmates indicated they adopted practices, including scouting for pests, rotating crops, and expanding cover cropping on the facility's farm. The inmates are also earning UF certificates to share with prospective

employers upon release. From 2021 through 2023, 55 inmates earned 299 UF training certificates at MCI. The FDOC views our collaboration as a success, and they requested that we extend our certificate programs to 16 more facilities across the state. **Conclusions:** Providing extension education to inmates gives them an opportunity for self-improvement during their incarceration and credentials they can use when seeking employment post-release. According to the Department of Justice, for every dollar invested in prison education, incarceration costs are reduced by four to five dollars within the first three years. In reducing recidivism, extension programs offer a strong return on investment and help ex-offenders reenter society successfully. With the statewide program expansion, there are opportunities for more extension agents to offer inmate vocational programs in their counties and regions.

## Exploring Nature: Summer Camp Impact on Youth Environmental Awareness and Comfort in the Outdoors

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**Background:** Children today spend less time in nature, consumed by electronic devices. This shift raises concerns about the impact on their well-being. Research has shown that exposure to nature, interaction with the outdoors and plants can improve physical and psychological wellbeing. It's crucial to address this trend for the holistic development of youth. In 2023, seventeen children, ages 10-12 attended a weeklong summer camp following UF/IFAS Extension Polk County curriculum focused on nature, wildlife, botany, entomology, art, and mindfulness. **Objectives:** Campers will: 1. Demonstrate increased knowledge in topics of nature, wildlife, insects, and plants. 2. Demonstrate positive interactions with wildlife and nature. 3. Demonstrate teamwork, confidence, and presentation skills. 4. Demonstrate how art can be used to reinforce science topics. **Methods:** Four Extension Agents and one postdoctoral researcher created curriculum to encourage youth to engage in nature-based activities culminating in a final project in which they “teach back” what they learned by creating presentations for younger campers. **Results:** Knowledge gain over the week was measured by pre- and post-tests, as well as final project content. Children (n=15) indicated an 85% increase in knowledge on specific questions based on the curriculum presented. Additionally, when the children were asked if they learned more in all topic areas (living with wildlife, growing plants, protecting our natural resources, insects) they indicated a 79% increase in knowledge on the topics after attending summer camp. Observational results showed increased comfort level being outdoors (from catching insects in nets to finding and feeling plants), a connection to nature (honed through a photography project), positive increase in wellness behaviors (through nature journaling and mindfulness practices), and life skills development (planning and organizing educational content, teamwork, leadership, and communication) during the final project. **Conclusions:** Summer camp participants demonstrated a positive shift in attitudes, knowledge, and behaviors to nature and the environment as well as increased knowledge in topic areas presented.

## Utilizing Technology to Egg-splode Your Embryology Program

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**Background:** When a school librarian signed up for the 4-H Embryology program, the Agent had to adapt new technology to teach over 700 students simultaneously. The librarian would need to learn about embryology to help create a daily show of the embryo's development. **Objectives:** Allowing an entire student body (n=712) to feel engaged and interested in a single lesson would take innovation and excitement from the school's Agent and librarian. **Methods:** The announcements are projected through I-TV, a closed-captioning system where the youth can view the morning announcements versus simply hearing the announcements. Technology was used to reach the entire student body through the innovation and cooperation of the librarian. After each filming, the 4-H Agent became part of the morning announcements at the school every morning for the next three weeks. **Results:** The entire student body (n=712) could view the recorded videos of the candling process of the eggs and the hatching of the chicks. Each morning, the Agent's photos showed the embryo's growth to the entire school. Every student at the school could enjoy the journey from egg to chick project. Each student could walk through the media center on hatch day and see the hatching in progress. **Conclusions:** 4-H Agent increased her embryology participation from 224 to 1,667 in the school year, or 1,120% over the previous year's participation. In addition, the librarian became a new 4-H volunteer. The 4-H Agent adopted this latest innovation in all of the schools where 4-H Embryology is taught in her county.

