PURDUE EXTENSION SHOWCASE



OCTOBER 2025

Bringing World-Class Education to Rural and Urban Communities



Contents

Equal Access/Equal Opportunity	
Foreword	4
Acknowledgments	5
Conserving Natural Resources	6
1-1 Adults and Youth in Purdue Extension's programs learned about managing invasive species in Indiana	6
1-2 Indiana farmers adopted conservation practices: no-till farming, cover cropping and soil testing	7
1-3 Master Naturalist participants increased their knowledge and offered volunteer services to Indiana's natural resources	7
1-4 Purdue Extension facilitated community listening sessions for resident input on wind energy decommissioning	8
1-5 Purdue Extension launches Renewable Energy Siting through Technical Engagement and Planning (R-STEP) for Indiana communities	9
1-6 Purdue Extension trained participants how to seek funding for community quality of life, clean energy, pollution cleanup. and green workforce development projects	10
Workforce Development	11
2-1 Because of Indiana 4-H college and career readiness programming, youth learned professionalism skills and identified careers that might be a good fit for them	11
2-2 Becoming the Employer of Choice builds farmer/manager knowledge and skills to lead and motivate employees	11
2-3 Firefighters and first responders in Grain Bin Safety Training increased knowledge and confidence to respond to emergencies	12
2-4 Graduating 4-H'ers attribute Indiana 4-H for their personal development, connections with their community, positive academic attitude, and path to a successful future	13
2-5 Producers, advisors, and applicators earned pesticide use professional credits for field crops, livestock, diversified farming, and horticulture	14
2-6 Purdue Extension's Beginner's Guide to Grant Writing helps more Indiana organizations secure funding	15
2-7 Restaurant and food service managers and handlers earn certification for compliance with state food safety laws	15
2-8 Through Purdue Extension's 4-H Academy, youth experienced career opportunities	17
2-9 Youth in Indiana 4-H programs demonstrated skills and expressed interest in getting jobs in science and engineering	
Positive Youth Development	18
3-1 As camp counselors, Indiana 4-H high schoolers learn and apply leadership and teamwork skills	18
3-2 Indiana 4-H adult volunteers learn how to help youth thrive	19
3-3 Indiana 4-H programs generate positive youth development opportunities and successes	20
Agricultural and Digital Technology and Innovation	21
4-1 Residents conducted broadband speed tests resulting in 12,000 more serviceable locations and \$868 million for high-speed broadband access for Indiana	21
4-2 UAV program participants would like to further their career or prepare a future career with a remote pilot certificate	
Human, Family & Community Health	23
5-1 Adults in the Jail Chemical Addiction Program are building healthier relationships	23

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Foreword

This annual report reflects Purdue Extension accomplishments, outcomes and activities, sharing impacts across Indiana.

Extension specialists and educators deliver educational programs and research-based knowledge that help families, individuals and communities prosper and thrive. Here are some of their efforts:

- Parents Forever had a positive impact on parents' knowledge, skills and confidence to navigate changes with divorce/custody, ultimately setting the stage to bolster their children's well-being.
- Pond management workshops help professionals and the public gain knowledge and skills for keeping ponds healthy, contributing to the vitality and sustainability of Indiana's 40,000 ponds.
- ServSafe trainings contribute to 1,000 restaurant/food service workers' food safety certification and business/home vendor compliance with state food safety laws.
- Purdue Extension hosted "Pláticas Familiares" (family chats) meetings for Hispanic families to learn about and gain access to available programs/support to help them be more engaged in the community.
- Remote Work Certificate program participants increased productivity and improved communication, time management and work-life balance, helping support and retain virtual workers across Indiana.
- More than 400 youth in Indiana 4-H camp counselor training demonstrated leadership and teamwork capabilities
 for communication, interpersonal skill, and collaboration across differences. Indiana is a better place as youth apply
 leadership and teamwork skills in and for our communities.
- Purdue Extension-Wayne County is building engagement and focus on homelessness across a rural region, engaging state agency partners for financial support, connecting the homeless to services and housing, and improving county/ state connections to support the homeless.
- Captain Cash engaged 5,534 third graders, in over 100 schools and community organizations, in learning about earning, saving and borrowing.
- 25 coalitions received more than \$3.8 million for community-based health programs with Purdue Extension's involvement in local efforts toward health for all.
- More than 160 local township team members gained an understanding of levels of conflict and strategies for deescalating conflict in public settings. They developed leadership skills for effective public service in Indiana's counties.

Our efforts meet the changing needs of residents in every Indiana county, across this nation and around the globe. We hope you'll find this compilation interesting and helpful as you communicate with stakeholders about potential collaborations.

Angela R. Abbott

Angela Abbott, Interim Director of Purdue Extension, Purdue University

Acknowledgments

This report spotlights our Extension work in climate change, natural resources, environment, and sustainable energy, workforce development, positive youth development and 4-H opportunities, big data, broadband access and digital literacy, inclusion and innovation, human, family and community health, food production, security and safety, and urban agriculture.

Here are some samples:

- Private woodland owners increased their knowledge of managing woodlands and plan to use information to make decisions and take action for improving their 1,500 acres valued at \$7.3 million.
- Purdue's pesticide programs helped producers and employees learn how to safely apply pesticides to field crops and earn professional credits for Private Applicator Recertification and Commercial Applicator Continuing Certification Hours.
- "Purdue on the Farm" revived Extension's on-farm visits with corn and soybean farmers with a new approach. Educators visited corn and soybean farms, met with farmers, scouted fields, conducted tests and documented observations. Emergent issues were shared with researchers for attention and follow-up. The greatest benefit was improved connection with farmers.
- The UAV program prepares participants to take and pass the FAA Part 107 Remote Pilot test, contributing to safe and legal UAV/drone flights and applications for agriculture, agronomics, monitoring and marketing.
- Purdue's Wood Research Lab develops and tests wooden school furniture, and Extension's Furniture Production Training teaches workers to build furniture. These efforts remove low-value timber and create needed employment training and opportunities in urban/rural areas, impacting Indiana's forests, furniture production and workforce.
- Purdue Research and Extension's involvement with the Midwest Poultry Federation resulted in participants adopting
 practices resulting in financial improvements of \$20,000 in poultry production, enhancing the supply of young hens
 and fryers.
- Produce Safety Alliance (PSA) Grower Training helps produce growers increase postharvest handling and sanitation knowledge and earn food safety certificates to meet the Food Safety Modernization Act, contributing to a safe food supply.
- Master Gardeners, with the Nutrition Education Program, coordinated volunteers growing produce: 287 food pantries and distribution sites received 239,252 pounds of donated produce over eight states, serving 114,476 low-income individuals.
- America Grazing Conference participants reported financial improvements up to \$100/acre due to adopting recommended practices. Indiana Grazing School participants plan to adopt practices to optimize pasture growth and extend the grazing season. These practices boost grazing operation production across the Midwest.
- Purdue agricultural centers' field day participants adopted new recommended practices for cover crops, no-till, and sulfur and fungicide applications, showing a commitment to sustainable agriculture and optimizing crop performance and yield for feeding Indiana, the U.S. and the world.

Our land-grant mission challenges us to build a sustainable future for our local communities, our state and beyond.

I thank Angela Abbott, interim director of Purdue Extension, for her leadership, and all faculty, researchers, specialists, educators, staff and volunteers who deliver unbiased information and resources.

Bernie Engel, Glenn W. Sample Dean of Agriculture, Purdue University

Servie Engel

Conserving Natural Resources

1-1 Adults and Youth in Purdue Extension's programs learned about managing invasive species in Indiana



In the U.S., environmental and economic costs associated with invasive species total \$21 billion per year. In Indiana, invasive species are becoming more common, threatening crops and

native plants. Invasive species in native woodlands areas are major concerns in southern Indiana. Incursion of invasives results in ecological, financial and recreational degradation. The latest technologies are needed to ensure that efficient means of controlling and eradicating invasive species are made available. Early detection is key to effective management.

Purdue Extension implemented a variety of programs about invasive species.

- Field Day on Invasive Species Management Purdue Extension and the Southern Indiana Purdue Agricultural Center (SIPAC) hosted a daylong invasive species workshop with lectures, wagon tours, hands-on demonstrations and forest walks. Topics were: assessing invasive plant problems, pillars of an invasives management system, invasives management control options, correct use and application of herbicides, herbicide labels, herbicide laws and regulations, invasive management funding and technical assistance, and developing an invasives management plan. About 40 Indiana landowners attended and reported that they managed/advised 50 acres or less (43%), 51 to 100 acres (25%), and 101 to 500 acres (27%).
- Ecology of Invasive Species Purdue Extension delivered the Ecology of Invasive Species to 80 high school biology students.
- Invasive Species Signature Program Purdue Extension created and delivered a nine-module series instructing managers of public and private lands how to identify, report and manage invasive species across Indiana. Each module included activities, supplementary materials, expert guest speakers, and demonstrations addressing reporting, recording, and tracking, native plants for Indiana landscapes; forest insects

- and pathogens; agriculture species, including noxious weeds; forest plants; fish and aquatic invertebrates; aquatic plants and home landscape. There were 44 adult participants from a variety of community positions: landowners, homeowners, farmers, woodlot managers, Indiana Conservation Partnership members, Cooperative Invasive Species Management Areas (CISMA) members, business owners and Master Gardeners.
- Field Day on Invasive Species Management 30 participants responded on the survey. Most participants (90%) found the workshop extremely/ very useful to their operations. Participants planned to use recommended practices: at least one control option (23%), herbicide information (20%), available funding opportunities (10%) and controlled burns (3%). Participants reported planning to adopt practices: identify invasive plant problems on their property (100%), assess the infestation, prioritize, and actively manage invasive plants on their property (83%), incorporate invasive plant management into their forest/wildland management plan (67%), and take steps to prevent new infestations (57%).

Ecology of Invasive Species — 77 high school participants completed the evaluation. They reported learning something new about invasive species (95%). Items learned included:

- "Invasive species have to be living, cause harm and introduced to a new area."
- "A spotted lanternfly is an invasive species in Indiana."
- "Humans can cause species to be moved."
- "Moving around firewood can spread species."

High schoolers reported they would more likely avoid moving firewood and follow campground rules (94%); watch for new invasive species (94%); choose species known to be non-invasive (90%) and share what they learned (65%).

Invasive Species Signature Program — 11 participants completed the post-survey. They rated their knowledge (5-point scale – "no knowledge" to "a great amount of knowledge") before and after the program on several topics: best management practices to control invasive species, impact of invasive species on the environment, invasive species, native alternatives, resources for identifying and reporting invasive species, and resources to assist in controlling invasive species. Results showed

knowledge levels increased for all topics, but the greatest increases were for resources for identifying invasive species (increased 2.6 points from 2.30 before to 4.90 after), and resources for reporting invasive species (increased 2.6 points from 2.0 before to 4.60 after). Most participants (91%) reported they plan to identify and remove invasive species from their own property/business. All participants reported intentions to adopt what they learned from the program.

As a result of the Purdue Extension programs, youth and adults learned about invasive species, and most plan to take action to watch for and remove them. This will help Indiana address and manage invasive species of crops, plants and woodlands.

1-2 Indiana farmers adopted conservation practices: no-till farming, cover cropping and soil testing



In Indiana, soil health issues can impact crop production.
Soil erosion is a significant problem, especially in areas with sloped terrain. Erosion can lead to the loss of topsoil, which is crucial for

crop growth. Heavy machinery and frequent tillage can compact the soil, reducing its ability to retain water and nutrients, hindering root growth and decreasing crop yields. Nutrient depletion occurs when continuous cropping without proper nutrient management can reduce essential nutrients like nitrogen, phosphorus and potassium from the soil. Reduction of organic matter in the soil can impact its fertility and ability to support healthy microbial activity. Poor drainage or excessive water retention can lead to waterlogging or drought stress, both of which can negatively affect crops.

Purdue Extension, in collaboration with the USDA's Natural Resources Conservation Service and Farm Service Agency, and the Indiana State Department of Agriculture's Soil and Water Conservation District, have been on the forefront of soil health education and promotion. In Washington County, this work is carried out through the Washington County Conservation Partnership — a collaborative effort among Purdue Extension and local agency partners to support farmers and promote soil health practices. The 12th annual Southern Region Soil Health Workshop provided a halfday program with a series of soil health presentations addressing bio-strip tillage, cover crop mixes, biologicals, drones and state pesticide regulation updates. Presenters were Purdue Extension educators and specialists, industry professionals, and experienced producers.

A total of 107 participants — farmers, industry professionals, agency staff — attended the event. Some 52 participants responded on the post-survey (49% response); 46 participants reported they had attended at least one previous workshop.

As a result of the soil health workshop, most participants (89%) shared that they continue to return to the workshop year after year because they know relevant topics are presented. Participants stated that the topics directly affected their ability to use conservation practices for their operations (89%) and that the workshop helped make management decisions to best meet their soil health goals while being financially responsible (89%). Participants identified conservation practices they have implemented on their farm because of their participation in these soil health workshops. Top 5 practices reported were: no-till or conservation/reduced till (83%), cover crops to retain nutrients/stabilize soil (82%), conducting regular soil tests (78%), rotating crops to maintain or improve soils (77%), and including new varieties of crops in cover crop mixes (46%). In addition to the knowledge gained, 48 participants received private applicator recertification credits, 19 received commercial applicator credits, and five received certified crop adviser credits.

Because of Purdue Extension's program, Indiana farmers have adopted conservation practices such as no-till farming, cover cropping, and soil testing. These practices help improve soil health by increasing organic matter, enhancing soil structure and promoting biodiversity for more productive and sustainable soils in Indiana.

1-3 Master Naturalist participants increased their knowledge and offered volunteer services to Indiana's natural resources

Planting native flora in gardens, fields and forests and controlling invasive plants has been promoted by environmental organizations as a way to increase ecosystem sustainability. Many interested in natural resources need more training.

The Master Naturalist program, "an introductory program of nature discovery and service learning for adults", is made available through the collaboration between Purdue Extension, the Indiana Department of Natural Resources and the Indiana Association of Soil and Water Conservation Districts https://www.in.gov/dnr/state-parks/programs/indiana-master-naturalist- program/. This effort brings together natural resource specialists with adult learners to foster an understanding of Indiana's plants, water, soils and wildlife, and promote natural resource volunteer service within the state of Indiana. To receive a certificate, participants complete at least 80% of course sessions, volunteer one hour of service per hour of coursework at a state/local park,

natural resources agency, or approved local community organization to help with trails, programs, gardening, and resource inventory, and complete an open-book quiz covering course content. Participants who complete their service hours receive a certificate of completion, an Indiana Master Naturalist pin, and a one-year subscription to the Indiana Master Naturalist newsletter.

Purdue Extension coordinated the teaching and testing of an Indiana Master Naturalist Workshop for 20 adults. Hands-on learning was emphasized during field trips to local parks, nature preserves and wetlands, and in the classroom. During the workshop, participants traveled to three locations and completed activities:

- Botany (Magnificent trees of Indiana, Oaks in Indiana, Indiana's natural landscape, Spring wildflowers of Indiana)
- Zoology (Indiana's subterranean biota, Bats of Indiana, Wildlife of Indiana forests, Forestry for the birds)
- Water (Freshwater mussel conservation, Indiana wetlands, Indiana fish)
- Geology and soils, (History, Geology features, Landform regions)
- People and natural resources (Rachel Carson and F.L. Wright)
- Miscellaneous (How to not become a lost/stranded hiker, History of the everglades of the north — Kankakee Sands).

Ten participants responded on a post-survey and reported that the workshop increased their knowledge about natural resources and was worth their time. All respondents reported they plan to complete at least 24 volunteer hours to receive the Master Naturalist certification (five had completed it before the end of the last workshop).

Participants indicated the most valuable things learned in the Master Naturalist workshop:

- Relationship of every aspect of nature.
- Learning about invasive species, endangered species, restoration projects.
- That I thought I had a pretty good foundation regarding Indiana's natural environment. I was very wrong.
- The intensity of humankind's activity on the natural world is much more dramatic than I knew.
- The passion of the speakers; many work for Purdue Extension and the state, which translates to a healthy future for Indiana.

Participants shared how they plan to use materials received and knowledge gained:

- Create a better habitat for wildlife in my backyard.
- In volunteering and regular life.
- I'm already using it to identify plant species and birds.
- I would like to someday volunteer for a guided hike and share what I have learned.
- I plan to advocate for better land management.
- I will continue to educate myself and volunteer. I hope to be involved and potentially start a second career as a naturalist in the future.
- Increase personal knowledge to increase a viable habitat on my property for pollinators and reduce invasives, spend more time volunteering.

Adults across Indiana are earning the Master Naturalist certificate to become more knowledgeable about the state's natural resources. Master Naturalists volunteer their time and share knowledge with residents across the state who are experiencing Indiana's natural resources.

1-4 Purdue Extension facilitated community listening sessions for resident input on wind energy decommissioning

Providing an important source of renewable energy, wind turbines are prevalent across the U.S. These machines were built with the expectation to last about 30 years. However, the need for partial repowering within the first 10 years — through upgrading components of the turbines to newer, more efficient parts — has become common. There may be up to 9,000 wind turbine blade replacements nationally every year, and that number is expected to increase to a maximum of 20,000 per year by 2040.

As a result, increasing interest and activity have focused on wind energy end-of-service (project decommissioning, repowering, and disposal or recycling of turbine components). While most research currently focuses on technology considerations, the National Renewable Energy Laboratory (NREL) conducted a multi-phase project to better understand community considerations, impacts and viewpoints related to these activities. The project sought to capture the end-ofservice perspectives, questions, priorities and challenges from a variety of stakeholder groups. The project involved three distinct phases — interviews, roundtable discussions and community listening sessions — which allowed NREL to iteratively build its knowledge base on end-of-service topics while preparing to engage more effectively with multiple stakeholder groups and wind energy host communities.

Purdue Extension was selected by the <u>National</u> <u>Renewable Energy Laboratory (NREL)</u> to <u>co-host</u> community listening sessions.

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Purdue Extension queried community contacts and Extension staff in Indiana's wind energy communities and determined that Benton and White counties would be ideal for hosting wind energy end-of-service events. White and Benton counties have the oldest commercial wind-energy developments in Indiana, created in 2008 and 2009. Located in northwest Indiana, these two counties have a significant number of wind projects, with more than 1,000 wind turbines. One wind project in Benton County was partially repowered in 2023, but no projects have been decommissioned.

Purdue Extension partnered with NREL to conduct community outreach and facilitate discussion to help shape the structure and ultimate success of the end-of-service events. Purdue Extension and NRL worked with a teacher at Tri-County Jr.-Sr. High School in White County to plan a 1.5-hour listening session during the school day with high school students involved in Future Farmers of America. The second event was a two-hour community listening session for the public held at the Purdue Extension office at the White County fairgrounds. Around 40 residents of Benton and White counties attended, including farmers, landowners, community planners and leaders, and other community members.

Key takeaways from the results included participant feedback and insights into decision-making and planning, component processing, repowering, decommissioning and generational differences. Results of the listening sessions will be used by the U.S. Department of Energy Wind Energy Technologies Office (WETO) to inform the development of future wind energy recycling and end-of-service resources (informational websites, policy briefs, technical materials) and additional engagement efforts (workshops, seminars, interviews).

Via Purdue Extension's partnership with the National Renewable Energy Laboratory, Indiana community members and high school students participated in listening sessions to provide input about wind energy end-of-service activities in their communities. This will help direct future renewable energy activities across Indiana.

1-5 Purdue Extension launches Renewable Energy Siting through Technical Engagement and Planning (R-STEP) for Indiana communities

Indiana is experiencing an energy transition with an increasingly varied electricity generation fuel mix and new technologies. The Department of Energy (DOE) released funding to support communities through this transition. This requires a network of stakeholders to

collaboratively develop resources about how wind and solar renewable energy may fit into the local landscape and to support local decision-making.

Indiana Renewable Energy Siting through Technical Engagement and Planning (R-STEP) was selected as a recipient of the DOE funding. Purdue Extension leads this Indiana R-STEP collaborative helping to support communities in utility-scale renewable energy planning and decision-making. Partners include Indiana Office of Energy Development, Center for Business and Economic Research at Ball State University, Center for Energy Education, Indiana Agriculture Coalition for Renewable Energy, American Planning Association-Indiana, Indiana University Public Policy Institute, JWM Co., Myerson Consulting, and The Nature Conservancy-Indiana Chapter. The Indiana collaborative was formed through a core team responsible for deliverables. This team developed a series of project management, operating and communication guidelines per the DOE. The group established a steering committee to meet quarterly to provide feedback and support. To begin outreach and education about IN R-STEP opportunities, the team engaged in state and regional conferences: Agri-Institute workshop, SMART CHOICE: Land+Energy+Food, Accelerate Indiana Municipalities webinar, IN Climate Leadership Summit, Chicago Wilderness Congress, RE+ Midwest, and the OKI Planning Conference.

For the three-year grant cycle, the R-STEP collaborative will provide a network hub of online resources, peer-to-peer networking events, in-person and online learning opportunities through webinars, tours, conferences and workshops, research products for planning and economic development, facilitated community meetings, and presentations.