## Harnessing Social Media for a Residential Horticultural Needs Assessment

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**Background:** Homeowners and gardeners get their landscape education from a number of media outlets and social media platforms. **Objectives:** The large following of the UF/IFAS Master Gardener social media page of over 40,000 individuals could be leveraged to discover what type of horticulture education is preferred by social media users. **Methods:** In 2023, a Qualtrics horticultural needs assessment survey (IRB approved) was developed and delivered via Facebook and Instagram to followers. The Qualtrics needs assessment consisted of twelve questions ranging from horticultural topics, availability, and preferred learning platforms. Four colorful posts were delivered in both December 2023 and January 2024. From the four posts, 309 respondents agreed to participate in this study. **Results:** Our findings followed the current gardening trends of homeowners asking for information about native plants, pollinators, vegetable gardening, and invasives. Respondents said their preference was for online classes (21%) compared to in-person classes (15%). Respondents preferred digital documents (18%) versus print documents (14%). Our social media users wanted to receive horticultural information through short online videos (20%). When asked if they were willing to attend in person classes at their extension office, 54% reported they would go to the office and 11% were unaware of their local extension office's location. When respondents were asked about their interactions with Master Gardener Volunteers (MGVs), 31%

were satisfied, 12% were dissatisfied, and 48% had not interacted with a Florida MGV. Respondents 62% stated they preferred garden education content on YouTube. Although the response rate was modest, the results are still compelling. **Conclusions:** The findings underscore the potential benefits of short-form video content and utilizing platforms like YouTube to meet homeowners' horticultural education needs effectively. The study suggests a promising direction for extension programming in the digital age and sheds light on the evolving landscape of horticultural education.

## 4-H Multi-County Outdoor Adventures Camp: Promoting Marine Education and Shooting Sports

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**Background:** Agents from Holmes, Liberty, Washington, Calhoun, Gadsden, Franklin, and Gulf counties created this multi-day camp experience to increase awareness/interest of 4-H projects highlighting environmental education and shooting sports to help establish and enhance new clubs in the future. **Objectives:** The objectives were to increase youth participants' knowledge of marine science and 4-H shooting sports as they relate to environmental education and promote club growth. **Methods:** Utilizing day trips to explore a variety of environmental educational opportunities, day one and day two incorporated marine life exploration, habitat/ecosystem education, seining, oyster reef ecosystems and other hands-on instructional components. Day three focused on shooting sports, providing essential firearm and archery safety education. Discipline specific oversight of archery, air rifle, and shotgun was conducted by certified instructors. **Results:** 51 youth participated, with 41 (80%) completing a post-reflective survey indicating: • 38 (93%) increased awareness of the marine animals, oyster reefs as habitats • 28 (68%) have an increased awareness of the conservation efforts to preserve species and/or habitats. • 31 (76%) can explain how to safely inspect shooting sports equipment and target areas. • 36 (88%) can explain how to safely handle an archery bow, shot gun, and air rifle. • 33 (80%) can describe what MAT (muzzle-action-trigger) means for safe firearm handling. **Conclusions:** Leveraging the day camp format and bringing together multiple counties/agents to provide educational experiences highlighting 4-H programs resulted in the development of new shooting sports clubs in six counties. The results, highlighting the importance of environmental conservation and responsible firearms safety practices among youth, were also used to apply for grants from the Florida Fish and Wildlife Conservation Commission (FWC) and Fish Florida. New grants will be utilized in June 2023 for another multi-county youth environmental education experience. This data will also be included with this presentation.

## Florida 4-H Food Plot Project: Environmental Stewardship and Life Skills

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**Background:** North-central Florida has many diverse natural resources and conservation priorities related to these resources. Youth in this area also enjoy participating in outdoor recreation, specifically hunting. **Objectives:** Objective: This educational program aimed at combining education in environmental stewardship and natural resources management with the outdoor recreation that many youths already participate in. In doing so the project intends for youth to learn principles of natural resource management while also developing life skills. **Methods:** The Florida 4-H Food Plot Project is a 5-month record book-based project where youth are provided with materials to plan wildlife food plots, monitoring their use and environmental impact and documents those activities. Youth are provided with food plot seed, record keeping tools, a soils test, rain gauge, and other wildlife documenting resources to plant, monitor, and document their own food plot. **Results:** In 2021/22, the project began with one county but has expanded to four counties by 2023/24. Youth enrollment in 2021/23 was 19 youth and has expanded to 40 youth annually across those four counties. Project evaluations completed by youth (n=29) indicated that over 90% of youth increase their knowledge of natural resources, became a better environmental steward, increased their importance of wildlife in their area, and learned techniques for improving or creating wildlife habitat. Additionally, 79% of youth improved their plant identification skills and wildlife sign. The 29 youth that have responded to project evaluations indicated they learn or improved 26 different life skills such as keeping records, planning, and organizing, decision-making, problem solving, goal setting and working. **Conclusions:** In future years the project will expand to include additional counties and work to promote project completion by hosting additional field days and workshops related to the project for youth to gain skills necessary for the project and to keep interest in a long duration project.

## Implementing Experiential Learning to Improve Master Gardener Volunteer Training

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**Background:** The Palm Beach County UF/IFAS Master Gardener Volunteer program allows County residents interested in horticulture to learn advanced science-based gardening techniques. Trained volunteers can then assist clients in the community by providing environmentally responsible recommendations, UF/IFAS resources, and educational outreach. To become Master Gardener Volunteers, trainees must participate in a 90-hour, 13-15 week program which covers 25 Florida-Friendly™ related topics and then pass the final exam. The majority of teaching in PBC historically has been through static PowerPoint presentations. **Objectives:** Create educational program components and active and experiential learning activities that increase interest and knowledge gain of a horticulture topic. **Methods:** My colleagues and I created educational games, such as a Weed Warrior Challenge, plant identification speed trials at the Mounts Botanical Garden, turfgrass Jeopardy, Build-a-Bug, and review trivia games, were implemented. Other program activities include the trainees becoming experts on six or seven plants and presenting

their research-based findings during weekly plant identification learning sessions. To graduate, trainees must also complete a final project on a Florida-Friendly Landscaping™ topic they use to teach the class. For each new training class, I implemented more new teaching activities. **Results:** Based on a pre-test and final exam, there was a 118.3% increase in knowledge of horticultural topics in 2022, a 52% increase in knowledge of horticultural topics in 2021, and a 36% increase in knowledge in 2020. In 2020-2021, 100% of new MGVs felt comfortable conveying information to clients on horticultural topics taught during my training. Additionally, volunteers have verbally communicated their enthusiasm and enjoyment for the projects and activities I implemented. **Conclusions:** An increase in experiential learning activities increases the enjoyment of the learning process and can lead to more educated and prepared UF/IFAS Master Gardener Volunteers. Successfully trained volunteers are an enormous asset to our communities.

### From Egg to Chick: Inspiring Science through Embryology

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**Background:** Seventy-eight percent of Volusia County Public Schools carry Title I status, a reflection of the high number of students facing economic challenges. This socioeconomic backdrop magnifies the urgency of addressing STEM (Science, Technology, Engineering, and Mathematics) education disparities, which pose a substantial threat to the nation's capacity to bridge education and poverty divides. **Objectives:** In response to these challenges, a school-based embryology program has been devised to actively nurture scientific curiosity and instill an understanding of life sciences among students. The objective is to immerse youth in 5 local schools per semester in the journey of embryonic development, fostering a hands-on learning experience. This initiative addresses the immediate needs of STEM education. **Methods:** 4-H and Agriculture agents plan to provide teacher training, classroom kits and curriculum to teachers. The program will consist of 5 teachers in the Volusia County schools for each of the spring and fall semesters. Furthermore, by utilizing the "Eggcellent Adventures in Classroom Embryology" curriculum and providing an educational Google site with additional resources, the program maximizes its reach and effectiveness. **Results:** The program started this spring semester and had its first 5 pilot schools, a total of 10 adults and 120 youth, currently going through the program. As the program ends at each school, the teachers will be provided guidance on applying for classroom grants from outside organizations to secure their own embryology supplies for future use along with a 4-H curriculum. **Conclusions:** The 4-H embryology program represents a proactive and successful approach to promoting scientific literacy and STEM education. By combining hands-on experiences with theoretical knowledge, the initiative not only enriches the curriculum but also cultivates an appreciation for the wonders of life sciences among students.