Annual educational events are planned:

- Renewable energy planning webinar series for community planners and local decision- makers,
- Regional workshops on renewable energy for local decision-makers,
- Landowner renewable energy webinar series about utility-scale renewable energy topics, and
- Renewable energy bus tours for community decision-makers, visiting utility solar and wind developments and hearing from developers and local leaders about the project process.

Education efforts were launched with a 90-minute kickoff webinar by the American Planning Association-Indiana chapter, educational programs with Hoosier Energy and Decatur County, and a bus tour of wind and solar projects in White County. There were 55 attendees at the kickoff webinar; 21 responded to the evaluation survey (38% response).

As a result of attending the R-STEP webinar, most respondents planned to use something they learned (95%), learned a new skill (95%), felt more confident making decisions about utility-scale renewable energy (90%), and intend to apply what they learned (90%). Many participants reported they planned to share R-STEP resources with others. Four indicated they planned to pursue further education on land use planning through a certification course or other opportunities. Two shared that they planned to use the information when updating their ordinance or comprehensive plan.

Due to Indiana R-Step's kickoff webinar, participants learned new information and skills, felt more confident making decisions about utility-scale renewable energy, intended to apply what they learned, and shared R-Step resources with others. Results of this and future offerings will benefit communities across Indiana for utility-scale renewable energy planning and decision-making.

1-6 Purdue Extension trained participants how to seek funding for community quality of life, clean energy, pollution cleanup. and green workforce development projects

Immense federal funding opportunities for community-led solutions for healthy environments are available. Yet community organizations and local government lack the staff expertise and resources to successfully navigate funding opportunities to request and access resources needed for large-scale projects for community development.

Purdue Extension led seven workshops in Indiana through the Great Lakes Environmental Justice Thriving Communities Technical Assistance Center (TCTAC). TCTAC provides services to communities in the Great Lakes region – Illinois, Indiana, Michigan, Ohio, Minnesota and Wisconsin. The mission is to support community organizations in successfully navigating funding opportunities to access resources they need to enhance community quality of life, for energy transition, pollution cleanup, and green workforce development.

Indiana workshops were held in Bartholomew, Marion, Harrison, Porter, Spencer, Vigo, and Wayne counties.

Each workshop provided an overview of the TCTAC support, how to engage with technical assistance, and an introduction to grant writing. The team conducted two webinars and attended three state workshops to spread awareness about the effort. Workshop attendees gained

expertise about state, regional, and national technical assistance partners and resources to access federal funding. They engaged in grant proposal writing and management skill building.

As part of the TCTAC support, Purdue Extension provided technical assistance for these participating Indiana groups submitting requests on the Great Lakes intake form. Technical assistance meetings included screening for eligibility, gathering information about project ideas, reviewing potential grant applications, addressing requirements to submit a proposal, and providing direction for the next steps. Technical assistance follow-up activities were based on the specific needs of groups. To further support capacity building, the Indiana TCTAC program covered costs for eligible participants to attend Purdue Extension's Beginner's Guide to Grant Writing programs in Lake and St. Joseph counties.

There were 72 participants at the regional workshops. They represented nonprofit, faith-based and local government staff working in underserved communities, rural and remote areas, and organizations with the highest degree of burden and capacity constraints.

After completing the training and technical assistance, a Jasper County art nonprofit applied for a grant from Jasper County Economic Development and received \$25,000. Awarded funds were used to put a roof on a building that will be renovated into a permanent, live theater venue for the organization.

A grant-writing participant stated: I would like to thank you and your agency for sponsoring me to attend the Grant Writing for Beginners workshop. This workshop was immensely helpful in giving me the knowledge, experience, and confidence to write a grant. The presenters were friendly, helpful, knowledgeable and thorough! The workshop was well thought out and the material covered was up-to-date. I loved the openness to ask questions and discuss individual issues particular to each attendee's organization. What a great service! Thank you for offering this!

Via Purdue Extension workshops and technical support, Indiana nonprofit and local government representatives gained knowledge and skills to successfully obtain federal funding to support local community projects for improved quality of life.

Workforce Development

2-1 Because of Indiana 4-H college and career readiness programming, youth learned professionalism skills and identified careers that might be a good fit for them



During school years and after graduation, youth success in college and/or career opportunities is greatly impacted by the development of knowledge and skills in professionalism and decision- making.

Indiana 4-H programs were delivered in counties, across regions of the state or multi-county collaborations, or coordinated statewide. Six college and career readiness programs were implemented for youth, including Work Ready and Clover Gaming. Over 150 youth participated in six programs; 141 responded on program evaluations.

Focusing on professionalism, youth reported that in 4-H they learned how to act professionally (78%). They indicated it is important to do their job well (99%), arrive to work on time (99%), show respect for others (99%), be trusted by an employer (97%), and have a professional image on social media (79%). As a result of the 4-H program, youth reported they have encouraged their friends to have a professional image on social media (39%). When asked what they learned during the 4-H training, youth reported they learned how to prepare for an interview.

For college decision-making, 71 responding youth reported that because of the training, they had an idea of what they would like to major in (82%). Youth indicated that 4-H helped them think about the amount of education they might need in the future (90%), identify one or more careers that might be a good fit for them (82%), and have a better idea what they might do after high school (78%). Youth indicated that when choosing a career, it is important to be passionate about the work they do, consider salary, have a career where they can make a difference in the lives of others, and go to college to have the type of career they want.

For identifying strengths, exploring careers, and thinking about future education needs, youth indicated that Indiana 4-H helped them "a little" or "a lot" to think about the amount of education they might need in the future

(90%), identify things they are good at (89%), and explore future career options (85%). When asked, youth indicated that in the year after finishing high school, they are thinking about getting a job (94%), attending a four-year college (76%), community college (68%), or vocational/technical college (54%), or joining the military (32%).

Because of Indiana 4-H college and career preparation programs, youth identified things they are good at, learned professionalism skills, have a better idea about what they might do after high school, gained insight into potential college majors they would like, and identified careers that might be a good fit for them. Indiana's future is in the hands of these youth who are making decisions, exploring careers, and planning their lives beyond high school.

2-2 Becoming the Employer of Choice builds farmer/manager knowledge and skills to lead and motivate employees

In a Farm Bureau News article, Justin Ferguson, federal affairs coordinator at the Mississippi Farm Bureau Federation, discussed labor shortages in the agriculture industry and supply chain. He listed agriculture labor as one of the most pressing policy issues for the industry. Once agricultural employers find good employees, it is imperative that they can retain them. This situation is no different in any other employment field, with many businesses reporting difficulty either finding, training or keeping employees in their workplace.

Purdue Extension presented "Becoming the Employer of Choice" to employer groups. There were two inperson events, one at the Cyberpay Users Group (CPUG) National Conference in Indianapolis and one in Tipton County, Indiana. The three-hour program was geared toward current and future farm managers/owners, agribusinesses and small business owners looking to improve their human resource management skills. Topics included: what it means to be the employer of choice — from manager to leader, developing a motivated workforce, hiring the right people, the farm/general business culture, strategic leadership and onboarding, keeping good employees - reviews and feedback, and managing conflict. The program included handson activities engaging participants to increase their management awareness and ability. Interactive sessions aimed to build human resource management skills important to farm and small businesses. Participants learned from other farmers and managers and take effective and practical approaches to human resource

management back to their operations/businesses. The two events drew 54 participants; 26 filled out the evaluation. Participants at the Tipton County event were residents of the county. CPUG participants were from across the U.S.

Respondents reported that as a result of the program, they gained knowledge about developing a motivated workforce (92%) and how to be a manager who leads through example (80%). Respondents shared what they learned about leadership: different types of leadership styles, everyone is a leader at some point, how to be a better leader, how to change my leadership style, I recognize which qualities of a leader I am strong in and which others I want to improve upon, know thyself to lead others effectively, and there are different times to use different leadership styles.

Respondents reported their learning about communication styles or approaches: I need to change my approach to people and how I interact with them, helped me clarify the styles, when to use a commanding style, and communication matters.

They stated what they learned about motivating employees: the roles of autonomy, relatedness, and competence when motivating individuals, a different way of looking at situations and how to work with people and find different ways to motivate them, internal and external forces of motivation, different ways my peers motivate their workforce, and increased my awareness of what motivates us and how to improve relationships.

Because of the program, respondents indicated they plan to make these changes: apply tools learned to motivate employees, develop more efficient management of HR/administrative processes and tasks, improve my employee management/leadership skills, and learn how to address an employee management issue at my business. One participant summed up the workshop: "The workforce is the backbone of the company; people are a company's greatest asset. Keeping them engaged and motivated will translate into higher performance and larger profits, as well as a work environment where people will thrive."

Because of Becoming the Employer of Choice, farm and small business managers learned new HR/management knowledge and skills to better lead and motivate employees in the workplace. This will impact employers and employees across Indiana and the U.S.

2-3 Firefighters and first responders in Grain Bin Safety Training increased knowledge and confidence to respond to emergencies

Hazards associated with agricultural confined spaces have historically been, and continue to be, a significant threat to agricultural workers. Each year incidents involving confined spaces found in agricultural workplaces directly impacted the lives of hundreds of workers and their families. Purdue Agricultural



Confined Space Incident Database (PACSID) produces an annual summary. In addition, first responders and firefighters often are the first to arrive on the scene to assist. Many are not from farming backgrounds and have not had any relevant training.

A local Indiana fire department contacted Purdue Extension asking about grain bin safety and related training. As a result, Purdue Extension provided three days of training for firefighters and first responders, reaching 110 firefighters in the fire department and eight of their mutual aid departments. Each two-hour training had presentations and visual aids explaining functions of grain systems, natural flow of grain, grainrelated risks and types of grain-related emergencies. Rescue operations were discussed at length, engaging participants in scenarios and sharing real-life experiences. Participants watched a visual demonstration of an entrapment. Participants practiced with their grain rescue tubes in a hopper-bottom trailer filled with grain. This allowed each participant to feel the pull of grain and interact with each other in a simulated confined space. Attending the training and completing the evaluation were 110 certified firefighters, first responders, and emergency response personnel.

As a result of the training, all participants (100%) indicated increasing their knowledge of grain bin rescue situations and intended to adopt practices discussed. Two-thirds (65%) had no prior experience with a grain handling system. Many noted that they had no idea what a grain bin looked like inside, let alone how the grain flows inside and through. Most (90%) indicated they are now more confident in their ability to respond to grain-related emergencies. Nearly all (95%) shared they would be taking the information back to their departments and sharing it with those who could not attend.

Via Purdue Extension's training, firefighters and first responders learned how to handle grain bin rescue situations. As a result, participants were more confident in their ability to respond to grain-related emergencies. Indiana communities will benefit from having better trained responders these incidents.

2-4 Graduating 4-H'ers attribute Indiana 4-H for their personal development, connections with their community, positive academic attitude, and path to a successful future

During school years, youth preparation for and success in their future, college, and career possibilities are greatly impacted by their experiences, involvement, training and opportunities.

In Indiana, 4-H is in all 92 counties and delivered through Purdue Extension. Community clubs, after-school programs, school enrichment, camps/workshops and special interest programs are ways youth across Indiana can be involved with the 4-H program. Educational activities address STEM, healthy living, college and career readiness, civic engagement, animal science, leadership, and more. With input and direction from Indiana 4-H educators, a new project was created to distribute a survey to collect uniform information from 4-H members graduating high school. The purpose was to compile information that counties could use to celebrate and share the accomplishments of graduating 4-H members.

The survey contained questions about 4-H activity (number of years in mini-4-H and 4-H, offices/leadership/ experiences), results of 4-H involvement (Thriving Model concepts in common with life skills and the Five C's, including personal, well-being, learning, goals, civic engagement, and purpose constructs that were made into statements with five-point response options from "strongly disagree" to "strongly agree"), their 4-H story (description of a 4-H activity/experience/project they enjoyed the most, and the greatest impact 4-H has made on their life), and their future (plans after high school and plans to be involved in 4-H after they graduate). In addition, the Net Promoter Score® was included as an indicator of client loyalty. Educators distributed the online or paper surveys to graduating seniors during the spring. Emails including the survey link were distributed from the 4-H program leader to all 4-H high school seniors. Youth who completed the survey received 4-H graduation tassels.

A total of 1,118 survey responses were collected. Youth represented 90 of Indiana's 92 counties. Counties with the largest participation were Elkhart (55), Hendricks (45), Tippecanoe (39) and Boone (33). Most responding youth (84%) reported being in Mini-4-H and 4-H for 10 years or more. One-third or fewer graduating seniors reported club leadership positions: president (35%), vice president (34%), secretary (32%), treasurer (24%), recreation leader (19%), and health and safety officer (17%).

Responding about the positive youth development (PYD) traits of personal standards, responsibilities, and connection with others, graduating seniors reported they developed the ability to make their own choices and control their own actions (96%), made a personal commitment to making ethical and just choices (93%), and made connections with others (91%). Assessing the traits of happiness, well-being and positive emotionality, youth reported, as a result of 4-H, they are positive and optimistic (87%), manage emotions in ways that lead to good health for themselves and others (86%), and make choices that promote health and well-being, especially nutrition, physical activity, and sleep (82%). For openness to challenge and discovery, positive academic attitude, and goal setting and management, 4-H'ers shared that they set goals and work to achieve them (96%), make decisions that help them achieve short- and long-term success (95%), were empowered to explore and try new things and challenges (94%), and have built academic skills and success (89%).

Focusing on civic engagement, and contribution to others, graduating 4-H'ers shared a desire to give back to others (93%), they are actively engaged in their community and the world (86%), and they are well-informed citizens (84%).

For traits of prosocial orientation, transcendent awareness and hopeful purpose, because of Indiana 4-H, graduating youth try to live up to the values of respect, responsibility, honesty, kindness and generosity (96%), are on their way to a happy and successful future (94%), and have become aware of things bigger than themselves that help shape their thoughts and actions (92%).

Youth shared their 4-H stories, describing what they enjoyed the most about 4-H, their most significant 4-H success, and the greatest impact 4-H made to their lives.

- Graduating 4-H'ers shared what they enjoyed most: personal growth, learning, sense of community (family heritage, friendships, connections), passion for agriculture, animals, and livestock, leadership roles and opportunities, and making a difference via community service.
- 4-H seniors explained their most significant 4-H successes: achievements and recognition, state and national participation, creating and completing projects, mentors, relationships, and community, overcoming challenges, and passion, perseverance, and persistence.
- Responding 4-H'ers expressed the greatest impact 4-H made on their lives: community and friendships, skill development, life skills now and for their future, responsibility, importance of community service, development of passion, interests, and future career choices, personal

development, and learning dedication and a work ethic.

- Graduating 4-H youth reported that after high school they plan to attend a four-year college (65%), get a full/part-time skilled job (17%), enroll in community college (14%), take part in trade school (8%), or start their own business (8%).
- Graduating 4-H'ers' plans for their future 4-H involvement are 4-H club/project volunteer (35%), no plans to be involved (23%), 4-H donor (17%), 4-H council/fair board member (9%), 4-H committee member (8%), and 4-H camp volunteer (6%).
- The calculated NPS® was +76 (on a scale from -100 to +100) and is considered a "world-class" rating. Promoters (who gave scores of 9-10) represented the largest group of youth responses (n=678) and shared these themes for the primary reason for their score: personal growth, life skills, and confidence, positive impact and the future, promotion of and advocacy for 4-H, and learning opportunities.

Indiana 4-H's greatest impacts on the lives of graduating 4-H'ers were community and friendships, skill development, life skills now and for their future, responsibility, importance of community service, development of passion, interests, and future career choices, personal development, and learning dedication and a work ethic. These impacts benefit and brighten Indiana's communities today and in the future.

2-5 Producers, advisors, and applicators earned pesticide use professional credits for field crops, livestock, diversified farming, and horticulture

In 2022, Indiana had 54,800 farms with 14,800,000 acres of land (Indiana Agricultural Statistics 2022-2023, USDA, NASS). Corn was the leading source of income for Indiana farmers in 2022 and amounted to \$6.43 billion, with soybeans at \$4.81 billion. Farmers and agribusiness personnel, in addition to fertilizer and chemical dealers, seed and company agronomists, and crop consultants, need up-to-date information on pest populations, outbreaks, management strategies, pesticide label changes, safety and environmental issues related to pest control, and the safe use of pesticides and herbicides. Appropriate application of pesticides is extremely important for our food systems, environment, health, wildlife and water supply.

A private pesticide applicator is anyone who applies pesticides to property they own, rent or otherwise control for producing an agricultural commodity. Applicators wishing to buy and use restricted-use pesticides must be certified by passing the core exam. Private applicator certifications are current for five years.

Commercial applicator certification is a legal requirement for anyone who applies pesticides (herbicide, insecticide, fungicide, rodenticide, etc.) to someone else's property as a for-hire service. Commercial applicator certification is also required for anyone who applies restricted use products (RUP) on their employer property for their job (i.e., school property, golf courses); and/or as an employee of a state/local governmental agency. Certification is also required for anyone who applies agricultural or lawn fertilizers commercially or inspects structures for wood-damaging pests. Applicators seeking certification take a core exam addressing pesticide use fundamentals and at least one exam that relates to their professional interest. Once required exams are passed, certification is good for five years.

Purdue Extension offers private applicator recertification programs (PARP) and commercial applicator programs to help individuals keep their certifications current. There were 65 programs offering professional credits in 42 counties; they administered a unified evaluation approach using a common post-survey. A variety of programs were offered (in-person and virtual) including irrigation workshops, crop management workshops, agronomic outlook meetings, ag days, conservation workshops, crop updates, cover crop field day, soil and water PARP, shop talk, produce growers field walk, multi-category pesticide training and bi-state crops conference. Topics taught were field/row crops, applicator training, agricultural safety, cover crops, pesticides, pesticide safety, soils/soil health/fertility, and weeds/weed updates.

There were 3,269 program participants, and 1,337 completed the post-survey (41% response rate). Two-thirds (66%) indicated that they directly manage or influence decisions about 100 to 2,499 acres; a quarter (25%) deal with 1,000 to 2,499 acres. Nearly all survey respondents (89%) indicated that they actively grow row crops. Most reported attending these events to earn PARP credits (84%).

Respondents gave the professional credits programs a Net Promoter Score® of +27, which is a good rating for client loyalty. Respondent positive feedback referred to quality and relevance of information, opportunities for learning and education, effectiveness and knowledge of presenters, and convenience of program location and timing.

As a result of Purdue Extension's programs, most respondents (90%) "agreed" or "strongly agreed" that they learned something they didn't know before.

Two-thirds (61%) indicated they plan to adopt practices related to field crops, livestock, and diversified food/farm systems for their farms/operations.

- Of the field crop respondents (n=1,145), half (49%) indicated they plan to adopt practices for their farms/operations. A third plan to adopt recommended fertilizer and/or pesticide practices (31%) or management practices (30%).
- For the livestock respondents (n=14) over half of the participants (57%) indicated they plan to adopt the recommended livestock management practices.
 A third (36%) plan to adopt recommended livestock technologies for their farm/business or are already doing the recommended livestock practices.
- For diversified food and farm system respondents (n=20), nearly half (40%) indicated that they plan to adopt recommended practices for diversifying farming systems. A third (35%) responded that they are already doing the recommended diversified farming and food systems practices.

By attending the Purdue Extension trainings, individuals keep their pesticide application certification current. These efforts support better-informed Indiana farmers and agribusiness personnel who are more likely to make economically and environmentally sound decisions for the safe and appropriate application of pesticides. The result of these safe practices affects Indiana's field and horticulture crops, livestock, and diversified farming production.

2-6 Purdue Extension's Beginner's Guide to Grant Writing helps more Indiana organizations secure funding



More and more nonprofits and local government entities rely on grant support from private and public sources. Staff and volunteers in many organizations eligible for these grants have not

had formal training to write grants. The process can be daunting for these organizations.

Purdue Extensions Beginner's Guide to Grant Writing workshops walk participants through the grant-writing process as they develop their own ideas into draft proposals. Workshop participants were mainly staff and volunteers from nonprofit organizations and local government agencies, including schools, libraries and law enforcement.

Purdue Extension hosted 20 two-day workshops across Indiana for over 300 hours of instruction with 372 participants.

In addition, Purdue Extension delivered six short workshops on specific grant subtopics for 36 participants. Workshops were hosted in several counties: Boone, Brown, Clark, Clay, Clinton, Daviess (2), Franklin, Gibson, Greene, Lake (2), Madison, Marion (2), Miami, Fulton, Morgan (2), St. Joseph and Wayne.

Purdue Extension shares this workshop curriculum with other land-grant universities. North Dakota started their first workshop, Michigan State adapted workshop materials for an online course for agricultural entrepreneurs, and Ohio State continues to offer the workshop annually.

After completing the two-day workshop, 158 participants completed post-surveys. Results showed participants learned more about the basic components of a grant proposal (100%), gained a deeper understanding of the relationship with a funder (100%), increased confidence in their ability to write a grant proposal (97%), intend to submit a grant proposal in the next year (92%), and gained skills that will help them in their job or career (87%).

The Net Promoter Score® was +84 (on a scale from -100 to +100) and is recognized as an excellent rating of client loyalty, indicating that the program participants are likely to tell their friends or colleagues about the program.

In one-year follow-up surveys, 23 participants responded. Respondents shared results of their efforts a year after completing the workshops: 18 participants submitted proposals, 18 proposals were funded, a total of \$413,195 in funding was received. All respondents described the workshops as beneficial to their role/work and organization.