### Developing a Sound Studio at UF/IFAS Extension Polk County

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**Background:** Facing challenges with recording quality due to frequent road noise from a nearby highway, UF/IFAS Extension Polk County established a sound studio to produce professional-quality audio for community outreach like podcasts, videos, and narration. **Objectives:** This presentation highlights the studio's creation to enhance community outreach through podcasting and web-based content, particularly focusing on topics such as Horticulture, Florida-Friendly Landscaping™, Natural Resources, Agriculture, and Pesticide Safety. The session will highlight the collaborative funding efforts, strategic equipment choices, and the expected impact on outreach capabilities. The main objectives were to reduce average time spent sound-editing for content creation and to improve the overall quality of audio content. **Methods:** The studio transformation, conceptualized in December 2023, initiated in February 2024, and completed by May 2024, incorporated advanced equipment like a soundboard, microphones, headphones, and acoustic foam. All selections were made to achieve the best sound quality on a limited budget, with the team undertaking much of the installation to minimize costs. Echo-reducing acoustic foam and location considerations were designed to reduce external noise and disturbance to neighboring offices. **Results:** Since becoming operational in April 2024, the studio has produced 4 podcast episodes, with projections to increase to at least 10 by August 2024. Podcast editing now requires approximately 25% less time due to improved audio quality. Participants in this session will hear sound clips created before and after the studio's completion to evaluate the enhancements firsthand. **Conclusions:** The new sound studio significantly enhances UF/IFAS Extension Polk County's ability to deliver engaging and professionally-produced content. Plans for future upgrades and potential sound studio rental opportunities aim to further extend its utility in the community, serving as a model for similar initiatives.

## Cowboys and Calves: Educating Florida's Students on Cattle's Impact on Environment, Economy, and Nutrition

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**Background:** With Florida's population nearing 23 million, the need for agriculture education is paramount. Many new residents are moving into areas where agriculture once thrived and is now diminishing. Educating consumers and families about the cattle industry and how it impacts Florida will lead to improved choices at the grocery store and in their everyday decision making. **Objectives:** Participants in Adopt-a-Calf and Adopt-a-Cowboy programs will increase knowledge about contributions made to Florida's economy and environment by dairy and cattle operations as well as nutritional benefits of dairy and beef. **Methods:** UF/IFAS Extension Agents partnered with Discover Dairy and Florida Cattlemen's Foundation to provide virtual and in-person education

about dairy and beef industries. Students participated in hands-on learning by making butter, sampling beef sticks, petting calves and observing a horse-back cowboy crack his whip while gaining appreciation and understanding for the environmental and economic impacts. Live, virtual events were held for schools that could not participate in person. Calves and cowboys also made appearances at fairs, field days, and heritage days for additional interaction with students.

**Results:** A subset of students (n=2,405) involved in live events (n=6,814) took pre and posttests. Students increased their nutrition knowledge by 76%, learning that milk has 13 essential nutrients and they get zinc, iron and protein from beef. Students also had large knowledge increases in cattle's contribution to the environment and economy, 82% and 54% respectively. Even more impactful were conversations with teachers and chaperones who asked questions to clear misconceptions about animal care and the environmental impacts of livestock. **Conclusions:** The excitement, participation, and interest in these programs have led to conversations about expanding and reaching more students and their families. As fewer people have a connection to livestock and agriculture, extension educators and collaborators can provide this vital message to Florida residents.

## Broward County Community Garden HUB- A Case Study of Collaborative Learning and Resources

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**Background:** The Community Garden HUB project was launched in 2022 at UF/IFAS Extension Broward County in response to feedback from Broward County's Sustainable Urban Food Program. This is a Collaboration between the UF/IFAS Extension Broward County Urban Horticulture program, UF AEC internship program, and UF/IFAS TREC Agroecology Lab. The project addresses the stated need for centralized infrastructure supporting urban agriculture and related opportunities for community engagement and conservation in South Florida. **Objectives:** Objective: The Community Garden HUB project aims to establish a virtual interdisciplinary resource for urban farmers, community garden members, and educators. It equips them with knowledge and skills related to sustainable food production and community outreach. Additionally, the project serves as a research hub for community gardens located in Food Deserts, providing a comprehensive description of their origins, food systems, and agroecological impact—marking a significant milestone for South Florida. **Methods:** Method: The team collaborated on collecting and mapping data to conduct a comprehensive analysis of community gardens in South Florida. This effort incorporated a UF intern in a 12-week internship program, which connected needs assessment with detailed site evaluations a pre- and post-surveys conducted for 12 South Florida community gardens and a live final community garden HUB event at Extension. **Results:** Among the 12 sites studied, 9 community garden sites were managed by Broward County Master Gardener Volunteers, and 1 site was managed by the Miccosukee Tribe. The sites primarily focused on education, culture, resources, and food security as part of their broader community impact goals. Raised garden beds, in-ground plots, and container gardening were the main types of food systems across these sites. Post-event community survey results were positive and well-received.

**Conclusions:** Conclusion: Ongoing efforts are focused on expanding the virtual Community Garden HUB project. The preliminary survey and mapping results provide valuable feedback for the project's initiation.