Beginner's Guide to Grant Writing workshop participants credited Purdue Extension for the skills they learned for their position contributing to their grant proposal success in securing a total of \$413,195 for their organizations.

2-7 Restaurant and food service managers and handlers earn certification for compliance with state food safety laws

Foodborne illness is a common, costly yet preventable public health problem. CDC estimates that one in six Americans get sick from contaminated foods or beverages and that 3,000 die each year. The U.S. Department of Agriculture (USDA) estimates that foodborne illnesses cost \$15.6 billion each year. Reducing foodborne illness by 10% would keep 5 million Americans



from getting sick each year. Preventing a single fatal case of E. coli O157: H7 infection would save an estimated \$7 million.

Purdue Food Safety and Purdue Extension collaborated with

the National Restaurant Association to offer ServSafe Manager for food safety management certification and Food Handler training to provide education and materials for staff and volunteers in the restaurant and food service industry. For 2023-2024, educators who are certified instructors and exam proctors administered ServSafe in a variety of events, including manager exam proctor-only events, training with exam events, and hybrid events of training plus proctor-only participants and food handler training, training with the exam, or just the exam.

A total of 29 county locations reported administering ServSafe for 2023-2024. There were 141 ServSafe sessions for 713 hours of instruction. For the program evaluations, a total of 482 post- surveys were completed (393 manager and 89 food handler), and 50 (14%) 90day follow-up surveys were received from manager participants. Educators documented a total of 1,479 youth and adult participants in ServSafe activities. For the program evaluations a total of 675 (59%) post-surveys were received (449 manager and 226 food handler), and 72 (23%) 90-day follow-up surveys were received from manager participants. Over half of the food handler participants indicated they were home-based vendors (30, 35%) or considering becoming a home-based business (20, 23%). A total of 438 participants passed the ServSafe manager and food handler exams. For the manager certification exam, there are 90 questions and the passing score is 70%. Educators reported 363 participants passed the manager certification.

Manager participants indicated the amount of new information they learned on a 5-point scale ("none at all" to "a great deal"). Responses showed topics with the highest average scores included monitoring time and temperature (3.86), food safety management systems (3.82), the flow of food: service (holding and serving) (3.81), and the flow of food: preparation (prep, cooking, cooling) (3.78). Manager participants indicated the practices they intend to adopt for their work by selecting yes, no, or I already do this. Over half indicated they would adopt these practices at work: assess areas for activities that risk microbial contamination (76%), use proper time and temperature controls (65%), and take steps to reduce cross-contamination risks (65%). Half (51%) indicated they already do the recommended handwashing practices.

Manager participants who attended training were invited to take part in a 90-day follow-up online survey. Email addresses were provided by 362 of 838 (43%) participants indicating willingness to receive the follow-up survey. Some 50 participants (14%) from 23 counties responded to the 90-day follow-up survey. Most participants (45, 92%) reported they were still in the food service industry after three months. Participants indicated the amount of information they remembered on a 5-point scale ("none at all" to "a great deal"). Responses showed topics with the highest average scores were personal hygiene (4.51), monitoring time and temperature (4.24), the flow of food: service (holding, serving) (4.20), and forms of contamination (4.20).

Participants indicated how often they apply practices covered by ServSafe training in their work. Responses for the frequency of applying the practices were on a five-point scale ("never" to "always"). Responses showed practices with the highest average scores were take steps to reduce cross contamination risks (4.76), recommended handwashing practices (4.76), and use proper time and temperature controls (4.76). For the food handler exam, there are 50 questions and the passing score is 75%. Educators reported 75 participants passed the exam.

Food Handler participants indicated the amount of new information they learned on a five-point scale ("none at all" to "a great deal"). Responses showed topics with the highest average scores were controlling time and temperature (4.04), preventing cross-contamination (3.71), cleaning and sanitizing (3.66), and food safety: How food becomes unsafe (3.65). Participants indicated they would adopt these practices at work: assess areas for activities that risk microbial contamination (76%) and use proper time and temperature controls (70%). Over half (53%) indicated they already do the recommended handwashing practices. Food Handler participants responded to the Net Promoter Score® indicating how likely they were to recommend the training to others. The calculated NPS® was +67 (on a scale from -100 to +100) and is considered an excellent rating. Participants considered promoters (giving a score of 9 or 10) stated that training was very informative and that the instructors

Purdue Extension ServSafe manager and food handler training and exam activities contribute to the knowledge and certification needed for those working in restaurants and food services, helping businesses and home-based vendors comply with state laws for food safety. In the months after training, manager participants indicated that they remembered the training information and had applied recommended practices while at work.

2-8 Through Purdue Extension's 4-H Academy, youth experienced career opportunities

During school years and after graduation, youth success in college and/or career opportunities is greatly impacted by the development of knowledge and skills in professionalism and decision-making.

4-H Academy @ Purdue is held at Purdue University and designed to offer hands-on, exciting opportunities for youth to learn about a wide variety of subjects and careers. During this on-campus experience, participants meet and learn from professors, graduate students and other experts and participate in interactive activities and experiential learning. Participants stay in a residence hall for two nights while exploring campus and meeting 4-H members from across Indiana.

4-H Academy @ Purdue is open to all youth grades 9-12. Youth select topics of interest from 12 workshops: agricultural and biological engineering, animal science and animal health, civic engagement (community change starts with me), cybersecurity, digital agriculture, food science, introduction to emergency management services (EMS), investigating forensic science (wildlife, entomology and food fraud), natural resources, plant sciences (living landscapes – grow, design, sustain), show me the money, and the science of flight.

A total of 196 youth participated in the 4-H Academy; 148 completed program evaluations (76% response rate).

Most responding youth (96%) indicated they learned something new from the workshops. Describing what they learned, responses showed the following themes:

- Career exploration and opportunities (about all different careers, learned a lot about job opportunities that come with cybersecurity, learned there are so many career opportunities in animal science),
- Financial literacy and management (about compound interest, how to manage my money, learned about real estate and realistic spending),
- Animal science and veterinary skills (animal wellbeing and its importance, learned that there are a lot of different medicines that you can do with a DVM, what to do to get into a zoo as a zookeeper),
- Emergency and medical skills (how an automatic CPR machine works, how to properly perform backboarding, first aid practices that are done on scene),
- Environmental science and agriculture (turf types, urban forestry, what a watershed is, how to identify if a body of water is polluted).

Youth shared how they plan to use what they learned in the workshops:

- Career Exploration and Development (keep working on a path to the NSA, continue to progress into the medical field & firefighting, I am gonna reevaluate my career goals),
- Medical and Emergency Skills (for ER nursing, the CPR and stop the bleed could be useful in life if I ever see an unconscious or bleeding person, I plan to use this information to get into college and do that major, maybe going into a job such as being a firefighter or police officer, mostly 911 first responder jobs),
- Financial Literacy and Management (for my future finances, I plan to use this information to make smart financial decisions, I will use it as I am starting my adult years so I can use my money wisely),
- Environmental and Agricultural Applications (I am now interested in becoming a landscape architect, to better protect our waterways, I can use what I learned to help other people understand water quality and what is in water, to take care of my lawn and garden),
- Personal Growth and Everyday Use (help me understand people better, and hopefully be able to help them, it will help me plan for my future, to make discussions about what I want to do in school).

Purdue Extension's 4-H Academy engages high school youth in learning about and exploring future education and professional direction. Youth expressed their career and education goals resulting from their 4-H Academy experience. These youth are preparing for their futures, but this is also Indiana's future.

2-9 Youth in Indiana 4-H programs demonstrated skills and expressed interest in getting jobs in science and engineering

The Program for International Student Assessment showed that student math literacy scores for 15-year-olds in 21 countries are higher than U.S. scores. Science, technology, engineering, and mathematics (STEM) education puts an emphasis on preparing future generations to be successful in their careers. Skills gained from STEM education extend beyond the STEM fields and prepare children to move into any industry with skill sets that allow them to be successful.

Indiana 4-H programs were delivered in counties, across regions or multi-county collaborations, or coordinated

statewide. The 14 Indiana 4-H programs addressed science thinking, science skills and attitudes, and engineering skills and attitudes. Programs included Science Sensation, Electric Camp, Wildlife Day Camp, Afterschool STEM, Conservation and Human Impacts on the Water Cycle, Tech Fest Experience, Clover Gaming, Drone Careers SPARK Club and others. Programs took place in a variety of settings, including camps, workshops, after-school programs and school classrooms.

Some 637 youth participated in science/engineering programs; 334 (52% response rate) completed program evaluations.

Youth reported interests in learning about engineering (68%), robotics (67%), animal science (65%), environmental science (48%), and plant science (41%).

Youth see science in their futures and reported they like science (92%) and would like a job that uses science (75%). Most reported they like engineering a lot or a little (89%) and would like a job that involves engineering (81%).

Youth demonstrated capacity for science process and engineering skills: trying new things to see how they will work (82%), asking questions about how things work (76%), coming up with ideas for how to build new things

(73%), looking at how things are the same or different (65%), comparing how different things work (60%), and taking things apart to see how they work (53%).

Applying science skills to issues in their communities, youth indicated that at 4-H they learned new things about science, and they talked about how science can be used to help solve everyday problems (85%). Most (74%) reported they had shared a science-related project with others.

For engineering skills, participants (15) reported they know how to identify potential solutions to a design problem (93%), communicate a design solution to others (93%), define an engineering problem (93%), and evaluate test results to identify the best solution (87%). Most reported they like engineering (93%) would like a job that involves using engineering (80%) and would like to study engineering after high school (73%).

Youth completing Indiana 4-H programming showed interest in learning about science and engineering, reported having key science and engineering skills, recognized how science can be applied to help solve everyday problems, and would like jobs involving science and engineering. These STEM skills will help youth as they grow and work but also contribute to their futures and to the future of their communities and the world.

Positive Youth Development

3-1 As camp counselors, Indiana 4-H high schoolers learn and apply leadership and teamwork skills



Development of social and emotional competencies are important for positive youth development. CDC data show that poor mental health can result in serious negative outcomes for the health and

development of adolescents. It can lead to risky sexual behavior, illicit substance use, adolescent pregnancy, truancy/school dropout, and other delinquent behaviors. For high school students, 37% experience persistent feelings of sadness or hopelessness. CDC data show high school students often engage in transportation risk behaviors — 43% do not always wear a seat belt, and 39% text or email while driving.

Indiana 4-H programs were delivered in counties, across multi-county collaborations, or coordinated statewide. Nine Camp Counselor training programs were implemented during spring activities and retreats to teach youth social-emotional development including leading a team, and teamwork related to communication, interpersonal skills, and collaboration. These events prepared youth to be camp counselors for younger youth attending summer, day, and mini camps during the year.

More than 350 8th-12th grade youth completed Indiana 4-H programs that focused on social- emotional development; 304 completed program evaluations, an 88% response.

For leading a team, youth reported learning these skills: if I'm the leader of a group, I make sure that everyone in the group feels important (94%); when I see something that is wrong, I try to change it (93%); when I know what needs to be done, I am good at planning how to do it (90%); I feel like I can stand up for what I think is right, even if my friends disagree (89%); when I see something needs to be done, I try to get my friends to work on it with me (84%); and I am pretty good at organizing a team of kids to do a project (84%).

Focusing on teamwork interpersonal skills, youth reported these results: I can work with others to create goals (93%), I can resolve conflicts in positive ways (89%), I think about the expectations of others when I contribute to a team (89%), and I can work with others when goals are uncertain (87%).

Supporting collaboration in teams, youth indicated they learned these skills: I respect the differences and strengths of individuals on the team (93%), I encourage other team members to give their best effort (93%), I think everyone on the team is important (91%), I think I have something to contribute to the team (91%), and I work to build a team that includes people with a variety of points of view (91%).

Via Indiana 4-H training and camp experiences, high schoolers engaged as camp counselors learned and applied leadership, communication, interpersonal, and collaboration skills, building for successful futures in school and life.

3-2 Indiana 4-H adult volunteers learn how to help youth thrive



4-H adult volunteers serve as a force multiplier in reaching youth. Strong volunteer development is critical to long-term, sustainable, and high-functioning 4-H programs. It is

essential to provide a strong foundation and ongoing support to assure that adult volunteers provide a safe environment and engaging educational activities on behalf of 4-H.

Indiana 4-H educators implement at least three adult volunteer development opportunities annually to refresh, enhance, and strengthen knowledge and skills. Adult volunteer trainings are built on the Volunteer Research Knowledge and Competency Taxonomy Model (VRKC) which identifies the perceived needs of 4-H volunteers and 43 measurable skills. VRKC has six domains: communication, organization, 4-H program management, educational design and delivery, positive youth development, and interpersonal characteristics.

Adult volunteer training also addresses foundations of positive youth development:

- The 4-H Thriving Model, which is the theory of change for positive youth development. High-quality 4-H programs contribute to positive youth development through intentional promotion of social, emotional, cognitive and behavioral habits of mind. This process is described by seven indicators of thriving: openness to challenge and discover, growth mindset, hopeful purpose, prosocial orientation, transcendent awareness, positive emotionality and self-regulation through goal setting and management.
- The Essential Elements of effective youth development programs including a positive relationship with caring adults, a safe environment, an inclusive environment, engagement in learning, opportunity for mastery, opportunity to see oneself as an active participant in the future, opportunities for self-determination, and opportunity to value and practice service for others.

In Lake County, 4-H educators delivered a series of four in-person volunteer development sessions on Welcoming (& Keeping!) New 4-H Families, 4-H Club Leader Refresher Course, Positive Youth Development, and Creating a Culture of Appreciation. In addition to providing resources and tools, each session incorporated team-building and discussion, allowing participants to learn from each other. Refreshments, games and prizes helped create a fun, positive setting. A total of 51 Lake County 4-H adult volunteers participated. These represented both rural and urban communities throughout the county and seasoned and new volunteers, many of whom had not met each other previously. 42 participants completed the evaluation (81% response).

The Area 1 4-H Volunteer Conference is a one-day event organized by Extension educators from Area 1, designed to promote collaboration among counties and strengthen volunteer engagement. The conference features panel discussions led by experienced volunteers and educators on topics such as hosting engaging 4-H club programming and exploring 4-H camps and trip opportunities.

A Livestock Leaders panel shared strategies for planning educational animal science workshops, organizing shows, and maintaining safety during county fairs. Volunteers also heard directly from 4-H members who attended area camps and state events, gaining insight into opportunities they can promote within their clubs.

In a southeast area of Indiana, 4-H educators implemented a one-day volunteer training. Educators introduced several recreation and team-building activities, giving volunteers hands-on practice with

games they can easily incorporate into their own meetings. A special focus was placed on the Essential Elements of 4-H — Belonging, Mastery, Generosity and Independence — emphasizing how volunteers can intentionally foster these core principles throughout all aspects of their programming. Of the 34 volunteers from several counties who participated, all 34 completed an evaluation at program end (100% response).

Nearly all Lake County respondents felt the sessions provided a good opportunity to meet and network with other volunteers (95%), and useful resources that would help them as volunteers (88%). Most (86%) found the sessions to be relevant to their roles in the 4-H program. Volunteers asked if there would be a similar series next year and offered suggestions for topics.

Southeast Area respondents reported they had a better understanding of how youth can thrive (94%) and the Essential Elements (92%). Because of the training, most reported they feel comfortable finding recreation that keeps all youth involved (88%). Over half reported they feel better prepared to organize a livestock show (59%). One participant stated, "This was a great day to share and gather information from volunteers from the area."

Adult volunteers are critical to the success of Indiana 4-H programs. By educating adults about the constructs of positive youth development, Indiana 4-H is enhancing adult volunteer knowledge and skills to help youth thrive.

3-3 Indiana 4-H programs generate positive youth development opportunities and successes

4-H began over 100 years ago and has grown into the largest youth development program in the U.S. 4-H prepares young people to be leaders in their community and around the world through hands-on experiences alongside their peers and caring adults. 4-H is delivered through America's 109 land-grant universities and the Cooperative Extension Service, reaching every corner of our nation. In Indiana, 4-H can be found in all 92 counties delivered by Purdue Extension. Community clubs, afterschool programs, school enrichment, camps/workshops, and special interest programs are all ways youth across Indiana can be involved with the 4-H program.

Indiana 4-H programs were delivered in counties, across regions of the state or multi-county collaborations, or coordinated statewide.

 12 programs focused on the 4-H experience and the eight essential elements of youth development: a positive relationship with a caring adult, inclusive environment, safe environment, engagement in learning, opportunity for mastery, opportunity to see oneself as an active participant in the future, opportunity for self-determination, and opportunity to value and practice service for others. These programs involved older youth.

- 13 programs addressed youth development by focusing on universal skills, personal mindset, and social and leadership skills. Programs were day or overnight camps, SPARK Clubs, and Soccer for Success. Often these programs were for younger participants or first-time 4-H experiences.
- 60 programs addressed specific content, including animal science (15), civic engagement (6), college and career readiness (6), healthy living (19), and science and engineering (14). In addition, nine programs (camp counselor training) included survey items focused on socialemotional development.

The range of self-reported age was from younger than 8 to older than 18 years. Two-thirds (67%) were ages 9 to 13. The largest numbers (1,501) were in grades 4 through 7.

- 4-H Experience 345 participants completed the 4-H Common Measures 2.0 survey for 4-H experience; 290 (84%) reported high 4-H experience scores demonstrating the eight essential elements of positive youth development: 1) positive relationship with a caring adult, 2) inclusive environment, 3) safe environment, 4) engagement in learning, 5) opportunity for mastery, 6) opportunity to see oneself as an active participant in the future, 7) opportunity for self-determination, and 8) opportunity to value and practice service for others. Participants reported that 4-H is a place where they feel safe, they get a chance to be a leader, they get to do the things they like, and they learn about ways to help their community.
- UNIVERSAL 895 youth responded to the 4-H Common Measures 2.0 survey for 4-H universal skills. Respondents shared their personal mindset: I am willing to work hard on something difficult, I treat others the way I want to be treated, I like to learn new things, and I try to learn from my mistakes. For social skills, respondents indicated: I show respect for others' ideas, I look for ways to involve all members of a group, and I am comfortable working in groups. Youth reported advanced personal mindset skills necessary for academic or workplace success (50%) and advanced social and leadership skills essential for academic and workplace success (32%).
- 4-H INVOLVEMENT 2,379 youth responded across all programs about how many hours they spend on 4-H each week, how they have participated in the past, and how they would like to participate in the future.

For current 4-H activity, youth reported they spend from less than one hour to five or more hours each week on 4-H activities: this was my first 4-H Activity (23%), five or more hours (17%), and less than one hour (15%).

For past 4-H involvement, youth were in, or have been in, a 4-H club (55%), participated in county-level competitive events (43%), and had attended 4-H camp (37%).

For future 4-H participation, youth were interested in meeting "in person": about the same topics a few times (40%), about different topics each time (39%), and to share 4-H projects with others (39%). Common themes about how they would like to participate in the future were:

- animal-related activities, shooting sports, and camp involvement,
- leadership and mentorship (leadership roles and community service),

- general participation (continuing in 4-H, exploring new projects), and
- uncertainty and lack of interest (undecided/unsure, not interested in participating, or did not want to continue with 4-H).

Indiana 4-H programs give youth opportunities to develop personal mindsets and social skills. Youth feel safe in 4-H, get a chance to be leaders, do things they like, and learn ways to help the community. Indiana 4-H youth reported their personal mindset to work hard on something difficult, treat others the way they want to be treated, learn new things and learn from their mistakes. Youth reported their social skills: I show respect for others' ideas, I look for ways to involve all members of a group, and I am comfortable working in groups. These youth are the future in their communities, the state of Indiana and beyond.

Agricultural and Digital Technology and Innovation

4-1 Residents conducted broadband speed tests resulting in 12,000 more serviceable locations and \$868 million for high-speed broadband access for Indiana

The federal government, in partnership with states, deployed broadband funds through the Broadband Equity, Adoption, and Deployment program, also known as BEAD. Indiana received close to \$870 million starting in 2024. A map put together by the Federal Communications Commission (FCC), the government entity that regulates telecommunications, will dictate where these funds go. The purpose of the broadband team activities was to ensure Indiana's broadband map was as accurate as possible for assigning those funds.

Because of a 2021 law, the Infrastructure Investment and Jobs Act, funding became available to identify and expand digital equity and broadband equity, adoption, and deployment. As a result, the Purdue broadband team was formed, led by Purdue University's Office of Engagement in collaboration with Purdue Extension, 4-H youth, and Purdue University students and alumni.

These groups communicated with contacts across Indiana, sharing key resources (broadband map, speed test platform), and encouraging residents to check internet speeds so that statewide broadband data could be improved and a state broadband program developed.

Extension personnel gave presentations, and talked with community leaders and stakeholders, Extension volunteers, community groups/organizations, Extension partners, Extension board/councils, and all 4-H groups. Educators distributed resources by emailing stakeholders and shared via social media. Purdue 4-H'ers helped by spreading the word to their families, friends, and classmates by giving out materials and those old enough, sharing on social media. Purdue students and alumni helped spread the word to their friends and families and shared on social media.

Resources and activities shared helped residents across Indiana: 1) learn about broadband, 2) validate their address and internet service on the FCC map, 3) apply for the Indiana Connectivity Program, 4) conduct speed tests or report lack of connectivity at their address, and 4) learn about the Affordable Connectivity Program. The Purdue broadband team helped spread the word encouraging Indiana residents to act to help make Indiana's broadband map more accurate and extend broadband adoption.

Because of the Purdue broadband team, Purdue Extension's activities reached 91 Indiana counties. More than 920 Purdue Extension events and presentations were conducted reaching 8,300 youth and 51,000 adults. Over 38,000 contacts/stakeholders were reached via email. More than 500 social media posts received over 86,000 hits/likes. Broadband speed test/connectivity data collected helped allocate

\$868 million across Indiana to increase high-speed broadband access. A total of 12,537 broadband serviceable locations were added to the map, increasing and strengthening online access across Indiana's communities.

Due to the Purdue Broadband Team outreach to Indiana residents, additional funds were allocated to Indiana for increased high-speed broadband access, bringing more opportunities to communities across the state.

4-2 UAV program participants would like to further their career or prepare a future career with a remote pilot certificate



The Federal Aviation Administration (FAA) introduced CFR 14 Part 107 regulations in 2016 to address the increased number of UAVs in the U.S. airspace. It provides regulation on UAV use in controlled airspace,

weather conditions, performance and weight standards, and usage by the general public for professional and hobbyist applications. The FAA has reported annual numbers of 865,000 UAVs registered (314,000 commercial and 538,000 hobbyist) along with 280,000 certified UAV pilots (FAA.gov/UAV). This does not account for all the UAVs that are unregistered across the country. Growing concerns of UAV usage by companies for delivery, scouting, mapping and inspections by the public will require more training opportunities.

Purdue Extension's UAV program teaches legal issues and safe practices for flying drones. Instruction, demonstrations, and practice flights prepare participants to take the FAA Part 107 Remote Pilot Test after completion if they choose. There are four segments: 1) introduction and sectional charts, 2) meteorology and aeronautical decision making, 3) manual and planned flights, and 4) application, data management and troubleshooting. Topics include camera settings, sensors and artificial intelligence, FAA part 107 remote pilot test preparation, flight plans and recordkeeping, free and planned flight instructions, third-party applications/ processing software, data management, image quality and troubleshooting, and emergency preparation. There were 10 UAV programs presented in 10 counties. Postand three-month follow-up surveys were conducted.

There were 116 participants, and 102 completed postsurveys (88% response). Participants reported their positions as agriculture (32%), energy (28%), and public safety (12%). Also, 61 shared their emails to receive follow-up surveys and eight responded (13%).

Because of Purdue Extension's program, participants reported being more aware of UAV safety protocols (100%), legal issues (99%), and troubleshooting techniques (97%). They reported having better understanding of applications of UAV technology (99%). Participants reported learning about certification/ licenses (92%), training needed for their career interest (68%), and education/degrees (45%). Two-thirds (66%) indicated that as a result of attending the UAV program, they learned information that related to their job/work/ career, and half (47%) learned information about a career they are interested in pursuing. Nearly all (88%) reported that because of the UAV program, they would like to further their current career or prepare for a future career by obtaining a remote pilot certificate under FAA part 107. Most (87%) indicated they feel more confident in their preparation for taking the FAA Part 107 Remote Pilot knowledge test. The calculated Net Promoter Score was +51 (on a scale from -100 to +100) and is considered an "excellent" rating for client loyalty, indicating that participants are likely to share information about the training with others.

In follow-up surveys, of the eight respondents, they reported being comfortable using UAV technology (100%), had taken and passed the test (75%), and conducted safe flights (75%). All (100%) reported sharing information from the program with peers/colleagues, and one-third had sought additional professional development opportunities (38%). Participants (88%) reported they had adopted recommended practices taught during the program. They indicated the ways they had applied UAV technology:

- Agronomic, field/crop scouting, or photography/ video/cinematography (38%), and
- Academic, crop health, hunting/trapping, marketing/social media, or research (25%).

Purdue Extension's UAV program prepares participants to take and pass the FAA Part 107 Remote Pilot Knowledge Test contributing to safe and legal flights for agriculture, agronomics, photography/video, scouting, hunting/trapping, marketing/social media and research activities. Most saw this training as a way to further their current or launch a future career. This training will help keep Indiana's skies safe with trained, certified, and legal drone pilots.

Human, Family & Community Health

5-1 Adults in the Jail Chemical Addiction Program are building healthier relationships



Significant evidence shows that addiction can have negative impacts on relationships. Many treatment programs focus on taking personal accountability for how substance use

has harmed loved ones and led to chaotic relationships; however, they often miss the other side — unhealthy relationships may have contributed to addiction and may be complicating recovery efforts. Other social determinants of health, including economic hardship, poor housing conditions and limited access to health care, have been found to contribute to hopelessness and social trauma that "set the stage" for substance misuse, abuse, and dependence.

Purdue Extension partnered with the Jail Chemical Addiction Program (JCAP), a program designed to provide justice-involved individuals with tools, resources and support to overcome addiction. Purdue Extension provided a 15-week Healthy Relationships curriculum alongside other life skills and mental health programming. Participants attended onceweekly sessions on introduction to healthy relationships, respect, warning signs in relationships, cycle of abuse, power and control, handling conflict, communication styles and skills, five love languages, handling anger, and boundaries.

Healthy Relationships participants completed an end-ofseries survey. All reported they:

- learned information that they will share with others,
- learned information that will improve their life in a positive way,
- intend to seek out relationships that do not mentally, emotionally, or physically abuse them,
- intend to use more positive communication skills with their family,
- plan to have meaningful conversations with family members, and
- intend to model/demonstrate positive ways to respond to emotions and/or feelings.

As a result of the Healthy Relationships program all participants reported increased understanding of the qualities of a healthy relationship, the warning signs of abuse in a relationship, and how to use positive communication skills with others. Participants shared these comments:

- "This class gave me information on what a relationship should look like, since I didn't have a healthy relationship to look at growing up. It gave me and my kids' mom a fighting chance to be good models for our kids and not repeat the cycle."
- "How to apply things into a healthy relationship and communicate with others, setting boundaries to protect myself."
- "This program will make a huge difference in me and about every relationship I have or will have, especially with moving on finding a personal relationship: what to do, look for, and act in a healthy positive way."

Amidst the opioid crisis, Purdue Extension's Healthy Relationships program helps justice-involved adults learn new knowledge and life skills. This program is helping adults with addition issues, those around them and in their communities, to build healthy relationships.

5-2 American Citizen Planner-Indiana participants applied knowledge and skills, tools and resources to make community land-use decisions about natural resources

- Adam Tyler, 4-H youth development and agriculture and natural resources educator, Fountain County
- Dan Walker, community development regional educator, community planning
- Gina Anderson, agriculture and natural resources and community development educator, Floyd County
- Kara Salazar, community development, assistant program leader and sustainable communities Extension specialist, Illinois-Indiana Sea Grant, Forestry and Natural Resources
- Tamara Ogle, community development regional educator, leadership and civic engagement

Indiana city plan commissions and town councils, boards of zoning appeals (BZAs) and county commissions make land-use planning decisions that impact their community. These decision-makers need to understand federal, state, and local regulations, community values, land use ethics, economics and environmental considerations.

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While state government provides the authority to city and county government units to pursue self-determined goals through comprehensive planning and land use regulation, it is up to local jurisdictions to develop plans, implement public engagement processes and make decisions that achieve community goals. Those serving their communities as decision-makers and community members interested in participating in the public planning process need education to understand the importance of their role in planning and making land-use decisions.

American Citizen Planner-Indiana (ACP-IN) provided training to those who currently serve, or plan to serve, on area/advisory plan commissions. The program featured 28 units of online content detailing core planning theories, practices and processes. A comprehensive assessment and two virtual training events reinforced content learned in the units. ACP-IN was hosted by a local Purdue Extension educator for either a county or a region.

Programs were offered by semester in the fall and spring. A post-survey was given at the end of each semester. Programs had evaluation responses of 85% for fall and 75% for spring. Both cohorts of participants were combined for distribution of the follow-up survey sent in the next program year. A total of 17 unique contacts were reported across programs. A course addition was the integration of Extension's Environmental Planning and Community Engagement short course. Upon completion ACP-IN, participants could take a comprehensive exam. If they earned at least a 70% grade, they received a Master Citizen Planner certificate.

Of the 17 participants in the spring and fall sessions, most were plan commission members, Extension educators and local planning staff. For local government, six were municipal and five were county. Most (80%) reported they had a four-year degree or higher. Participant average age was 45 and ranged from 23 to 72. Participants were located in nine counties across Indiana. Household income ranged from \$40,000 to more than \$150,000.

Fourteen participants (82%) responded to the post-survey. Participants were asked to rate their knowledge of planning topics before and after ACP-IN. They responded on a five-point scale from poor to excellent. Average responses from highest to lowest average scores were:

- ethical considerations related to planning and zoning (4.8)
- practices for comprehensive planning (4.5)
- planning process (comprehensive planning, site plan review) (4.4)
- roles and responsibilities of citizen planners (4.4)

- role of natural resources in community planning (4.3)
- legal, regulatory and constitutional powers related to land use planning and zoning (4.2)
- access to continuing education resources for land use planning (3.9)
- The planning topic with the greatest improvement in knowledge from before to after was "legal, regulatory, and constitutional powers related to land use planning and zoning," which increased 2.3 points (from 1.9 to 4.2).

Participants were asked if as a result of attending, they had become more aware and learned something they didn't know before. Responses (five-point scale) were from strongly disagree to strongly agree. All agreed or strongly agreed that they became aware or more aware of tools and resources for implementing the planning process (100%), and most learned something they didn't know before (91%). Participants indicated how much ACP-IN increased their skills. Average scores (three-point scale — not at all, a little, a lot) for skills learned were:

- Applying concepts of public land use, regulation, planning, and development in my community (2.9)
- Running effective plan commission meetings (2.6)
- Communicating about plan commission activities with residents (2.5)
- Effectively engaging residents in the planning process (2.3)

When asked if they learned about additional resources, education, certification, and/or training needed for their role in the community, participants indicated they learned about additional resources (100%) and training (80%). Participants indicated if they learned information relating to their planning work. All (100%) indicated they learned information for their current position. Over two-thirds (70%) indicated that they had shared information and resources from the program with their peers or colleagues. Participants listed what they shared:

- I shared about the course as a whole as a resource for CWCs working on built environment projects.
- Information is important to the community, gives context to decisions that may be unfavorable, time invested in city planning is substantial.
- The role of the Plan Commission. Planning as an occupation. Laws associated.

The calculated Net Promoter Score® for participants was +40 (on a scale from -100 to +100) and is considered a good rating of client loyalty, indicating that participants would likely recommend ACP-IN to friends and colleagues.

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A follow-up survey was emailed to participants. Results for the previous year's cohort of 25 had seven respondents (28% response). Follow-up respondents indicated their affiliation with local land use planning as: plan commission member, local planning staff, Purdue Extension Staff, other (citizen), and board of zoning appeals member. Asked how they applied what they learned since the attending, participants indicated they used the data/resources in decision making (67%), and used tools/resources in the planning process (50%). Follow-up participants reported taking actions for natural resource plans/policies, using tools/resources, and resident engagement. Participants shared they had:

- 17 plans/policies informed by ACP-IN tools/resources,
- 17 residents engaged in the planning process,
- 12 meetings with resident engagement in the planning process,
- used five ACP-IN tools/resources during the planning process,
- worked on one plan/policy that integrated natural resources.

Nearly half (40%) indicated they had shared training information and the ACP-IN guide with their peers or colleagues.

Via American Citizen Planner-Indiana, local decisionmakers learned about making land-use planning decisions that impact their communities. A year after training, participants reported they used the tools/ resources to inform plans/policies, held meetings and engaged residents in the planning process, used ACP-IN tools/resources during planning, and worked on one plan that integrated natural resources. These knowledgeable and skilled local leaders are helping manage natural resources across Indiana communities.

5-3 Due to Purdue Extension, most counties have local coalitions making an impact on the health of Indiana's communities

According to America's Health Rankings, Indiana ranked 35th in the U.S. in overall health outcomes. Of particular concern are health issues such as drug use, mental health, tobacco use, infant mortality, obesity, diabetes and physical inactivity.

Purdue Extension plays a major role connecting the community through partnerships and coalitions to address local health needs throughout Indiana's 92 counties. Health coalitions are a means of conserving and using resources more efficiently and are powerful vehicles in impacting health through policy, systems, and environmental changes. Purdue Extension collaborated

with the Nutrition Education Program, Connections IN Health, and Indiana Clinical and Translational Sciences Institute (CTSI) to provide skill development training and resources for Extension personnel and local community members to support and elevate local coalition work. Resources included fact sheets and community readiness podcasts and webinars. 88 educators and community wellness coordinators reported coalition involvement in 76 counties (83%) with 167 active coalitions: 18 counties had more than three coalitions, 17 had three, 22 had two, and 19 had one. Purdue Extension was actively engaged (beyond attendance in coalition meetings) with 136 coalitions (75%). Purdue Extension provided leadership for the entire coalition effort (27%), or for a subset (23%).

Coalitions focused on wellness (48, 29%), substance use (48, 29%), food security/food access (46, 28%), mental health (42, 25%), and tobacco (33, 20%). Local coalition activities were health-related trainings/workshops (50, 30%), health fairs (42, 25%), health screenings (21, 13%), health challenge events (19, 11%), town halls (14, 8%), and walks/runs (14, 8%). Most coalition events were about food (community gardens clean up, local foods, food distributions), mental health (awareness campaigns, reduce stigma), and substance use prevention.

Related to coalition efforts, Purdue Extension addressed the Health First Indiana (HFI) initiative by delivering 182 health programs in 30 Indiana counties. Adult coalition participants represented their communities, education, health systems, social services, business, and government. A small percentage of coalitions (19%) included actively engaged youth. Also, 76 counties reported 167 active coalitions: 44 (26%) were involved in health interventions with evaluations in place, 71 (43%) were actively conducting interventions, 34 (20%) were active coalitions with key partners, and 18 (11%) indicated new, stagnant or no coalition in place.

Purdue Extension's involvement enhanced the work of local coalitions by building new/improved networks or relationships, increasing the community awareness for health issues, increasing member knowledge and skills, facilitating the group to work together toward a common goal, and bringing new contacts to the coalition. Purdue Extension's participation created 411 new partnerships/ collaborations, contributing to the average of three per coalition. Purdue Extension's engagement helped to strengthen the role of Extension in the community, increase awareness of health issues in the community, and broaden the network of community partners. There were 3,052 groups/agencies active with the coalitions: 352 were new and 116 were introduced to the coalition by Purdue Extension.

Thirty-six coalitions reported receiving grants, funding and donations for projects ranging from \$45 to \$1 million and a statewide total over \$2 million. Some 34 Purdue

Extension programs/initiatives were provided funding via local health coalitions. One coalition provided professional development funds for educators to attend national meetings and other trainings.

Coalitions were heavily involved with policy, systems and environmental (PSE) work. For policy efforts, 13 health policies were enacted such as food waste policies, increased access to resources for farmers markets, and substance use and misuse reduction plans. Some 49 health-related systems were developed; for example, yoga classes in the jail, designing and funding several Food is Medicine programs, a youth vaping taskforce, helping connect donors/donations and harvest gleaning with food pantries, and food pantry audits. Some 57 environmental strategies were implemented; for instance, a bicycle playground, extending a trail to encourage those from other areas to use it, creating a community kitchen, creating art kits for youth mental health, creating a story walk and outdoor classroom, and initiating summer outreach for the unhoused.

Because of Purdue Extension's engagement, health coalitions across Indiana are enacting policies, systems, and environments to support healthy communities. Coalitions received more than \$2 million to support activities and events. These efforts are improving the health of communities and residents across Indiana.

5-4 Empowering rural resilience: Purdue Extension's farm stress team tackles mental health stigma in agriculture



The mental health of farmers significantly influences their well-being but also affects family dynamics, agricultural productivity and the welfare of livestock. Prioritizing the mental well- being of farmers

and agricultural workers is crucial for promoting overall global health. One in five adults encounters a mental health issue annually, and early psychoeducational interventions can enhance mental health outcomes (https://www.nami.org/). Maintaining a regimen of regular physical activity and a nutritious diet can mitigate the detrimental effects of chronic illnesses on life expectancy. An American Farm Bureau Federation survey revealed a significant majority of farmers and farmworkers believe that financial concerns (91%), the fear of losing their farms (87%), and various business-related challenges (88%) adversely affect their mental health.

Purdue Extension's farm stress team completed these activities:

- Implemented education initiatives to
 - equip crisis call center staff with knowledge/ skills to address specific challenges faced by rural communities, especially farm families,
 - train mental health and health care practitioners on the specialized needs and effective methodologies for delivering services to farmers and their families.
 - educate farmers, rural residents, and agribusiness stakeholders about distinct requirements of the agricultural community, along with effective strategies to address and support mental health concerns of rural farming families,
- Enhanced public outreach about stress reduction and promotion of mental well-being among farmers, their families, and agribusiness professionals via several platforms (Tools for Today's Farmers Podcasts, Purdue Farm Stress Facebook page and website, billboards, public service announcement videos, and trade exhibitions for the agricultural sector).
- Conducted the Indiana State-Wide Women in Agriculture initiative (Farm Women Survey) and implemented "Harvesting Her Voice" programs for women in agriculture.
- Implemented the Indiana State Farm Youth initiative to
 - develop/pilot the Indiana Agri-Youth Curriculum in educational institutions (specifically in FFA classes),
 - enhance the Tools for Today's Farmer's podcast with a focus on youth, and
 - create/expand mental health marketing and agricultural behavioral health information to address mental health needs of youth in agriculture.
- Completed professional development initiatives to ensure Purdue Extension educators were informed about agricultural trends and mental health issues. The team held an annual retreat to offer QPR Institute's suicide prevention training.
- Audience and program participants were Indiana farmers, farm families, farm youth, agribusiness professionals, mental health care professionals and health care professionals.

Additional funding was provided by USDA-NIFA-2020-70028-32728.

For staff training, the team delivered on-demand, self-paced virtual training for 14 employees of a crisis call center. After completing training, staff reported:

- I am able to identify the most common demographics of farming and rural community members (100%),
- I can identify potential stressors specific to farming and agriculture (100%),
- I recognize common and potential lethal means that exists on farms (100%),
- I can provide resources specific to agriculture (93%),
- I recognize the key terms and/or phrases that indicate the callers are farmers or in a rural community (86%), and
- I am confident in my ability to address agricultural stress calls (86%).

For educating mental health professionals, the team collaborated with the University of Wisconsin-Green Bay, offering virtual training ("Understanding Farm Culture and Farm Family Dynamics") for 10 mental health providers/clinicians, with five CEUs available. As a result, all reported they better understand the culture of farming and family dynamics, financial structure of the farm and the stress it can create, best approaches to support farmers and their families with mental health, substance abuse, and crisis challenges, and resources to support farmers and their families.

For increasing awareness and understanding of farmers, rural communities and agribusiness professionals, the team implemented 27 programs on agriculture and mental health, engaging more than 1,800 participants, and held information booths at 10 conferences reaching over 124,000, and at the Indiana State Fair during Mental Health Day (average daily attendance over 47,000).

The team released 21 episodes of the "Tools for Today" podcast (nearly 1,000 listens) and completed one public service announcement (PSA) "Stress Concerns for Small Business Owners" (over 500 views). The team also updated posts on the website (over 2,500 engagements) and Facebook (over 21,000 engagements).

For women in agriculture, the team completed the Indiana farm women survey. Based on findings, the team facilitated two Annie's Projects programs and conducted four "Harvesting Her Voice" symposiums with over 50 participants. As a result, women reported they became aware of mental health resources specific to agriculture (96%), more confident in their ability to recognize stress in others (94%), more confident in their ability to maximize their focus, energy, and time for what matters most (92%), and aware of resources to help navigate the hurdles presented when developing a succession plan (92%).

For youth, the Agri-Youth curriculum was delivered in Indiana schools (six FFA classes with 125 youth and four adults). Youth reported improved understanding of healthy coping skills (78%) and youth farm stress (77%), and that they can identify available mental health resources (74%).

Marketing efforts included releasing 11 "Tools for Today's Farmers" podcasts with a youth focus (nearly 500 plays), disseminating a fact sheet on mental health for Agri-Youth during Farming Futures Agri-Youth farm stress program, and one PSA on stressors faced by Agri-Youth (325 plays).

Because of Purdue Extension's farm stress team, crisis call staff, mental health professionals and Purdue Extension personnel gained knowledge and skills to support those experiencing agriculture-related stress. Farmers, rural communities, agribusiness professionals, women in agriculture, and youth learned about farm stress and helpful resources. The combination of these efforts provides Indiana's farm families with support for mental health and stress issues.

5-5 Food is Medicine helps Indiana residents address priority health issues in their communities



Indiana recently completed the Governor's Public Health Review Commission, which included actionable steps to help improve the health of those in Indiana. Local health departments

share information every June and December on several measures to show the momentum underway as <u>Health First Indiana</u> (HFI) grows across the state.

These data provide vital information for local health departments to share ideas and establish partnerships for enhanced core public health service delivery.