## Growing Together: Cultivating Early Career Extension Agents Through an Immersive Community of Practice

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**Background:** In 2021, UF/IFAS Extension's Northeast District welcomed ten new Extension Agents. After identifying a professional development need, these agents initiated a plan to support each other through their mid-career promotion and permanent status review process in spring 2024.

**Objectives:** The objective was to foster a professional community of practice among these agents, offering support, mentorship, and camaraderie. **Methods:** Agents shared responsibility to host the meetings, develop the agenda and invite experienced agents to share their knowledge and helpful tips. Each session included peer feedback and time for report preparation. **Results:** The immersive community of practice yielded significant results. Participants reported reduced anxiety about the mid-career review process, indicating the effectiveness of the support system. Moreover, the group fostered stronger personal and professional relationships among peers, fostering a sense of camaraderie and shared resources. Participants also gained a deeper understanding of the community diversity within their district and identified opportunities for collaboration across programmatic areas. Encouraged by the success, the community decided to continue meeting semi-annually, recognizing the ongoing need for professional development and support. Furthermore, their plans include offering support to other agents forming similar communities of practice. The initiative's potential impact on retention rates of early career faculty in Extension is significant. By addressing the anxiety and challenges faced by early career agents, the model contributes to a supportive environment conducive to professional growth and retention. Additionally, its flexibility allows for adaptation to different career stages within Extension, indicating broader applicability beyond early career support. **Conclusions:** In conclusion, the development of a professional community of practice among Extension Agents in UF/IFAS Extension's Northeast District has proven effective in reducing anxiety, fostering relationships, and promoting collaboration. Its success underscores its potential to positively impact retention rates and serve as a replicable model for supporting Extension professionals at various career stages.

## Meeting Producer Needs Through Teamwork with Research and Education Centers

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**Background:** Prior to Covid, agents and specialists collaborated to plant variety demonstrations and hold field days for growers in the region. This project ceased due to Covid and staff and faculty turnover. However, producers still need reliable and relevant demonstrations for different varieties for typical row crops grown here such as corn, soybean, and cotton. **Objectives:** To plant variety demonstrations for corn, soybean, and cotton. To offer field days to showcase these demonstrations and other pertinent information on these crops for producers. To produce written publications with the results of these variety demonstrations. **Methods:** These demonstrations were planted on the research center. Agents and specialists worked together to select varieties and to plan the field days. Two field days were planned in 2023 and two are planned for 2024.

**Results:** In July 2023, the Corn and Soybean Field Day was held. Forty-eight producers attended this field day. In August 2023, the Extension Farm Field Day was held that focused on cotton and peanuts with 140 producers attending. One publication was published online for each of the crops demonstrated (corn, soybean, cotton). **Conclusions:** Participants reported knowledge gain from these field days. Respondents rated their pre-event knowledge as low/moderate (2.7) and their post-event knowledge as moderate/high (3.65).

## Panhandle Cattlemen's College

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**Background:** Advancing cattle producer's skill sets to allow for management practice change is best done in a hands-on setting. To facilitate this, a team of agents/state specialists developed the Panhandle Cattlemen's College (PCC). This program focuses on reproductive management and applied beef cattle skills. **Objectives:** The program objectives are 1) create a hands-on learning platform that teaches cattle producers skills that will enhance practice change, 2) provide a learning environment for new/beginning producers to learn applied cattle handling/management skills in the field, and 3) develop a network that supports PCC participants. **Methods:** PCC is a hands-on cattle management field event that has two training tracks: Chute Side Skills track (CST) and Artificial Insemination Track (AIT). Participants in the CST learn basic and advanced skills on live cattle. CST participants learn skills such as blood sampling, tagging, cattle handling, implanting, injections, castration, and more with the capstone working a group of cattle. The AIT focuses on reproductive management, with participants becoming certified as an A.I. technician through three days of in-cow practice. All participants complete Beef Quality Assurance (BQA) training. **Results:** Over the program's two-year tenure, a total of 27 participants were certified as an A.I. Technician, 32 participants have completed the CST, and 68 have completed the BQA certification. Post-program survey data indicated that 100% reported knowledge gain, 92% of participants implemented change and utilized skills learned to increase the profitability of their

operation, 42% are applying the skills they learned to other herds, 95% are teaching others skilled they learned, and 100% increased profits of operation from learned skill. **Conclusions:** The PCC is an innovative, hands-on program. Documented actual practice changes are supported by producers demonstrating skills learned in their operation. This shows the impact of the program and the educational materials developed. Currently, there is a waitlist for the program tracks into 2025.

### Here Fishy, Fishy; a Fishing and Conservation Summer Camp

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**Background:** Due to many parents working throughout the summer months and needing adult supervision for their children, Okeechobee County 4-H offered a fishing and conservation camp to allow youth to actively participate in learning fishing skills, ways to participate in conservation measures, and life skills acquisition through positive youth development. **Objectives:** The Fishing and Conservation camp was a summer program that allowed youth to learn safety protocol while fishing, fish terminology, conservation measures to protect our fish species, the anatomy of the fish, and how to tie knots, make artificial baits and care for bait fish. **Methods:** Youth participated in learning stations on the first day of camp, where they learned from professionals in the fishing industry. On the next two days of camp, youth participants traveled by bus to different venues to learn about the Kissimmee River restoration and took an airboat ride on the river to see how plants filter water. The last two days of camp were spent fishing on the Atlantic Ocean and in a large freshwater pond. Our culminating activity was a fish fry that consisted of our previous day's catch on the ocean and a post-test activity to showcase what each camper learned. The 4-H agent also wrote a grant to supplement the camp registration fees that helped to pay for the fishing charter boat and also provide a stipend for adult counselors. **Results:** 15 youth participated in the camp, with the supervision of 3 adults and 2 teens. 85% of youth learned the rules and guidelines for keeping certain fish and 77% learned how to care for live bait and the terminology of fishing occupations. **Conclusions:** Due to the success of this fishing camp, it will be continued in future summers as youth gained conservation knowledge and skills within the fishing industry.

### Facilitating Connections: Are We Listening, Now?

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**Background:** The reach and scope of 4-H youth development programs correlates with volunteer resources in a county program. Programs need volunteers, staff, program assistants, and faculty working as a team to design, deliver, and evaluate programs to address community needs.

**Objectives:** A volunteer workshop was held at the Citrus County Extension Office. Twenty-five

volunteers attended the workshop. The objectives were to: build community, develop partnerships for change, actively listen to needs for “Stuff and Things”. **Methods:** The workshop began with activities to introduce participants and build community. A brief overview and definition of goals was provided. In small groups, volunteers discussed goals individual clubs were working towards. With those goals in mind, the same small groups of volunteers were asked to brainstorm “Stuff and Things” the county-wide 4-H program needed to reach goals previously identified. Groups reported out on index cards, which were collected. The phrase “Stuff and Things” was intentionally chosen for its vagueness. The purpose was to give volunteers the freedom to think creatively and outside of the box. They were told this was a no judgement zone and all ideas were welcome. **Results:** Small groups reported “Stuff and Things” on index cards, which were transferred to flipchart. Volunteers ranked items using colored dots. In this way, volunteers created their own evaluation and ranked their top “Stuff and Things” as: more horse activities, firearms training, transportation, and inter-club events. Deliverables were identified and a timeline created. **Conclusions:** Previous need assessments conducted by the 4-H agent evaluated needs based on the perspective of a club volunteer reporting needs for an individual club. This facilitation sought a new perspective and successfully identified the need for inter-club events. As a result, changes were made to the delivery of county-wide Council programming to include more 4-H club interactions.

### Enhancing Educational Value: Collaborative Initiatives at the Volusia County Fairgrounds

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**Background:** Each year, the Volusia County Fair invites local schools to attend student field trips during fair week, typically self-guided and lacking significant education value. Recognizing an opportunity for collaboration, the UF/IFAS Extension office aimed to enhance these tours.  
**Objectives:** The goal was to offer enriching educational experiences to approximately 100 youth during the fair school tours, while strengthening ties with the fair board. We planned to achieve this by expanding extension involvement throughout the year, offering tours, workshops, and activities linked directly to the fairgrounds, thereby supporting the fair and promoting 4-H and other Extension programs. **Methods:** Extension agents led guided walking tours of the Volusia County Fairgrounds for teachers, students, and parent/guardian chaperones. These tours focused on educational exploration of areas such as livestock barns, horticultural exhibits, and the honey bee display. Through discussions, reflections, and group activities, the learning experience was enriched. Additionally, 4-H members showcased their animal care and management expertise by exhibiting their animals, further educating their peers. **Results:** The fair tour attracted 150 youth and adult volunteers and garnered positive feedback from participants. Collaboration with the small barn fair supervisor revealed a need to assist youth exhibitors and led to plans for workshops covering animal registration and showing processes. This initiative strengthened the relationship with the Volusia County Fair Board. The plan is to extend the school fair tours over two days, expanding topics to include coastal ecosystems and the home skills area. Additionally, follow-up assessments with teachers are planned to gauge the interest of tour attendees in participating in

the fair. **Conclusions:** The fair tour provided an engaging and educational experience for teachers, students, and parent/guardians, reinforcing the partnership with the Volusia County Fair and enhancing community presence. Further efforts include scheduling three small animal workshops for the summer.