Indiana's public health effort is an investment in prevention that will lead to healthier communities. The initiatives cover several public health core service priorities: maternal and child health, trauma and injury, tobacco and vaping prevention/cessation, access and linkage to clinical care, chronic disease prevention and lead exposure.

Prior to partnering on programming, Purdue Extension assisted efforts by talking with local health department representatives to learn about core service priorities and inviting these representatives to local health coalition meetings to discuss needs and understand data to make

informed decisions. In the last year, 88 educators and community wellness coordinators reported involvement with 167 coalitions in 76 counties. The top five focus areas for all coalitions were: wellness (48), substance use (48), food security/food access (46), mental health (42), and

Extension is engaged in partnerships.

the core service priorities.

Indiana enhanced public health infrastructure through state and local partnerships where services were delivered locally. As a result of this public health effort, Extension's county offices and Nutrition Education Program partnered with county health departments to provide programming for improving the health of residents. This map shows a sampling of where Purdue

tobacco (33). Several of these focus areas overlap with

Purdue Extension's "Food is Medicine" is one of the approaches being implemented to address Indiana's public health priorities. Purdue Extension delivered 240 hours of programs aimed at preventing chronic disease across 18 counties, reaching 875 adults and youth. Programs often included meal demonstrations, practical tips on food selection and preparation, and bags filled by local food producers for participants to take and recreate the meals at home.

Of the Food is Medicine programming participants, 281 completed evaluations and reported that they learned something new (100%), increased awareness of a health topic (95%), intended to try or apply what they learned (94%), and learned new skills (63%).

FIM programs increased by 25% in 2024. In 2023, with the help of 49 partners, NEP reached 626 people through 22 FIM programs. A year later saw 55 partnerships reaching 7,204 people through 33 food-related initiatives. In addition to helping families acquire more than 9,000 pounds in healthy food, community wellness coordinators helped to identify \$168,530 in external grants to fund FIM programs.

Focusing on local health needs, Purdue Extension engages in community-level strategies that improve food access, support nutrition education, and address the social determinants of health. These initiatives — whether offering produce incentives, partnering with local health care clinics, or improving healthy food availability — are changes that help transform environments and make healthy choices more accessible. Program participants reported they intended to apply what they learned to improve their health. These efforts help Indiana improve priority health issues.

5-6 Indiana 4-H youth in civic engagement activities reported feeling a responsibility to help their community

Youth opportunities and experiences are important for development of civic engagement and community awareness skills that can contribute to future involvement and impact in our communities when they are adults.

Indiana 4-H programs were delivered in counties, across regions of the state or multi-county collaborations, or coordinated statewide. Through six programs, youth were active in civic engagement, including youth government day, youth leadership and 4-H Day at the Indiana Statehouse.

Some 256 youth took part in civic engagement activities, volunteering and service projects, and 185 completed the program evaluation (72% response).

For future intentions of civic engagement, youth were most interested in community service projects: walking dogs at an animal shelter (95%), organizing a drive for clothing, toys, books, or food (94%), serving meals at a homeless shelter (94%), teaching younger kids (94%), picking up trash outside (91%), visiting people in a nursing home (88%), and planning a fundraiser (87%).

Focusing on community service and volunteering, nearly all (92%) reported they had participated in a community service project. Three-quarters (80%) had helped plan a community service project, and half (55%) had led a community service project.

Youth shared their favorite community service projects: helping the elderly (volunteering at nursing homes, encouraging and assisting elderly residents), food and shelter support (food drives, serving meals to the homeless, and donating food to local food pantries), environmental and community clean-up (cleaning up parks, cemeteries, and roads, planting trees and building community gardens, and landscaping/maintaining public spaces), animal welfare (walking dogs at animal shelters, helping at humane societies, organizing drives for animal necessities), and helping younger youth (teaching them new skills and donating to children in need).

Youth reported they liked helping people in their community (98%). Regarding interactions with local, state, and national governments, nearly all (91%) reported they had met community leaders because of Indiana 4-H. For contributing to their peers, families,

and communities, most (94%) had encouraged others to volunteer in the community.

At 4-H, community awareness increased as youth engaged in activities in the community and learned about needs in their community (87%), in the country (69%), and in the world (63%).

Helping to address problems in the community, youth reported that they like helping people (99%), the Indiana 4-H programs inspired them to volunteer in their communities (94%), they feel a responsibility to help their community (92%), they look for ways to help when they learn about a problem in the community (85%), across the country (61%), and around the world (53%).

Via Indiana 4-H's civic engagement opportunities, youth were active in their communities helping the elderly, providing food and shelter support, conducting environmental and community cleanup, assisting with animal welfare, and teaching younger youth new skills. If learning of a problem in their community, youth report they feel a responsibility to help. These engaged youth contribute to a bright future for Indiana's communities.

5-7 Indiana 4-H youth reported they learned skills for healthy eating, being active, healthy decision-making, and food preparation and safety



CDC data on the health status of children and adolescents show 21% of adolescents and 18% of children are obese. Almost two-thirds of boys and girls consume at least one sugar-

sweetened beverage on a given day. Sugar-sweetened beverages contribute calories and added sugars to the diets of U.S. children. There is a lack of high-quality intervention studies on childhood cooking programs that could positively impact youth willingness to try new foods, likeliness they would try foods if they cooked or grew it, and confidence in preparing food and following recipes. Only one in five high school students meet the recommended physical activity guidelines.

Low levels of physical activity can contribute to heart disease, type 2 diabetes, some kinds of cancer, and obesity. Development of social-emotional competencies are important for positive youth development. CDC data show that poor mental health can result in serious negative outcomes for the health and development of adolescents. It can lead to risky sexual behavior, illicit substance use, adolescent pregnancy, truancy/school dropout, and other delinquent behaviors. For high school

students, 37% experience persistent feelings of sadness or hopelessness. CDC data show high school students often engage in transportation risk behaviors — 43% do not always wear a seat belt, and 39% text or email while driving.

Indiana 4-H programs were delivered in counties, across regions of the state or multi-county collaborations, or coordinated statewide. Nineteen Indiana 4-H programs addressed healthy living, healthy eating habits, being active, healthy decision-making, and food preparation, including Girls on the Run, Chef University, Cooking Club, Soccer for Success, Understanding Opioids and Healthy Living, and others.

Over 460 youth participated in Indiana 4-H healthy living-related programming; 318 participants completed program evaluations (69% response rate).

Youth indicated they learned about healthy food choices at Indiana 4-H (93%) and have given their family ideas for healthy meals or snacks (80%). Youth responses regarding healthy eating habits showed that they pay attention to how much water they drink each day (76%), how much fruit they eat each day (58%), how many sugary drinks they drink each day (54%), and how many vegetables they eat each day (46%). For meal frequency, youth indicated that most/every day they eat meals with their family (77%) and breakfast (75%).

Responding to questions about being active, youth indicated they pay attention to how active they are each day (74%). Most (90%) reported they encourage their friends to be active with them. But youth also indicated that they get to decide how much time they spend in front of a screen (65%) and reported they don't really pay attention to how much time they spend in front of a screen.

Addressing healthy decision-making, responding youth perceived these risky behaviors that are "not OK" in someone else their age: smoking, taking drugs and drinking alcohol.

Youth reported they encourage their friends to make responsible choices (82%) and indicated they talked about risky behaviors during 4-H (79%).

For food preparation skills, youth learned how to follow a recipe to make something to eat (98%), use knives safely (98%), use measuring cups and spoons (97%), keep their cooking area clean to stop spreading germs (96%), handle hot pots and pans safely (94%) and make changes to a recipe (85%).

Youth participating in Indiana 4-H programs focusing on healthy living learned healthy food choices and eating habits, reported they eat meals with their family and pay attention to how active they are most days of the week, perceived risky behaviors that are not OK for someone their age, encourage their friends to make responsible

choices, and learned food preparation skills and safety. 4-H youth are actively addressing and improving their health and being positive influences to those around them now and will impact Indiana's families and communities in the future.

5-8 Military personnel in Youth Mental Health First Aid training gained knowledge and skills to assist youth experiencing mental health or substance use challenges or crises

The National Council for Mental Wellbeing reported recent statistics about youth mental health: 10% of youth will be diagnosed with a substance use disorder in their lifetime, one in five teens and young adults lives with a mental health condition, and 50% of all mental illnesses begin by age 14, and 75% by the mid-20s.

Youth Mental Health First Aid (YMHFA) is a program of the National Council for Mental Wellbeing. YMHFA is designed to teach parents, family members, caregivers, teachers, school staff, neighbors, health and human services workers and other caring citizens how to help an adolescent (age 12-18) who is experiencing a mental health or addiction challenge or is in crisis. YMHFA is primarily designed for adults who regularly interact with young people. The course introduces common mental health challenges for youth, reviews typical adolescent development and teaches a five-step action plan for how to help young people in both crisis and non-crisis situations. Topics covered include anxiety, depression, substance use, disorders in which psychosis may occur, disruptive behavior disorders (including ADHD) and eating disorders.

A team of Purdue Extension educators completed training to be presenters of the course. In 2024, 27 programs were delivered. Purdue Extension delivered the "virtual blended" course which involves adults completing two hours of online "pre-work" before meeting in person or virtually for 6.5 hours of instruction. Purdue Extension received a Department of Defense grant to support YMHFA to military personnel.

The key training component is the "ALGEE" action plan, which can be used for trained adults to support a youth who is experiencing distress. ALGEE action plan steps are:

- Approach: assess the risk of harm or suicide and provide assistance.
- Listen: listen without judgment and respect the person's feelings and experiences.
- Give support: provide information and encouragement.

- Encourage help: encourage the person to seek professional help.
- Encourage self-help: encourage the person to try other support strategies and self-help.
 YMHFA presenters administered the program's four evaluation surveys: two at the beginning (pre-evaluation and opinions quiz), and two post-evaluations (knowledge check and course response).

There were 313 adults who responded on the surveys. They reported their highest level of education: bachelor's degree (33%), graduate degree (23%), some college (18%), and associate degree (13%). Participants identified the level of mental health training they had completed before YMHFA, reporting "a few talks and presentations about mental health" (38%) and "several workshops, trainings, or classes about mental health" (34%).

Results of five common knowledge questions on preand post-surveys showed the percentage of adults who selected the correct answers increased from pre- to postfor all five questions, with the largest increase for learning about the ALGEE action plan (pre-41%/post-89%).

Pre- and post-survey sets of questions related to participants' attitudes addressing beliefs about their role in assisting youth, sense of difficulty to be able to help youth, opinions about their ability to help youth, and confidence in their ability to respond to youth. Comparing pre- and post-average scores of 5-point scale responses revealed improvements in all measures at post, showing participants:

- "agreed/strongly agreed" they believed they should listen without expressing judgment (4.78–4.86), take action to help youth (4.45-4.71), and reach out and express concerns to youth (4.10–4.72).
- found it "somewhat difficult" to take action to refer youth who are showing signs and symptoms of a mental health or substance use challenge(s) to practical resources (e.g., self-help information, crisis hotline number) (2.66–2.37), and experiencing a mental health or substance use challenge(s) to a health professional (2.76–2.41).
- shared a "neutral to somewhat likely" opinion that youth with mental health or substance use challenges would respond: if participants express concerns to youth about the mental health signs and symptoms youth are experiencing, it will help youth seek timely support (3.57-4.19), and if participants give information about mental health professionals to youth experiencing mental health or substance use challenges, it will assist youth to get help (3.71-4.29).

In the post-survey, participants responded to questions about their level of knowledge and the likelihood of taking action before and after the program. Comparing "before" and "after" questions with four-point scale responses (1-none, 2-low, 3-moderate, 4-high) average scores increased from "moderate" to "high" for all knowledge items: describing the purpose of YMHFA and the role of the first aider (3.01-3.77), recognizing signs and symptoms of mental health/substance use challenges that may impact youth (3.24-3.73), and explaining the impact of traumatic experiences and the role of resilience on adolescent development (3.11-3.62).

Average scores increased from "moderate" to "high" regarding the likelihood participants would complete these actions: having a supportive conversation with youth experiencing signs and symptoms of mental health or substance use challenge/crisis (3.41-3.88), and using the ALGEE action plan to connect youth experiencing signs/symptoms of mental health or substance use challenges/crisis to appropriate help or resources (3.14-3.88).

As a result of YMHFA, adults reported intending to try/adopt what they learned (96%) and learning new information (90%).

Purdue Extension's Youth Mental Health First Aid training for military personnel who work or interact regularly with youth was meaningful and immediately useful to their roles and responsibilities. Participants reported increased knowledge, confidence and likelihood to take action to help youth. Because of the training, military personnel showed knowledge of and skills to assist youth experiencing mental health or substance use challenges or crises. Now and in the future, there are adults with knowledge and skills who can help youth experiencing mental health challenges.

5-9 Purdue Extension facilitated community actions for improving health and public spaces

In Indiana, community leaders make decisions about public spaces such as parks, trails, farmers markets, schools, and Main Streets every day that affect the health and wellness of the community. Using Purdue Extension's Enhancing the Value of Public Spaces: Creating Healthy Communities (EVPS: CHC) program, facilitators coach

communities through the development of a high-quality action plan for their public spaces. The plan can guide decisions and better position communities to take advantage of opportunities to



promote healthy eating and active living.

Enhancing the Value of Public Spaces is a Purdue Extension program that combines data collection and analysis with public deliberation to design highquality action plans toward meaningful, sustainable improvements for public spaces focused on community health. Using a science-driven, participatory approach, this curriculum includes applications of community design coupled with information resources, case studies, and strategies to enhance food access and active living through community-based programs and improvements to public spaces. The goal is to strategically guide policy, systems, and environmental changes relevant to how high-value public spaces promote healthy communities. As a result, communities that are prepared with a public spaces action plan can boost economic development, improve the quality of life and create a healthier place for individuals and families.

In Indiana, Georgetown (township population 11,270) engaged Purdue Extension's Creating Healthy Communities team and local Agriculture and Natural Resources, Health and Human Sciences, and Community Development educators, and Nutrition Education Program community wellness coordinators to assist in a community-based update of its parks and recreation master plan and comprehensive plan. Both plans required updating to support state grant applications for implementation funds. In addition to these plans, the community had several other plans that it wished to review and potentially consolidate.

A series of three public engagement meetings were advertised across the town's social media platforms and local media. This Purdue Extension program focused on expanding access to healthy foods and physical activity through using public spaces. It highlights connections between built and natural environments and health by merging theories of community health and community development in a community planning workshop setting. Workshops used the Community Capitals framework which describes the community in terms of seven types of assets: social, human, natural, built, financial, cultural and political.

The first public meeting was held at Georgetown Town Hall and included a Purdue Extension presentation of demographic information and data on the parks and recreation system, comparing it to national standards. A facilitated conversation was held that covered community assets and opportunities across the seven community capital categories.

At the second public meeting at Georgetown Town Hall, Purdue Extension facilitators led participants through an activity that reviewed existing strategies that were included in several previous community plans, including the Georgetown comprehensive plan, the destination Georgetown Ball State report, and the downtown revitalization plan.

In the third public meeting, town leaders were asked to identify responsible parties, funding sources and timelines for strategies identified during the second meeting. Strategies and documented public feedback on downtown revitalization and parks and recreation in Georgetown were to be drawn upon to inform future actions, including integration of appropriate official planning documents. A communitywide survey was completed by 156 residents, and its results were presented to the community.

The community workshop series was attended by a total of 11 participants. Most community survey respondents were age 25-44 years and earned a household income more than \$100,000.

As a result of the Creating Healthy Communities activities, Georgetown progressed toward 12 objectives it generated during the planning workshops:

- The community expects to establish a Tax Increment Finance (TIF) district to fund improvements.
- Town and local businesses mentored property owners on the existing façade program.
- Georgetown expects to allocate \$95,000 toward façade grants.
- The community has awarded six food truck permits and plans four food-related community events.
- The community partnered with the Optimist Club to establish a designated "food zone" for food trucks to locate during events. The zoning ordinance is undergoing an update.
- Town branding revisions were incorporated into all official town materials (press releases, clothing, websites).
- Georgetown planned and funded \$500,000 in pedestrian connectivity projects in areas identified during the planning workshops.
- The town applied for additional federal funding to extend the pedestrian network to other areas in the future.

- Georgetown used Christopher Reeves Foundation grant funding to improve accessibility and construct a new playground in Ashley Mariah Memorial Park.
- Land was acquired for the expansion of Georgetown Park and construction will commence in the next year.
- The park will incorporate many ideas from the planning workshop including bathrooms, playground and a splashpad.
- The town has applied for funds from the Lilly Foundation to construct an amphitheater.

Because of Purdue Extension's Creating Healthy Communities activities, Georgetown, Indiana, has made progress on a dozen objectives generated during its planning workshops including securing funding, adding arrangements for community food events, upgrading pedestrian networking and acquiring land for a new park.

5-10 Purdue Extension helps reduce fall risk among older adults in Indiana



The Centers for Disease Control and Prevention reported falls are the leading cause of injury and injury death in the 65 and older age group: 36 million falls are reported among older adults each year,

resulting in more than 32,000 deaths. In Indiana, 311,506 older adults fell, resulting in 571 deaths. Many older adults who experience a fear of falling decrease their physical activity, contributing to loss of muscle strength, flexibility, and balance.

A Matter of Balance is an evidence-based fall prevention program developed at Boston University. The program helps older adults learn how to: a) view falls and fear of falling as controllable, b) change their environment to reduce fall risk factors, c) set realistic physical activity goals, and d) perform exercises to increase strength and balance.

- 58 Purdue Extension educators completed training to lead this eight-session program.
- 41 programs were delivered, reaching 445 adults in 34 Indiana counties. Three-quarters (76%) selfreported their age between 65 and 84.

Participants were asked to complete a survey (435 did so after the first session and 381 did so after the last session) that asked questions about fall efficacy, concerns about falling, and level of physical activity.

Participants who self-reported their sureness about fall efficacy improved from not at all sure/somewhat sure at program start to being sure/very sure at program end. Participants responded sure/very sure to "I can find a way to reduce falls" at the first session (63%) and the last session (92%). Participants indicated they were sure/very sure "I can protect myself if I fall" at the first session (40%) and at the last session (74%).

Participant reported increased confidence to these statements, "I can":

- find a way to get up if I fall,
- find a way to reduce falls,
- protect myself if I fall,
- increase my physical strength, and
- become steadier on my feet.

Asked to what extent has your concern about falling interfered with your normal social activities in the last four weeks?", participant "extremely/quite a bit" responses went from 14% at first session and dropping to 9% at last session.

Participants reported about the amount they were walking/exercising between the first and last sessions. There was an increase in participation of moderate exercise three or more times per week.

During the last session, participants reported on changes made because of the program. Responses included: they were now more aware, thoughtful and observant about their surroundings (removing rugs that could be a fall hazard in their home, and adding better lighting were also popular responses), and they were doing more exercise and being more intentional with their physical activity habits (they didn't get out of breath when they went for walks since starting the program).

A couple of participants shared:

- I have recently been in the hospital, and it gave me confidence that I can get up and start doing things (that I had stopped) again.
- I feel more confident not to need my walker all of the time since starting A Matter of Balance.

Older adults showed improved fall efficacy after completing Purdue Extension's Matter of Balance program, and Indiana residents will enjoy a better quality of life.

5-11 Purdue Extension teaches adults lifestyle practices to ease the burden of diabetes

Nearly 11% of Indiana's adults report having been diagnosed with diabetes. People with diabetes may

experience a shorter life expectancy, financial struggles due to higher health care costs, and an increased risk for developing long-term health problems associated with diabetes, such as



heart disease, stroke, high blood pressure, blindness, kidney disease, and loss of limbs. Diabetes is the seventh leading cause of death in Indiana. Diagnosed diabetes costs an estimated \$6.48 billion in Indiana each year. Individuals with diabetes incur medical expenditures approximately 2.6 times higher than those who do not have diabetes. While diabetes is a serious condition, it can be managed through lifestyle changes and medication to help lower the risk of complications. Lifestyle changes can also prevent or delay the onset of type 2 diabetes.

Purdue Extension's Dining with Diabetes program equips individuals with skills to prevent diabetes and helps those with diabetes lessen their risk of long-term complications. Dining with Diabetes participants learn to prepare the foods they enjoy with simple modifications and discuss ways to increase physical activity in order to promote optimal health. These lifestyle changes may help to reduce the risk of complications from diabetes by lowering blood glucose, maintaining body weight, and lowering blood pressure. The program consists of four two-hour sessions and a follow-up session presented by Extension educators with assistance from other health care professionals. Educators demonstrate how to prepare healthier options for a variety of meals and snacks, which participants are able to sample during the sessions. Weekly goal-setting activities help participants apply the information learned at each session.

Extension educators presented the program 32 times to 305 participants from June 2023 to May 2024. Of those who participated, 214 completed a pre- and post-program evaluation. In addition, 106 completed a follow-up evaluation. Of those reporting, 162 were females and 44 were males. The majority of participants were non-Hispanic and White. Regarding age, 17% were between 51-60 years, 39% between 61-70 years, and 37% over 70 years. Approximately 55% of participants reported they had diabetes, 15% had prediabetes, 30% didn't have diabetes, and less than 1% didn't know if they had diabetes.