### Central District 4-H Volunteer Series: A modified way to train volunteers

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**Background:** Volunteers are an essential part of the 4-H program. They are needed to expand outreach and deliver quality programming to a diverse audience of youth. The success of the overall program depends on the training and support volunteers receive (Arnold et al., 2009). For this reason, Central District 4-H Agents collaborated to create a districtwide volunteer training, the Central District 4-H Volunteer Training Series. **Objectives:** The objectives of the training series were to increase volunteer knowledge and skills across the entire district to: enhance the 4-H club experience, ensure the creation of safe and inclusive environments, amplify club management abilities and resources, grow youth and adult partnerships, and increase youth engagement. **Methods:** The program was administered through a network of 11 counties. A hybrid volunteer training session used a synchronized satellite model in which all sites viewed virtual presentations, followed by in-person discussion and activities at county sites. Each site had the opportunity to discuss, practice, and reflect on the concepts learned through an in-person, hands-on activity. The program was implemented in two-hour educational sessions. Participants each received a set of materials to use with their club members. **Results:** An end of training survey from 36 participants showed that because of attending the training 97% increased their knowledge on how to: incorporate positive youth development practices within their club setting, create experiential learning opportunities within their club setting, create a sense of belonging at their club meetings, and planned to use the 4-H club management resources that were presented. **Conclusions:** In the past, 4-H volunteer training across the Central District has been variable and inconsistent from county to county. Due to the Central District 4-H Volunteer Training Series, volunteers across the Central District have received consistent training where they gained knowledge and skills that have helped equip them to implement positive youth development.

### Engaging Residents in Asian Citrus Psyllid and Citrus Greening Management Across Florida's Residential Landscapes

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**Background:** Despite considerable control efforts, Asian citrus psyllids (ACP) and citrus greening disease or Huanglongbing (HLB), remain major concerns for Florida citrus growers and residents. HLB has a significant impact on citrus grown in backyards, prompting ongoing exploration of ACP management techniques. **Objectives:** The objective of this program was to assess current strategies used to combat HLB in residential settings, their successes, and challenges. We sought to determine residents' level of contribution to ACP and HLB control, and willingness to implement new strategies to limit their spread. **Methods:** An online survey was created through Qualtrics and distributed to residents throughout Florida to gauge their level of knowledge regarding ACP and HLB control. Following this, we held workshops at six UF/IFAS Extension Offices across North Florida to address these gaps in knowledge. **Results:** 529 online survey responses were collected. Of those responses, 218 were from HLB-endemic areas (South and Central Florida) and 311 were from regions where HLB and ACP are not as prevalent (North Florida). While 72.4% of residents recognized adult psyllids in photos, only 5% reported having seen them on their trees, primarily in high HLB areas. Results indicated residents' willingness to address ACP and HLB in residential settings. Notably, 76% agreed to remove HLB-infected trees, rising to 82% with compensation incentives. Secondly, training was delivered to approximately 125 homeowners. Feedback revealed a 93% increase in knowledge of citrus pest identification and management. Additionally, 91% expressed willingness to engage more actively in ACP management, with 89% agreeing to remove HLB-infected trees. Furthermore, most trainees considered employing innovative strategies such as protective tree covers (71%) and reflective mulch (93%) against ACP. **Conclusions:** The survey, coupled with the educational workshops proved to be a good tool to address the needs and willingness of homeowners to manage ACP and HLB.

### [First Annual North Florida Outdoor Expo: Successes, Challenges, & Logistics](#)

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**Background:** The North Florida Livestock Agents Group (NFLAG) recognized an opportunity to provide research based outdoor education to the public in Northeast Florida via a large scale educational and recreational event. **Objectives:** The North Florida Outdoor Expo was designed to draw a large attendance and offer activities and interactive education to a diverse audience, including hunters, fisherman, outdoorsmen, as well as children and families. This event was intended to provide natural resource education as well as inform attendees what agencies are available to support them in this realm. **Methods:** Hosting the first of a large-scale, multi-faceted annual event poses unique challenges, including marketing, agency recruitment, incorporation of education into family friendly activities, and evaluation of knowledge gain and practice adoption.