Participants were asked knowledge and behavior questions related to nutrition and diabetes management. There was an improvement in responses to the knowledge questions. Before the program, participants responded correctly to an average of 6.2 nutrition

knowledge indicators, and after the program, they responded correctly to an average of 7.3 nutrition knowledge indicators, with the greatest possible score being 11. Fifty-nine percent of participants demonstrated an increase in their knowledge scores from pre to post. Of those who completed the follow-up, 47% increased their knowledge score from the pre-evaluation.

Participants were asked about several behaviors that could affect their risk for diabetes or complications related to diabetes, such as exercise, eating fruits and vegetables, reviewing food labels, and preparing balanced meals based on the plate method. Of those who reported, there was an improvement in the reported number of days a week they were physically active for 30 minutes or more. Before the program, participants reported an average of 2.5 days a week, and after the program they reported 3.1 days a week. When asked how many of the past seven days did you eat two cups or more of fruit, a shift was noted from an average of 3.2 days a week before the program to 3.6 days a week after the program. When asked how many of the past seven days did you eat 2.5 cups or more of vegetables, a shift was noted from an average of 3.7 days per week before the program to 4.4 days a week after the program.

The number of days in the past seven days in which participants with diabetes reported they reviewed the food label improved from an average of 3.9 days a week before the program to 4.8 days a week upon completion of the program. When asked how many of the past seven days did you prepare balanced meals based on the plate method, a shift was noted from an average of 1.9 days per week before the program to 3.5 days a week after the program.

Program feedback indicates Dining with Diabetes is well-received by participants. Food demonstrations, interaction with other participants, tasting new recipes, learning to read and understand food labels, and the opportunity to set goals are aspects participants reported enjoying the most about the program. Participants reported learning new information as a result of attending Dining with Diabetes. One participant shared, "The things I learned in this class helped me get my blood sugar back in check and now I'm off my medications." Another noted, "The class has made me focus more on nutrition. It has made me accountable to myself. The class is very informative and having the cooking demonstration taught me how quickly you can prepare a healthy meal." Participants often comment on the support and encouragement they receive while participating in the program. One participant shared, "I enjoyed learning from others going through the same issues." Participants appreciate the instruction and expertise provided by the Extension educators, with one participant noting, "The program was well developed and presented. The staff went out of their way to ensure we had everything we needed."

Collectively, these findings show that participants of Dining with Diabetes are equipped with the knowledge and skills to improve their health or care for someone with diabetes.

5-12 With Purdue Extension's programs, adults strengthened relationships, ate smart, improved health and built financial wellness



Indiana ranks 35th in overall health in the U.S. and consistently ranks near the bottom for obesity, smoking and diabetes. Many risk factors for disability or death are preventable through improved eating

habits and living an active lifestyle. Indiana ranks 11th for bankruptcy filings. By making smart choices, households could maximize their financial resources.

Purdue Extension implemented 503 food, family, money, and health programs based on community needs to 6,080 Indiana adults to increase knowledge and improve behaviors. Purdue Extension created an evaluation tool to collect statewide metrics on standard questions.

On post-surveys, 6,080 participants compared their knowledge before and after the program.

Results showed improvements in knowledge about diet quality, food safety, food selection/preparation, environmental health, physical health, mental and emotional health, relationships/social health, the aging process, parenting/caregiving skills, financial empowerment and risk management.

Participants indicated that information learned during the program will improve their lives (94%), and they would share the information learned during the program with others (93%).

Participants shared how the program would make a difference in their lives:

- [The program] "sparked an interest to learn more ways to incorporate vegetables into my diet and our household meal plan."
- [This program] "gave me more effective ways to communicate through conflict."
- "I wanted to have a better idea about how to save important documents indefinitely. This session helped me with that."
- "I have made plans to increase walks with friends and family. This will help with my mental and physical health."

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Because of Purdue Extension programming statewide, adults strengthened relationships, ate smart, improved health and built financial wellness. Most plan to share this information with others helping to spread these benefits across Indiana.

5-13 'Where does your money go?' helps Indiana adults stop the outflow of their hard-earned cash

According to the Bureau of Economic Analysis, in 2024, the personal savings rate (PSAVERT) was 3%. The PSAVERT tells the average personal savings rate as a percentage of disposable personal income. This figure has dropped since 2021 (10%). This overall drop in savings has been attributed to high inflation, record household debt and average salaries not keeping up with the rising cost of living, which eats away at an individual's disposable income. MarketWatch Guides reported 66% of Americans say they are living paycheck to paycheck, and Bankrate's annual emergency savings report showed just 44% of Americans say they have enough emergency savings to cover at least three months' worth of expenses.

Purdue Extension presented "Where Does Your Money Go?" (WDYMG) to 391 adults in 36 Indiana counties. Purdue Extension created WDYMG to help individuals discover their "spending leaks" (i.e., spending money without thought), identify their financial priorities, and then make a spending plan (budget) tailored to their financial needs and designed to achieve their personal goals. Several partner organizations (Habitat for Humanity, homeless shelters, housing authorities, correctional facilities) invited Purdue Extension to deliver WDYMG to their clients to assist in increasing financial capability.

Completing the WDYMG session 1 post-survey were 391 participants. Respondents indicated, as a result of that day's workshop: "I realize I could have more money if I made different spending choices" (93%), and "I am thinking differently about how I manage my money" (91%). Participants identified the amount of their spending leaks: the median amount was \$3,747/ year. They stated that they could use this money to start saving (45%), pay off bills (26%), and purchase a need (26%). Participants shared things they will do differently in the future: reduce spending leaks (36%), track expenses (34%), and spend on needs before wants (29%). One participant commented that the workshop

"made me realize how I could be taking money from things I really don't need and put it in a savings [account] instead." A second stated, "Knowing that wants is not as important as needs will save you more money once you realize how much you spend."

The session 2 post-survey was filled out by 316 participants. Respondents reported:

- bills are easier to pay because of the new spending choices I am making (81%),
- I have written a financial goal (71%),
- I have saved money since the first session (50%). The median amount of money saved was \$313.
- I have decreased my debt (35%). In the time between the two workshop sessions participants reduced their debt a total of \$14,577.

Participants shared how the program benefited them: "I am thinking more deeply about how and where I spend my money so it reflects my values," and "I have gone back to using and sticking to my budget. That has reduced my level of stress – thank you."

Three months after the program, a survey was sent and 29 responded. Participants indicated they had reduced the amount they spend on spending leaks (73%), were saving toward a financial goal (22%) and were managing their money better (87%). Respondents reported they had saved money since the program ended (total amount was \$11,972).

Respondents shared these comments:

- "Great program and teacher. As a retiree, this program made me aware of spending on things I don't need. It also made me more aware of saving, so that I could give more to favorite charitable organizations."
- "It helped me to be more cautious on how I spend money. I now try to apply whether it is a need or a want before I buy something. It also helped me to be more aware of saving coupons. I started a savings account for my kids for college."

As a result of "Where Does Your Money Go?" Indiana adults identified spending leaks and priorities and created budgets for their needs and goals. As a result, participants reported saving money. When adults have knowledge and skills to manage money well, it will help many across Indiana improve their financial circumstances.

Food Production, Security & Safety

6-1 Ag Women Engage Conference participants applied recommended practices resulting in increased efficiencies and economic returns

According to the 2022 NASS Ag Census Data, Indiana had 28,229 farms with female agriculture producers. Needs assessments conducted with stakeholders showed the highest priorities for education were succession planning, financial planning, grain marketing, growth strategies and labor issues. Women in agriculture need to make their family farms profitable while ensuring the well-being of their families.

Purdue Extension's annual Ag Women Engage conference provided educational opportunities, resources and a network of support to position women for success in the agriculture industry. The keynote presented Plant and Prune the Family Ag Business to Reap a Bountiful Harvest. The 16 breakout sessions were presented by ag industry, government agencies, Purdue Extension and family farmers.

Some 144 participants attended. Conference participants were ag producers, members of family farms and representatives from government agencies and ag industries. An evaluation was sent to 132 participants, and 65 responded (49%).

As a result of the conference, participants indicated they learned about financial management of agricultural operations (84%), risk management strategies for their operations (69%), and commodity marketing strategies (54%).

Nearly half (40%) planned to adopt recommended practices for relieving stress. A quarter planned to adopt these practices: monitoring financial ratios (26%), risk assessments (26%), commodity marketing strategies (25%), and evaluating new business ventures (25%). The Net Promotor Score® of +61 was an excellent rating of customer loyalty. Participant reasons for the positive ratings were because of networking opportunities, informative and engaging content, relevance of topics, quality of presentations/speakers, and positive conference experiences.

Participants were asked if they had attended the annual conference in the past and a third (38%) indicated they had attended in-person or virtually. These past participants reported they had adopted new practices as a result of attending the conference (78%). Past participants shared improvements experienced from adopting recommended practices: increased efficiencies

(47%), and increased economic returns (33%). Estimates of the value of increased economic returns included "priceless", "reduced seed cost due to an FSA grant", and "time-saving estimate of \$250 annually".

For the most valuable thing participants learned, there were two common themes: financials and succession planning. Comments about financials included:

- Focus less on price per bushel and more on profit per acre.
- There is a lot of power in understanding farm financials. Ask to be involved. You have valuable input.
- Importance of keeping track of farm financials, making smart management decisions, and advocating for the industry.

Succession planning comments were:

- Validation of our succession plan and the importance of diversifying.
- Start succession planning/conversations early on with kids involved!
- We are not alone with succession planning it's something many others are going through too.
 Use resources and have critical convos.
- The importance of family conversations when doing succession planning.

Because of Purdue Extension's annual conference, women in agriculture reported learning financials and succession planning for managing their farm or operation. Past participants reported adopting practices resulting in increased efficiencies and economic returns. These impacts will benefit farms across Indiana.

6-2 Applying Purdue Plant and Pest Diagnostic Lab recommended practices, clients saved \$890,000 by avoiding crop loss or unnecessary pesticide use

Diseases and pests of agronomic and horticultural crops negatively impact farms, greenhouse and nursery operations, orchards, turf and landscapes. Growers need to know quickly what problems they face and how to mitigate and prevent them.

The Purdue Plant and Pest Diagnostic Laboratory (PPDL), a member of the National Plant Diagnostic Network, provided rapid and accurate diagnosis for



2,783 samples submitted to the lab. Laboratory reports provided practical recommendations on how to reduce losses to plant diseases and insects. A year-end survey was sent to clients to assess the

impact of the diagnoses and reports provided.

Some 292 clients responded to the end-of-year survey. Client roles were farmers and green industry professionals (52%), regulatory partners (27%), homeowners (15%), and Extension educators and specialists (6%).

As a result of the PPDL diagnoses, clients reported a better understanding of the problem (84%) and improved their ability to diagnose the problem (55%). Clients said the PPDL reports allowed them to choose the best pesticide (75%), avoid unnecessary pesticide use (51%), and understand how to apply a pesticide (24%). And 69% of clients reported seeking out recommended resources (fact sheets, websites, etc.) or contacts.

More than half (55%) reported changing management practices based on the PPDL information. Most common changes in management practices were:

- confirming diagnoses to inform decisions, and contacting recommended local experts for further guidance,
- adjusting schedules, implementing cultural management, modifying crop rotation plans, and
- allocating time and effort to prevent future issues, using tree wraps, shade cloths, and increasing awareness of plant health and needs to prevent problems.

As a result of applying PPDL-recommended practices, clients avoided plant/crop loss (32%) and increased plant/crop quality (32%). PPDL clients reported they saved a total of \$886,770 by using the PPDL to avoid crop loss or unnecessary pesticide use.

In addition, clients reported receiving the following benefits from using the PPDL: accurate diagnoses and confirmation, improved management practices, enhanced knowledge and education, increased credibility and professionalism, cost and time savings, peace of mind, effective communication, support for decision making, preventive measures and resource utilization.

The majority of clients (89%) reported being satisfied or very satisfied with quality of PPDL's recommendations.

Because of Purdue's PPDL, clients across Indiana and the U.S. learned and implemented practices to address plant and pest issues for improved plant health and crop production, and avoided plant/crop loss and unnecessary pesticide use.

6-3 Purdue Agricultural Center field day participants reported adopting new recommended practices for cover crops, no-till, and sulfur and fungicide applications



There are 56,800 farming operations in Indiana, and 97% of Indiana's farms are family-owned. Of Indiana's roughly 23.3 million acres, 84% are farms, forests and woodland. Corn (\$3.16 billion) and soybeans

(\$2.84 billion) account for the largest value of sales for Indiana's commodities.

Successful and sustainable production requires attention to a vast array of variables, including soil health, water availability and access, prevalence of weeds, insects, invasive species, and diseases, and seasonal and weather variability. The need for access to and understanding of new technologies and management is great for Indiana's producers and the future for crops and livestock. It is prudent for Indiana to protect its resources and support productivity of the land, farms and operations.

In conjunction with the Purdue Agricultural Centers (PACs) across Indiana, Extension provided seven field days held at five of the PACs. Participants could earn professional credits for the Private Applicator Recertification Program (PARP), Continuing Certification Hours (CCH) and Certified Crop Advisor (CCA).

A total of 869 participants attended the field days, and 478 completed the post-survey (55%).

Over 350 participants reported earning credits: PARP (51%), CCH (19%), and CCA/CEUs (6%). Of the 473 responses, 87% "agreed" or "strongly agreed" that they learned something they didn't know before.

As a result of attending the field crop programs, over a third indicated they plan to adopt recommended field crop practices for their farm/operation (42%) or they plan to adopt fertilizer and/or pesticide practices (34%). A quarter plan to adopt recommended field crop management practices (26%) or are already doing the recommended practices (24%).

As a result of attending the horticulture programs, respondents indicated they plan to adopt recommended

practices/technologies for horticulture and the environment (67%), conservation of resources (33%), and reducing negative environmental impact due to

horticultural operations (39%).

Three-quarters (76%) of Field Day participants indicated they had attended this event in the past. Nearly half (44%) adopted a new, recommended practice for their farm or operation. Field Day past participants reported the new practices they adopted: cover crops, no-till practices, sulfur application, and fungicide application. These new practices reflect a focus on sustainable agriculture, precision farming, and advancements in pest and disease management. Adoption of cover crops and changes in tillage practices align with trends in conservation and soil health, while use of specific inputs like sulfur and fungicides indicates a commitment to optimizing crop performance and yield. For financial improvements observed as a result of adopting a new recommended practice, nearly two-thirds (60%) reported increased dollar return per acre, and nearly half (44%) reported reduced costs per acre.

Participants at Purdue Agricultural Centers' field days reported adopting new recommended practices for cover crops, no-till, and sulfur and fungicide applications showing a commitment to sustainable agriculture and optimizing crop performance and yield. Past participants applying recommended practices experienced financial improvements of increased dollar return and reduced costs per acre. These practices and results will positively impact Indiana's farms.

6-4 Purdue Extension kept producers up to date on the status of avian influenza in Indiana and surrounding states

Highly Pathogenic Avian Influenza (HPAI), also referred to as bird flu, has been plaguing the poultry industries since February 2022. The virus had a spillover event into the dairy industry in summer 2024, prompting a larger response nationally from the USDA and the Indiana Board of Animal Health (BOAH). In addition, a one-time occurrence in pigs in fall f 2024 started bigger conversations and concerns about spillover into another agriculture species.

The response of Purdue Extension has been steady with creation of handouts, informational flyers and bulletins to commercial and small flock producers starting in 2022, which continued in 2023 and 2024.

Animal science specialists worked within their species to respond appropriately with timely, up-to-date information in 2024 for animal producers, Extension educators, and consumers as needed. Extension educators shared the latest information and resources with farmers through podcasts and emails, and at various gatherings (farmer

breakfasts, updates, and meetings) across Indiana. Purdue Extension's INPREPared website hosted the resources.

Indiana Pork, Indiana State Poultry Association, and Purdue Extension hosted a Carcass Management School held at the Animal Sciences Research and Education Center. There were 40 participants from Indiana and surrounding states who attended this four-day program of 27 hours of instruction. Participants learned basics of mortality composting, how to plan and construct compost piles, and then monitor them during an outbreak situation.

As a result, in 2024, poultry and livestock producers across Indiana were kept up to date on the status of the virus and recommended practices. This helped them take actions for managing their flocks or livestock. Many were trained in mortality composting for outbreak situations.

Indiana poultry and livestock producers received the latest avian influenza information from the USDA, BOAH, Purdue Extension, and other collaborative partners, were apprised of the spread of the virus and reacted to recommended practices for management of their poultry or livestock.

6-5 Purdue Extension's Breeding Soundness Evaluation improves beef herd economic values

Beef cattle production is an important agricultural enterprise, especially in southern Indiana. Economic returns for the approximately 345 beef cattle farms in Washington County could be greater if reproductive efficiencies were maximized. When producers depend on natural service for breeding, the bull contributes at least half of reproductive efforts to produce a calf and at least as much to the future of the cow herd through his daughters as replacements.

To ensure that beef producers in Washington County are using reproductively sound bulls for natural breeding, Purdue Extension has offered an annual Breeding Soundness Evaluation (BSE) event for nearly 30 years to evaluate bull reproductive soundness. First, the bull must pass a physical exam conducted by a veterinarian. Then there is a reproduction exam, followed by a semen evaluation. Sperm are examined for head and tail shape, and progressive motility.

Purdue Extension collaborated with the Washington County Cattlemen's Association, DC Cattle, a Washington County beef cattle operation, and Spring Mill Veterinary Service to offer this opportunity to beef producers. There were 20 beef cattle producers, 76 bulls, one local veterinarian and two assistants, and 10 county Cattlemen's Association representatives and volunteers. At completion, producers receive a follow-up report

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about their bull's evaluation results and a reminder that reproductive soundness can change and evaluations are needed each breeding season.

The event was supported with funding from the Washington County Cattlemen's Association to cover the cost of the veterinarian's services. The cost to producers was less than if the veterinarian made an individual farm visit. The association also provides lunch for volunteers and insurance for each bull.

Ten adult volunteers and community partners donated their time to assist with program logistics. The event was nine hours, for a total of 90 volunteer hours, making the value of volunteer contributions \$2,160 (\$24/volunteer hour).

Of the 76 bulls tested, 11% failed their breeding soundness evaluation. By identifying these sub- fertile bulls, there was a cost savings of \$690,000 for producers (calculated value of calf loss due to unbred cows). Estimated expenses for 288 open (nonpregnant) cows in the herd were an additional \$115,000. Total potential revenue lost by having open cows and "sub-fertile" bulls to producers was \$805,000.

Participating beef producers in Purdue Extension's Bull Soundness Evaluation event improved their herd's reproductive efficiency and performance, and their herd's overall economic value. These results help ensure successful beef production in Washington County and across southern Indiana.

6-6 Purdue Field Crop Pathology Research and Extension continue on the front line for monitoring, detecting, and managing tar spot of corn



Tar spot of corn was first confirmed in 2015 in Indiana and the U.S. by the Purdue Plant Pest and Diagnostic Laboratory (PPDL). In 2018, localized epidemics of tar spot were quite severe in several

northern Indiana counties with estimated yield losses of 20-60 bushels/acre (\$76.2-\$228.6/acre). Since 2018, it is estimated that tar spot has led to a loss of over 230 million bushels of corn (\$840 million) in the U.S. and 52 million bushels of corn (\$198 million) in Indiana. In 2024, the field season experienced a severe epidemic (5.4% corn loss in Indiana).

The Purdue Field Crop Pathology Extension Program is dedicated to recognizing and understanding new and emerging diseases, their potential impact on Indiana agriculture, and quickly and effectively distributing disease identification information and established research trials for Indiana and U.S. corn growers.

The Field Crop Pathologist and Extension Specialist initiated a collaborative research and Extension team from 14 states and Canada. In 2024, 23 integrated research trials on tar spot were conducted in Indiana. Grant-supported monitoring of tar spot allowed for establishment of sentinel corn plots, free diagnostic testing in collaboration with the PPDL, and statewide surveys. Gathered data have been used to generate disease management recommendations and risk assessments.

In 2024, this contributed to 16 new Extension articles and publications, 23 peer-reviewed publications, and 30 peer-reviewed technical reports. Since the start of the epidemic, the field crop pathologist and Extension specialist has given more than 232 presentations on tar spot to over 30,884 individuals (from 38 to 4,606 in 2024) that include a range of clientele from agribusiness personnel to individual farmers at field workshops and field days, conferences, county meetings, industry-sponsored events, and regional and international conferences. Tar spot slides were created and shared with colleagues at other universities and industry for Extension and educational purposes. The field crop pathology website hosts a live map of tar spot, and posts are written during the field season).

The field crop pathologist and Extension specialist worked with crop producers, certified crop advisors, Extension educators and crop protection industry representatives.

The Purdue Field Crop Pathology Extension Program developed useful and timely information, resources and training for corn producers and crop advisors, including crop consultants, Extension, and agricultural industry personnel, on identifying and managing tar spot.

The multistate collaborative Corn Disease Working Group <u>established an interactive map with EDDMaps</u> to help track in-season activity/movement of tar spot spread in the U.S. and Canada and make up-to-date information available to corn producers for timely disease management decisions.

Over 120 integrated research tar spot trials have been conducted in Indiana. Grant-supported monitoring of tar spot has allowed for the establishment of sentinel corn plots, free diagnostic testing in collaboration with the Purdue Plant Pest Diagnostic Lab (PPDL), and statewide surveys.

Research generated has become the baseline model for mitigating losses caused by tar spot as it continues to spread into new production areas. Statewide field surveys allowed for map development showing greatest rial arona (ragio

risk areas/regions where tar spot may impact Indiana corn production.

From research and surveys tar spot was confirmed in 65 counties in 2019, 78 counties in 2020, 82 counties in 2021, 86 counties in 2022, 87 counties in 2023, and all 92 counties in 2024.

Through state and regional tar spot efforts, 23 peer-reviewed tar spot publications and 30 peer-reviewed technical reports have been published; 82 Extension articles and publications have been produced, and these publications have been downloaded more than 485,459 times. Knowledge gained from research and surveys has been shared with Indiana corn growers via field meetings and field days, presentations at winter meetings, and print/digital publications.

This new research is critical in helping guide farmers to implement best practices for disease management. The research has shown that well-timed, efficacious fungicide application may provide significant yield protection in regions that have seen annual loss to tar spot since 2018.

The Purdue Field Crop Pathology Extension Program has taken the lead in increasing understanding of and distributing resources for how to identify and manage tar spot. As research knowledge continues to improve the understanding of this pathogen, the Purdue Field Crop Pathology Program continues to provide Indiana farmers with up-to-date information to minimize loss and improve tar spot management in the future for Indiana, the U.S., and Canada.

6-7 Purdue on the Farm: Indiana farmers reported adopting recommended practices resulting in reduced costs per acre

Indiana acreage for harvested crops is 5.8 million acres of soybeans and 5.3 million acres of corn. After years of COVID-19 procedures and protocol, Purdue Extension's connections with farmers across Indiana were limited as virtual experiences replaced in-person activities.

Occurrences of on-farm visits by Extension specialists and educators were reduced, greatly impacting the number of interactions and depth of connections with farmers

<u>Purdue on the Farm</u> (POTF) was created to reconnect and increase direct contact between Purdue Extension and Indiana farmers. POTF objectives were:

- build and enhance relationships to strengthen bonds between educators, specialists and farmers through direct, meaningful interactions,
- gain insight into farmer perspectives and practices to address identified needs,

- observe and generate data via on-site scouting and field data collection to support evidence-based recommendations, and
- enhance and develop educator knowledge and skills to build professional capacity for better serving the farming community.

During April/May, pre-planting/planting data were collected on field details (previous crop, tillage, cover crop, row width, plant population, whether or not variable rate technology was used to control farm inputs — seed, fertilizer, chemicals, herbicides used, pre/post herbicide treatments for weed control, whether drone scouting was used and, if so, which methods were used, environmental stressors).

In May and June, educators conducted early-season scouting to assess overall stand emergence, health, population, and soil fertility. Scouts walked soybean and corn fields. Probes were used to sample soil to monitor fertility. Assessments were done for plant population, weed, insect, disease, and environmental pressures. For suspected issues, scouts sent samples to the Purdue Plant and Pest Diagnostic Lab (PPDL) for analysis.

In July/August at midseason, crop growth is critical, especially in corn, along with any stressors that could have adverse impacts on overall yield. Scouts took samples and photographs of plant population, weed, and disease pressures and sent to PPDL for disease identification and confirmation.

Late-season (August/September) scouting focused on pre-harvest details: yield limiting pressures (weather, disease, insect, standability, etc.), yield estimates, and weed, insect, disease, and environmental pressures. The last scouting trips were right before "plant dry down" for harvest. Scouting information helped identify the impacts of disease, insects, weeds, and weather conditions on crop quality or standability.

Scouting reports were sent to farmers, then data were aggregated and shared statewide, with results informing prescriptive research trials.

At the end of the season, farmers and scouts completed surveys about activities and outcomes.

Some 26 Purdue Extension educators collaborated with 44 farmers on 67 fields across 27 Indiana counties, scouting 3,700 acres of soybeans (2,000) and corn (1,700). Overall, 27 farmers (61% response) and 21 educators (81% response) completed end-of-season surveys.

Early season soybean — Growing conditions were favorable with most fields (85%) rated good to excellent. The average planting rate was 143,000 plants per acre. Fields showed environmental stressors: dry (33%), hot (27%) and/or wet (18%). Soil testing showed most fields were above critical for pH (94%) phosphorous, (91%), and

potassium (91%). Top three weeds were waterhemp, corn and marestail. Diseases were minimal. One-third of fields tested positive for soybean cyst nematode.

Midseason soybean — Growing conditions were favorable with most fields (87%) rated good to excellent. At scouting, environmental stressors were: dry (38%), hot (38%), and/or wet (21%). Leaf samples showed most fields (93%) were above critical for potassium. Bean leaf beetles (38%) and green stink bugs (27%) were present. Diseases were brown spot (45%), downy mildew (30%), and frogeye leaf spot (15%). Waterhemp (27%) was the most prevalent weed.

Late season soybean — Conditions dipped with threequarters of fields (78%) rated good to excellent. Fields had turned dry (70%) and hot (30%). Before fields were walked, about half were treated with fungicides, insecticides or both (48%) to manage pests. The most common disease was brown spot (52%).

Early season corn — Growing conditions were favorable with most fields (90%) rated good to excellent. Fixed planting rates ranged from 29,905 to 38,000 seeds per acre. Environmental stressors were: dry (37%), hot (30%), and/or wet (20%). Soil testing showed fields (79%) were above critical for pH and phosphorous, and for potassium (90%). Minimal weed pressure was observed, including waterhemp and morning glory.

Midseason corn — Growing conditions were favorable with most fields (91%) rated good to excellent. Environmental stressors were: dry (32%), hot (23%), and/or wet (10%). Leaf samples (55%) were above the nitrogen threshold. Phosphorus fared better with 90% above critical threshold. Most fields (87%) were deficient for sulfur. Pest results showed aphids (26%) as the most prevalent insect. The ensuing dry and hot weather kept aphids in check. Diseases detected were gray leaf spot (38%), northern corn leaf blight (27%), and tar spot (15%). Fungicides and insecticides had been applied to corn fields. Weeds detected included waterhemp (15%) and fall panicum (15%). Over one-third of fields (39%) had scouting drones flown during this phase.

Late season corn — Though turning dry, overall crop ratings remained high with fields (85%) rated good to excellent. Stressors were dry (85%) and hot (31%). Before fields were scouted, fields were treated with fungicides (39%), insecticides (10%), or both (46%). Late-season diseases included tar spot (69%), northern corn leaf blight (37%) and gray leaf spot (29%). Team members working with Purdue's plant pathologist determined that tar spot was now present in all 92 Indiana counties.

Collaborative compilation of scouting data for Indiana

A very important impact of scouting efforts was consistent data collection, then analysis by the PPDL, resulting in a comprehensive catalog of disease

distribution, severity, and frequency across Indiana. A plant disease diagnostician stated: "The Purdue on the Farm initiative has helped provide insight to widespread issues during the growing season. There are a number of disease and insect issues that are observed every year in corn and soybean fields, but we do not see them frequently in a given year. This year, POTF samples helped confirm the increased frequency of thrips injury on corn and the presence of thrips-transmitted soybean vein necrosis virus that our lab has observed in routine samples. We appreciate the information at our lab as it also helps provide a baseline of all the disease problems observed in the field compared to the samples we received which may have specific issues that consultants and farmers are trying to figure out." Because of this catalog of Indiana data, quality data compilations were available to Extension researchers, contributing to their analysis of crop conditions for Indiana for each phase of the growing season, providing them with information for communicating with farmers.

Post-season evaluations — Farmers

On the post-survey,17 farmers reported their scouting activities: scouted soybeans (29%), scouted corn (29%), and scouted both crops (41%). Farmers reported receiving recommendations on practices: farm/operation (41%), pest scouting (41%), fertilizer and/or pesticide (24%), and management (24%).

Nine farmers (75%) reported that they acted on recommendations given and adopted new practices/technologies impacting acreage (from 13.5 to 1,500 acres per farm). As a result, farmers reported financial improvements, including reduced costs per acre (33%) and increased dollar return per acre (33%).

As a result of partnering with POTF, farmers described new insights they will use in their operation moving forward, including:

- Hope to get a better handle on corn population density.
- May take cyst nematode samples more often, and the nutrient analysis was interesting.
- More cover crops and how to use them.
- More testing should be done.
- Try to soil sample more often and send in plant samples to a lab for testing.

Farmers expressed interest in partnering with Purdue Extension in the future for POTF field scouting (77%), and on-farm research (47%).

Post-season evaluations - Educators/Scouts

23 educators responded on end-of-year surveys and reported working with soybeans (13%), corn (13%), or both (74%).

Educators (n=22) reported their participation in POTF was somewhat/very beneficial for: increasing credibility (100%), connecting with farmers (96%), better understanding of production in the county (96%), improvement in technical knowledge (91%), and increased awareness of Purdue resources (sampling diagnostics, etc.) (82%). They reported their technical skills improved (a little to a lot) for: general soybean and corn knowledge (91%), plant disease ID (91%), weed ID (86%), soil fertility and plant nutrition (82%), insect ID (73%). They indicated sharing POTF program information or data via one-on-one discussions with farmers (96%) and discussions with other educators (46%).

Educators (n=16) reported that "top crop production challenges for local farmers" were weather extremes and variability and climate change, increasing or fluctuating

input and market costs, current cost/price squeeze, and pests/diseases/weeds.

Purdue on the Farm is strengthening the relationships between Indiana farmers, Extension educators scouting fields, and researchers on campus. With the aggregation of data from fields across Indiana, Extension researchers have a large collection of data for analyzing statewide trends contributing to further research efforts, growing season updates and crop reports.

Participating Indiana farmers reported acting on recommendations and adopting new practices/ technologies that reduced costs and increased dollar return per acre.

By working closely with farmers, POTF created a collaborative environment promoting sustainable agricultural practices and supporting the growth and success of Indiana's farm community.

Gardening, Specialty Crops and Small-Scale Farming

7-1 At Purdue's Student Farm, small-scale farmers plan to adopt recommended diversified farming practices



Diversified and small-scale farms constantly need updated management, production, and food safety information.

Purdue University's Student Farm, a small, sustainable farm, is

an integrated teaching, research, and Extension facility. It is the outdoor lab for Purdue students majoring in sustainable food and farming systems and for graduate student research. The farm serves several purposes:

- education providing hands-on learning opportunities for students and farm operators,
- research supporting innovative sustainable agricultural studies and experiments, and
- community engagement providing locally grown produce through community-supported agriculture (CSA) programs and hosting Extension events.

Occupying 3.5 acres on the edge of campus, the farm showcases a wide array of vegetables and herbs. As a functioning enterprise, the harvest is dispersed in three ways: CSA programs, commercially to the Purdue campus dining halls, and donations to community food pantries.

Through a generous donation, two large shipping containers were designed for vertical farming of lettuce and greens on suspended, moving walls using a technology system and specialized lights. The goal was to produce 250 heads of lettuce weekly per container. These efforts provided lettuce for the CSA boxes and campus connections. The containers also provided faculty and staff with research opportunities, from which new insights would be shared community through Extension programs.

The Purdue Student Farm serves as a dynamic research hub, hosting research trials in partnership with faculty from several of Purdue's colleges/schools. The research portfolio includes studies on insect pests, nematodes, and weed management, and variety trials and evaluation of cellulose mulch. Innovative research projects are developing a video-analytics system for assessing hand-hygiene actions in wash-pack environments, and a novel method using a mobile device LiDAR for nondestructive assessment of plant structural parameters. Research findings are actively disseminated through peer-reviewed journal manuscripts, newsletter articles, technical reports, and poster and oral presentations at local, regional, and national conferences. Research activities support the work of PhD and MS students, demonstrating the farm's vital role in both advancing agricultural knowledge and training future researchers.

There were 151 participants in the Purdue Student Farm's CSA (a weekly box of Purdue-grown vegetables

and herbs for 22 weeks from July to November). CSA members picked up produce weekly at the Student Farm. Vegetables in the weekly boxes changed throughout the season. Crops grown and harvested between July and October were: kale, cabbage, beets, lettuce, basil, herbs (thyme, lemon balm, oregano, lavender, parsley), early beans, turnip, cherry tomato, heirloom tomato, red slicer

tomato, sweet peppers bell/frying/roasting, jalapeno, poblano, hot peppers, eggplant, summer squash,

cantaloupe, onion, celery, celeriac, and winter squash.

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Crops harvested in November included: kale, cabbage, beets, radish, lettuce, basil, herbs, parsley, winter squash, popcorn, gourds, leek, scallion, turnip, salad greens mix (baby kale, arugula, mizuna, mustard greens), celery, and celeriac. At season end, a survey was distributed via email. A total of 87 CSA members completed surveys

Purdue Extension's Small Farm Education Field Day introduced small and medium-size farm operators to sustainable farming solutions to improve farm decisionmaking processes, increase productivity and improve pest management and food safety standards. Held at the Student Farm, the event was designed for participants to experience cutting-edge sustainable agricultural research, see expert-run trials on variety performance, pest management, soil health, and more, watch live demonstrations of innovative farming techniques, and connect with fellow growers, exhibitors, students and Purdue Extension. The Field Day provided hands- on education to 54 small-scale farmers/producers, urban farmers, and backyard gardeners. Purdue Extension faculty, specialists, and graduate and undergraduate students demonstrated:

- insect dynamics in high tunnels,
- companion plants and syrphid fly recruitment,
- high tunnel table grapes,

(58% response).

- advantages and considerations of raised bed gardening,
- high tunnel sweet pepper production strategies and variety selection,
- tarps, fire, and cultivation weed management,
- strawberry production and strawberry propagation at small farms,
- growing open-pollinated corn on the small farm,
- postharvest wash/pack design for small farms,
- growing Andes cuisine (Peruvian "choclo corn" and "nuna popping beans") locally,
- digital tools for small farms, and
- indoor production of leafy greens in container farming.

Of the 54 field day participants, 14 completed the post-survey (26% response).

Purdue Student Farm's CSA — Most (98%) CSA members indicated they were "satisfied" or "very satisfied" with the produce received. Three-quarters (79%) rated the value of produce compared to the cost as "very good" or "excellent".

CSA members indicated their satisfaction (5-point scale) of the produce. Highest averages were:

- I was happy with the produce I received (4.51),
- The produce I received was always fresh (4.49),
- The produce was consistently good from week-toweek (4.49), and
- The produce I received was better than what is available at the grocery store (4.49)

The calculated NPS® was +72 (on a scale from -100 to +100) and is considered a world-class rating. This indicates that members were very likely to tell friends and colleagues about the Student Farm CSA. Members shared reasons for their scores: quality and freshness of produce, support for the Purdue Student Farm, variety and quantity of produce, positive overall experience and value for the money.

CSA members reported that more than 274 people in the community were directly impacted by the student farm CSA produce.

Purdue Extension's Small Farm Education Field Day — Survey results showed a significant impact, with 86% of participants reporting they learned new information. Half (50%) planned to adopt recommended practices for diversifying farming systems, while 36% intended to implement practices for strengthening their business operations. As a result of the Field Day, a third 36% indicated they plan to adopt practices to increase efficiencies or for horticulture and environmental improvement.

The effectiveness of the Field Day was reflected in its Net Promoter Score® of +50, which is considered "excellent" by global standards, with participants particularly valuing the diverse range of information, quality of presenters, and practical visual aids provided. Participant feedback highlighted the program's success in delivering actionable knowledge across multiple aspects of sustainable small farming operations.

Purdue's Student Farm has become a vital part of the university and local community and embodies the land-grant mission of teaching, research and Extension. CSA members were very satisfied with the produce received, and Field Day participants plan to adopt recommended farming and business operation practices. These collaborative and integrated programs and

activities at Purdue University are helping to build the small-scale farming and local foods entities across Indiana.

7-2 Beef Basics in the Eastern Corn Belt helped new and aspiring cattle producers build their operations, and ag teachers earn professional credits

Every year, many people consider joining the beef cattle industry but do not know what this truly entails. New cattle producers often face challenges such as high startup costs, limited access to quality land or facilities, and a steep learning curve in herd health, nutrition and management. Market volatility and unpredictable weather can also make it difficult to maintain profitability early on.

Purdue Extension's Beef Basics in the Eastern Corn Belt is designed to equip new and aspiring beef producers — those with fewer than five years of experience or just beginning their journey — with a strong foundation in the beef cattle industry. The program also supports agriculture teachers, students and public educators looking to deepen their understanding of beef production.

This dynamic eight-week, 15-session virtual program brought together experts from across multiple states to explore topics such as cattle behavior, facilities, herd health, genetic selection, forages, nutrition and reproduction. Sessions were led by Extension educators, university specialists and industry leaders, offering participants interactive learning through live polls, quizzes, Q&A, and peer networking. Participants included 23 new, aspiring, or current beef producers, nine students, and five teachers. Educators also had the opportunity to earn 16 Professional Growth Points (PGPs), Indiana's Department of Education CEUs.

As a result of attending, participants reported they were more likely to contact one of the Beef Basics team members for advice as needed in the future.

Participants reported that they learned:

- management practices they could implement for securing financial support to improve their beef cattle production enterprise,
- new technologies to implement in the management of their beef cattle herds, and
- recordkeeping strategies for inputs and outputs to determine profit or loss in their beef cattle operation.

A couple of participants shared the information that was most valuable to them:

 "The talks on forages and pasture management and information about local poisonous plants to watch out for was very useful. However, I was pleased with the entire program. I am also happy that the recordings have been made available because there was a lot of good information, and I think I will want to rewatch them over several times."

- "Every session offered something to take away.
 I appreciated the session on facilities and things to invest in first when we are just starting out."
- A future beef cattle producer reported they would continue working to establish a beef cattle operation.

Participants noted that they would recommend Purdue Beef Basics to others. Some reasons for the recommendation were:

- "I feel this program was very useful and encouraging for new people interested in getting into this business."
- [the program] "helped give general information of things to think about and raise more complete awareness."
- "The amount of resources available through this class is very valuable."

Three teachers received 16 PGPs for completing the program.

Participants in Purdue Extension's Beef Basics program gained valuable knowledge about the beef cattle industry, empowering them to make informed decisions and strengthen their operations. By supporting and educating new and aspiring producers, the program helps ensure the long-term growth and sustainability of beef production in Indiana and beyond. Agriculture teachers earned continuing education credits (CEUs) and are now equipped to bring this knowledge back to their classrooms, directly impacting the next generation of agricultural leaders. Many participants also expressed intentions to share what they learned with others in their communities, extending the program's reach and fostering a stronger, more connected beef cattle industry.

7-3 Growing Together project provides fresh produce for Indiana residents

Nationwide, 12% of U.S. households and 15% of Indiana households were identified as food insecure in 2016. An estimated 13% of Indiana residents were considered to be living in poverty in 2018. Food insecurity is highly related to a number of health issues, such as iron deficiency, low bone marrow content, mental health, diabetes, obesity and chronic disease in general.

Purdue Extension's Master Gardeners, Purdue Extension's Nutrition Education Program (NEP) community wellness coordinators, and 20 Indiana counties (Boone, Cass, Dearborn, Elkhart, Fayette, Floyd, Franklin, Fulton, Greene, Hendricks, Henry, Jackson, Lake, Marion, Marshall, Miami, Ohio, Spencer, Tipton and Wabash) engaged in a variety of food access projects to increase availability of fresh fruits and vegetables to food pantries and other service agencies serving SNAP-eligible clients. These projects were supported through the "Growing Together" mini-grants funded through the

NEP (SNAP-Ed). Community partners collaborated with

Extension staff to create or expand donation gardens in

Participants included local food banks, partners, Purdue Extension Master Gardener volunteers and other volunteers.

their communities.

In total, 868 volunteers (including 79 Purdue Extension Master Gardener volunteers) partnered with Purdue Extension staff to coordinate volunteer projects in collaboration with caring agencies and schools seeking to meet the needs of limited-resource individuals and families living in their communities. More than 6.512 volunteer hours were committed to planting, maintaining, harvesting, and supporting the 25 gardens associated with this project. This year's projects grew, donated, and distributed over 19,950 pounds of produce (or the equivalency of 59,850 servings of produce) to 43 organizations that served as distribution and education sites. Based on agency service numbers, the produce was available to an estimated 18,602 clients. In addition to the \$26,870 provided to the mini-grant awardees, Extension staff were able to acquire more than \$46,227 of in-kind donations of labor and resources supporting the projects.

All mini-grant recipients were required to incorporate a nutrition education component into each garden project. Community wellness coordinators, Nutrition Education Program assistants and Purdue Extension educators collaborated to provide these educational opportunities within the garden setting or at the distribution site. An estimated 5,761 SNAP-eligible individuals participated in the learning opportunities. Additionally, 20 of the 25 gardens engaged the produce recipients in planting, growing and harvesting the produce. This allowed participants to learn practical gardening skills to use at home in addition to learning about how to prepare the produce via the nutrition education lessons.

This project was part of a North Central Extension multistate effort; the states were Indiana, Illinois, Iowa, Michigan, Montana, Nebraska, Wisconsin and Wyoming. Cumulatively, 608 Extension Master Gardeners and 2,704 other volunteers collaborated with 596 community partners and agencies and leveraged an additional \$167,330 in community funding to support these projects. A total of 281 food pantries and distribution sites received 225,283 pounds of donated produce across the eight states, serving 186,409 low-income individuals.