Environmental agencies and outdoor oriented companies were recruited to set up booths and activities, and with assistance from our Extension team, incorporated education into their displays and presentations. NFLAG developed an educational display and throughout the expo, educational nature walks were offered by Extension agents periodically to provide information on native plants and ecosystems in an interactive format, including a guided tour of a historic turpentine still on-site. Participants were required to complete an educational scavenger hunt and event survey to enter the lifetime fishing or hunting license drawing. **Results:** 20 agencies and outdoor companies were recruited to participate in the expo and interact with guests. Over 250 people attended the event, generating \$2500 in registration and sponsorships. On-site survey data indicated, 82% (106 of 130) of program participants indicated an increase in knowledge about Florida's Natural Resources. In addition, 78% (102 of 130) of program participants indicated their intent to adopt a new environmental stewardship practice. **Conclusions:** The North Florida Outdoor Expo was successful in drawing a large diverse attendance and offering useful research-based education to North Florida's outdoorsmen.

### Enhancing 4-H Event Participation through Collective Collaboration

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**Background:** 4-H Extension agents struggle to convince members to engage in new program endeavors. To entice members to variate participation, local agents designed a program to display the achievements, talents, and innovations of each county's population. By bringing together youth, volunteers, and professionals, we encourage networking, knowledge exchange and collaboration. **Objectives:** Foster personal growth, leadership skills, and teamwork; encourage knowledge sharing and the acquisition of new skills through demonstrations and hands-on activities; celebrate cultural diversity, unique traditions, and talents of each region; and raise awareness of protecting the environment and natural resources and healthy living practices. **Methods:** The goal was to engage participants in a variety of activities, workshops, and experiences, allocating each county a booth for demonstrations, exhibitions, competitions, and healthy living exercises throughout the day. Booths consisted of robotics, archery, water conservation, horse showing, Dutch oven cooking, beading, tailgating and livestock judging. There were robotics and water relay demonstrations, seed spitting contests, whip cracking contests, an alligator wrestling demonstration and a fun color run arranged throughout the day. **Results:** All comments from participants and families were positive. Everyone loved the activities, booths, and experiences, and thoroughly enjoyed the contests and alligator wrestling. There were 102 members registered for the event. In a post-survey, of the 15 that answered, 100% of participants were satisfied with the program, and 100% participants said they would attend again. **Conclusions:** The Multi-County 4-H Showcase stands as a beacon of unity and learning, showcasing the potential of

county collaboration when they come together to share their unique talents and ideas. It serves as an inspiration for communities to invest in the development of their young leaders and provides a platform for these leaders to shine while working together toward common goals.

## Building confidence among agents and volunteers in irrigation systems through hands-on learning

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**Background:** Many resources exist for understanding the best ways to manage water to increase irrigation water efficiency. But how do you separate an irrigation zone, so it is properly hydrozoned? How do you install an efficient irrigation system? In the spring of 2024, several northeast district horticulture agents and volunteers expressed a desire to learn the answers to these questions. This agent formed a training to provide hands-on experience installing irrigation systems at two county offices with developing demonstration gardens. **Objectives:** To increase the knowledge and confidence levels of participants regarding performing irrigation system repairs or installations. As these were also agent and volunteer participants, an additional objective was to increase participant confidence to educate others regarding irrigation systems. **Methods:** Two trainings for agent and volunteers were executed in the spring of 2024, both for county extension office demonstration sites. These trainings provided hands-on learning of the process of installing irrigation systems. Participants were shown how to glue PVC fittings, pipe and install sprinkler heads and drip tape. **Results:** A total of 12 participants attended the hands-on irrigation trainings between the two sites. A post program survey revealed that 100% (12 of 12) increased their knowledge of irrigation system components and 50% (6 of 12) increased their confidence levels in irrigation systems. Additionally, 42% (5 of 12) used their skills they learned from the training. **Conclusions:** This program is a starting point to educating the public on implementing water resource practices. Learning by doing can be an effective means to build confidence in agents and volunteers to help them further educate the public on the “how to” aspects of implementing water efficient practices.