In Indiana, more than 6,512 volunteer hours of planting, maintaining, harvesting and supporting 25 gardens produced, donated and distributed over 19,950 pounds of produce (59,850 servings). The donated produce was made available to 18,602 SNAP-Ed-eligible clients at 43 food distribution and education sites.

7-4 Indiana Small Farm Conference connects diversified farmers and strengthens small-scale operations



Farms with fewer than 180 acres represent 71% of Indiana farms. Unlike many Indiana commodities, the only types of farms that have increased in number in recent years have been vegetable, fruit, some

livestock farms and organic farms. Additionally, Indiana has 23,262 producers who identify as new or beginning. These numbers indicate there is a market for small-scale agriculture production in Indiana, and there are farmers filling this demand.

The Indiana Small Farm conference is held annually in late February/early March at the Hendricks County Fairgrounds. The event features nationally recognized keynote speakers, concurrent sessions on research and practices, a trade show and a poster session.

To address the needs of Indiana's small and diversified farming community, Purdue Extension implements the conference with these goals: to educate and increase awareness among attendees on a variety of topics in agriculture, increase the adoption of best practices, and bring a variety of people together creating a space for networking and collaboration.

A total of 309 adults attended the conference; 228 emails with the post-evaluation were sent successfully and 96 responded (42%). Participants reported they currently farm (57%), and farm on less than 50 acres (82%). For farming skill level, half (56%) reported being intermediate or experienced, and one-third (29%) were novice or advanced beginner. A quarter (27%) reported they are associated with a minority- or women-led organization, farm, operation or group. One third (32%) reported they live on a rural farm.

Participants were asked about their reasons for attending the conference. Three-fourths were interested in meeting and networking with other small-scale farmers (75%) and in learning about new opportunities for small-scale farmers (71%). As a result of the conference, participants indicated they learned about vegetable production (51%), regenerative agriculture (46%), soil health (45%), and niche opportunities (fish, mushrooms, nuts, value-added products) (44%).

Three-quarters (78%) indicated they had learned about available assistance and/or technical support, including Purdue Extension (70%) and USDA/NRCS (69%). Participants (79%) reported "some" to "very" on how much they learned about the role of diversified agriculture in a local food system.

Nearly all participants (91%) indicated they developed relationships, interacted, or connected with other farmers, producers, participants and people interested in diversified farming and local food systems. They shared those connections occurred at the trade show (64%) and networking lunch (63%). Connections were described as networking and building connections, information exchange, learning from others, friendship and community, and a valuable experience. Two-thirds (65%) reported they had connected with a more experienced farmer, producer or participant.

Attendees were asked about their conference experience. Three-quarters indicated they learned about opportunities for small-scale farmers, producers, and operations/organizations (85%) and intended to apply one or more ideas learned from the conference to their operation/organization this year (82%).

Two-thirds (63%) learned about a new enterprise for their operation/organization. Most (92%) plan to adopt recommended practices related to farming, producing crops, raising livestock, sustainable practices and technologies. Over half (60%) plan to adopt recommended practices related to business planning, finances, agritourism or marketing.

Participants were asked if they had attended the conference in the past. Half (52%) had attended in the past, either in-person or via webinars. As a result of attending in the past, half (49%) reported they had adopted new, recommended practices for their farm or operation. Past participants shared improvements experienced as a result of adopting recommended practices: increased efficiencies (71%), increased economic returns (35%), and increased yields (29%). The estimated dollar value of increased economic returns experienced ranged from \$200 to \$2,000 annually.

Because of Purdue Extension's Indiana Small Farm Conference, participants reported adopting recommended practices resulting in increased efficiencies, economic returns up to \$2,000 annually, and yield. These successes and the farmer connections made are strengthening Indiana's small-scale and diversified farming operations.

7-5 Master Gardeners completed community service volunteer hours valued at over \$5 million: Demonstration gardens provided 37,795 pounds of produce for local food banks



Many Indiana residents are interested in home horticulture and gardening. Increased attention to gardening has occurred as consumers seek to learn how to grow their own food.

Purdue Extension's Master Gardener program reaches across Indiana. During the year, the program delivered 1,100 hours of a great variety of in-person and virtual activities, gatherings, events, updates and trainings involving 13,000 adult participants.

- Training new Extension Master Gardeners Since COVID-19, this traditionally in-person "basic" training has been made more widely available with addition of a virtual training option through local county cohorts and as a statewide offering. Another addition to programming is a virtual "advanced" training for existing EMG volunteers to provide opportunities for their required continuing education.
- EMG Basic training (local in-person or virtual) includes at least 40 hours of training on the required core topics: Purdue EMG orientation, plant science, soils and plant nutrition, plant disease diagnosis, weed ID and control, insect ID and control, invasive species, pesticide safety and alternatives, lawn care, herbaceous ornamentals, woody ornamentals, vegetable gardening, fruit gardening and animal pest management. Participants take an end-of- training exam. With a passing score, they become Extension Master Gardener interns who commit to 40 hours of gardening projects in the county. They have two years to complete their hours, and when finished, become certified Extension Master Gardener volunteers.
- Virtual Basic training (statewide) consisted of 14 two-hour virtual sessions on required core topics.
 Presentations were live-streamed to multiple
 Purdue Extension "host" sites across Indiana. In addition, each host site led a virtual, in-person or hybrid, one-hour "County Connection" for deeper

discussions. In spring 2024, 242 people participated at 11 host sites; 83 virtual basic statewide participants completed the post-survey.

 Further training for certified Extension Master Gardeners — A new "advanced" EMG training series was delivered virtually or available as recordings. All current, certified EMG volunteers were invited to participate. Sessions included Wild by Design, Landscaping with Native Plants, Backyard Gardening for Birds, Gardening with Weather Extremes, Season Extension Techniques for Home Gardens, and Rainscaping for the Home Landscape. Session attendance ranged from 45 to 106.

Certified EMG volunteers and EMG interns documented their activities for the year:

- 2,780 EMG volunteers logged 174,013 volunteer hours valued at over \$5,2 million.
- EMG volunteers logged a total of 37,589 education hours and made 376,964 contacts with clientele.
- Master Gardener associations throughout the state awarded \$39,250 in scholarships and donated 37,795 pounds of produce grown in educational demonstration gardens to local food banks.
- Donated produce from about 84 educational demonstration gardens with 315 Extension Master Gardener volunteers contributing over 24,122 volunteer hours.

There were 425 in-person and virtual participants who passed the exam to become Extension Master Gardener interns.

Virtual Basic training (statewide) post-survey (83 respondents) results were:

- All (100%) indicated the statewide virtual training helped them become a better gardener. Here's an example: "I learned that there are so many different pesticides available because they treat a variety of specific pest issues. In that respect it is very important to read the label and understand what the chemicals contained do and how toxic the product is."
- Half (47%) reported they have already changed a gardening practice as a result of the training. Here's a sample: "How I use mulch, how I water my plants, when I fertilize — there are many things. In fact, the more I learned the more I wondered how anything ever grew in my yard."
- Half (46%) reported they intended to change a gardening practice in the future. One example: "I will institute crop rotation, soil testing, and get better at planting crops in the appropriate growing season."

On the annual impact survey (406 respondents), most (93%) reported changing their gardening practices as a result of their Extension Master Gardener involvement. Changes in gardening practices were:

- Increased use of pollinator plants or use of practices that protect pollinators (87%),
- Chose the right plant for the right place (75%),
- Removed or replaced invasive plant species (71%),
- Reduced yard waste headed to landfills by composting and/or leaving grass clippings on the lawn (66%),
- Improved habitat for wildlife (57%).

Extension Master Gardeners shared their changes in gardening practices: use of native and heirloom plants, modified lawn care practices, extended the gardening season, crop rotation to maintain soil fertility, more composting, read labels more carefully and used the information on seed packages, started using cover crops in the garden, and tried no-till in garden.

As a result of applying their skills, Extension Master Gardeners reported:

- increased efficiency of gardening practices (75%),
- saved money by choosing the right plant for the right place (57%),
- saved money through more effective use and/or purchase of pesticides or fertilizers (42%),
- increased fruit and/or vegetable yields (35%).

On the Advanced training post-surveys, Certified Extension Master Gardeners responded after each session.

- Wild by Design (106 respondents); most (97%) indicated they were more knowledgeable on the topic and more confident answering questions in their role as Extension Master Gardeners. Half (56%) indicated a desire to make changes to their gardening practices, including: "I will be more mindful of creating habitats for all the wild things in my garden. Will try not to pick up leaves and leave the dead plants over winter for shelter. Going to make a brush pile for creatures to live in." "I will remove more invasive shrubs."
- Native Plants for Indiana Landscapes (106 respondents); most indicated they were more knowledgeable on the topic (98%) and felt more confident answering questions (91%). Half indicated a desire to make a change to their gardening practices (48%), including these: "Add more native plants, especially for the butterflies and hummingbirds." "I would plant more butterfly and bee nutrient plants."

- Backyard Gardening for Birds (98 respondents); nearly all (95%) indicated they were more knowledgeable on the topic and felt more confident answering questions. And 61% indicated a desire to make a change in their gardening practices as a result of attending the program. For example: "Making sure to plant blooms for all seasons and trees that sustain the birds, especially service berry. Provide food, water and shelter for birds." "Plant more bird-friendly flowers & trees."
- Gardening with Weather Extremes (68 respondents); most (92%) indicated they were more knowledgeable on the topic, and 95% felt more confident answering questions about the topic in their role as Master Gardeners. Some 45% indicated a desire to make a change in their gardening practices as a result of attending the program. For example: "I will use the sites referenced to understand a bigger picture of weather in my area and apply the coping strategies to it." "Increase my use of drip irrigation."
- Season Extension Techniques for Home Gardens (62 respondents); all (100%) indicated they were more knowledgeable on the topic after the program, and nearly all (93%) felt more confident answering questions in their role as Extension Master Gardener volunteers. Just 12% indicated a desire to make a change in their gardening practices,

- including these: "Being very careful with plastic over vulnerable plants, and as well as using objects that will hold more heat due to density. I would love to incorporate more edible plants into my landscape, and this was incredibly helpful." "How to cover plants for heat retention during cool temps."
- For Rainscaping for the Home Landscape (45 respondents); most (91%) indicated they were more knowledgeable on the topic after the program, and 88% felt more confident answering questions about the topic. Some 40% indicated a desire to make a change in their gardening practices as a result of attending the program. For example: "Put in a small rain garden by one of my downspouts." "Being more mindful about areas in my yard with runoff and coming up with plans for those areas."

Through the Purdue Extension Master Gardener Program, volunteers across Indiana are learning more about gardening, gaining skills for their own personal development, and applying practices to their own and demonstration gardens. They are putting this knowledge to work in Indiana communities by volunteering with home horticulture education and demonstration gardens. Their efforts help improve gardening and all its benefits to sustainability and local food production across Indiana, providing harvested produce to food pantries, and helping fund scholarships for aspiring horticulture students for the future.



Collaborators

Conserving Natural Resources

1-1-Adults and Youth in Purdue Extension's programs learned about managing invasive species in Indiana SIPAC Field Day

- Brad Sewell, strategic initiatives coordinator, Purdue Extension
- Jason Tower, senior research operation administrator, Southern Indiana Purdue Agricultural Center
- Kenneth Eck, agriculture and natural resources educator, Dubois County
- Ron Rathfon, regional Extension forester, Southern Indiana Purdue Agricultural Center, Forestry and Natural Resources

Ecology of Invasive Species

Ann Kline, agriculture and natural resources educator, Noble County

Invasive Species Signature Program

- Amanda Mosiman, former agriculture and natural resources educator, Warrick County
- Amy Thompson, agriculture and natural resources, beginning farmer coordinator
- Bob Bruner, senior program administration specialist, Entomology
- Gina Anderson, agriculture and natural resources and community development educator, Floyd County
- Hans Schmitz, former lead conservation cropping systems agronomist, Purdue Extension and conservation cropping systems initiative, Agronomy
- Jarred Brooke, Extension wildlife specialist, Forestry and Natural Resources
- Jenna Nees, agriculture and natural resources educator, Putnam County
- John Bonkowski, plant disease diagnostician, Plant and Pest Diagnostic Laboratory
- Karen Mitchell, consumer horticulture Extension specialist, Horticulture and Landscape Architecture
- Lais McCartney, agriculture and natural resources educator, Hancock County
- Lenny Farlee, sustaining hardwood Extension specialist, Forestry and Natural Resources
- Les Warren, aquatic ecology and buoy specialist, Illinois-Indiana Sea Grant
- Liz Jackson, former engagement specialist, Hardwood Tree Improvement and Regeneration Center
- Nikky Witkowski, agriculture and natural resources educator, Porter County
- Phil Cox, agriculture and natural resources educator, Vermillion County
- Phil Woolery, agriculture and natural resources educator, Pulaski and Starke counties
- Ron Rathfon, regional Extension forester, Southern Indiana Purdue Agricultural Center, Forestry and Natural Resources
- Sarah Brackney, agriculture and natural resources educator, Daviess County
- Tom Creswell, clinical engagement professor and director, Plant and Pest Diagnostic Laboratory
- Tricia Herr, agriculture and natural resources educator, Montgomery County
- Valerie Clingerman, county Extension director, agriculture and natural resources educator, Knox County

1-2 Indiana farmers adopted conservation practices: no-till farming, cover cropping, and soil testing

- Alex Helms, assistant director, Purdue Agricultural Centers
- Danielle Walker, agriculture and natural resources educator, Washington County
- Heidi Potter, agriculture and natural resources educator, Clark County

1-3 Master Naturalist participants increased their knowledge and offered volunteer services to Indiana's natural resources

- Frederick Davis, history professor and department head, College of Liberal Arts
- Jessica Outcalt, natural resources training specialist, Forestry and Natural Resources
- Lenny Farlee, sustaining hardwood Extension specialist, Forestry and Natural Resources
- Phil Cox, agriculture and natural resources educator, Vermillion County
- Ron Rathfon, regional Extension forester, Southern Indiana Purdue Agricultural Center, Forestry and Natural Resources

1-4 Purdue Extension facilitated community listening sessions for resident input on wind energy decommissioning

- Kara Salazar, community development, assistant program leader and sustainable communities Extension specialist, Illinois-Indiana Sea Grant, Forestry and Natural Resources
- Tamara Ogle, community development regional educator, leadership and civic engagement

1-5 Purdue Extension launches Renewable energy Siting through Technical Engagement and Planning (R-STEP) for Indiana communities

- Dan Walker, community development regional educator, community planning
- Kara Salazar, community development, assistant program leader and sustainable communities Extension specialist, Illinois-Indiana Sea Grant, Forestry and Natural Resources
- Kayla Wright, community development, community resilience specialist
- Tamara Ogle, community development regional educator, leadership and civic engagement

1-6 Purdue Extension trained participants how to seek funding for community quality of life, clean energy, pollution cleanup, and green workforce development projects

- Kara Salazar, community development, assistant program leader and sustainable communities Extension specialist, Illinois-Indiana Sea Grant, Forestry and Natural Resources
- Kayla Wright, community development, community resilience specialist
- Michael Wilcox, community development, assistant director and program leader, Purdue Extension

Workforce Development

2-1 Because of Indiana 4-H college and career readiness programming, youth learned professionalism skills and identified careers that might be a good fit for them

- Heather VonDielingen, regional 4-H educator, Juntos 4-H, 4-H state office
- Jill Andrew-Richards, 4-H youth development and agriculture and natural resources educator, Ohio County
- Kathleen Bohde, 4-H youth development educator, Hamilton County
- Mitch Wagoner, 4-H youth development educator, Knox County
- Molly Marshall, health and human sciences educator, Jackson County
- Peyton Newman, 4-H youth development educator, Jasper County
- Richard Beckort, agriculture and natural resources educator, Jackson County
- Samantha Williams, 4-H youth development educator, Pulaski County

2-2 Becoming the Employer of Choice builds farmer/manager knowledge and skills to lead and motivate employees

- Adam Tyler, 4-H youth development and agriculture and natural resources educator, Fountain County
- Beth Vansickle, agriculture and natural resources educator, Madison County

- Jeff Pell, agriculture and natural resources and community development educator, Putnam County
- Jennifer Logue, 4-H youth development and agriculture and natural resources educator, Union County
- John Woodmansee, agriculture and natural resources educator, Whitley County
- Lupe Valtierra, community development educator, Lake County
- Richard Beckort, agriculture and natural resources educator, Jackson County
- Tanya Hall, community development regional educator, community economics and workforce development

2-3 Firefighters and first responders in Grain Bin Safety Training increased knowledge and confidence to respond to grain-related emergencies

- Abigail Heidenreich, agriculture and natural resources educator, Gibson County
- Amanda Bradshaw Burks, agriculture and natural resources educator, Vanderburgh County
- Ed Sheldon, farm/veteran job coach and engagement coordinator, Agricultural and Biological Engineering

2-4 Graduating 4-H'ers attribute Indiana 4-H for their personal development, connections with their community, positive academic attitude, and path to a successful future

All 4-H Youth Development educators

2-5 Producers, advisors and applicators earned pesticide use professional credits for field crops, livestock, diversified farming and horticulture

- Abigail Heidenreich, agriculture and natural resources educator, Gibson County
- Adam Tyler, 4-H youth development and agriculture and natural resources educator, Fountain County
- Alex Helms, assistant director, Purdue Agricultural Centers
- Allison Roberts, former agriculture and natural resources and health and human sciences educator,
 Brown County
- Amanda Bradshaw Burks, agriculture and natural resources educator, Vanderburgh County
- Amanda Mosiman, agriculture and natural resources educator, Warrick County
- Amy Alka, agriculture and natural resources educator, Randolph County
- Amy Rhodes, former agriculture and natural resources educator, Posey County
- Ana Gabriela Morales Ona, postdoctoral research assistant, Agronomy
- Andrea Hatfield, agriculture and natural resources and community development educator, Boone County
- Ann Kline, agriculture and natural resources educator, Noble County
- Ariel Wilson, agriculture and natural resources educator, Harrison County
- Ashley Adair, Extension organic agriculture specialist, Horticulture and Landscape Architecture
- Austin Pearson, service and outreach climatologist, Agronomy
- Bill Horan, agriculture and natural resources and community development educator, Wells County
- Bill Johnson, professor of weed science, Botany and Plant Pathology
- Bob Bruner, senior program administration specialist, Entomology
- Brad Kohlhagen, agriculture and natural resources educator, Adams County
- Brieanna Slonaker, agriculture and natural resources educator, Marshall County
- Bryan Overstreet, conservation agronomist and soil health statewide coordinator, Northern Indiana
- Cassandra Davis, administrative assistant, pesticide application certification, Office of Indiana State Chemist
- Cheri Janssen, curriculum development specialist, Botany and Plant Pathology
- Dan Quinn, assistant professor, corn production, Agronomy

- Danny Starke, agricultural ammonia specialist, Office of Indiana State Chemist
- Darcy Telenko, associate professor, Botany and Plant Pathology
- David Osborne, 4-H youth development and agriculture and natural resources educator, Ripley County
- Dena Held, 4-H youth development educator, Martin County
- Ed Farris, agriculture and natural resources educator, Huntington County
- Ed Oehlman, former agriculture and natural resources educator, Monroe County
- Emily Evers, agriculture and natural resources educator, St. Joseph County
- Emily Kring, agriculture and natural resources educator, Jay County
- Fred Whitford, clinical engagement professor, Purdue pesticide programs, Botany and Plant Pathology
- Geoffrey Schortgen, agriculture and natural resources educator, Wabash County
- Gina Anderson, agriculture and natural resources and community development educator, Floyd County
- Hans Schmitz, former lead conservation cropping systems agronomist, Purdue Extension and conservation cropping systems initiative, Agronomy
- Heather Caldwell, former 4-H youth development and agriculture and natural resources educator, Fayette County
- Heidi Potter, agriculture and natural resources educator, Clark County
- James Wolff, agriculture and natural resources educator, Allen County
- Jamie Reed, agriculture and natural resources educator, Newton County
- Jeff Hermesch, former agriculture and natural resources educator, Dearborn County
- Jeff Pell, agriculture and natural resources and community development educator, Putnam County
- Jenna Nees, agriculture and natural resources educator, Putnam County
- Jim Luzar, former agriculture and natural resources educator, Clay and Owen counties
- John Obermeyer, retired integrated pest management supervisor, Entomology
- Jon Charlesworth, agriculture and natural resources educator, Benton and Warren counties
- Jonathan Ferris, former agriculture and natural resources educator, Wayne County
- Joseph Becovitz, pesticide program specialist, Office of Indiana State Chemist
- Julie Wilson, former Nutrition Education Program community wellness coordinator, health and human sciences
- Justin Curley, agriculture and natural resources educator, Delaware County
- Kathryn Jennings, agriculture and natural resources educator, Elkhart County
- Keith Johnson, professor emeritus, Agronomy
- Kloe Key, 4-H youth development and agriculture and natural resources educator, Pike County
- Kristen Rappold, former agriculture and natural resources educator, Lawrence County
- Kurt Lanzone, agriculture and natural resources educator, Parke County
- Lais McCartney, agriculture and natural resources educator, Hancock County
- Leo Reed, Certification and Licensing Program advisor, Office of Indiana State Chemist
- Lyndon Kelley, Extension irrigation specialist, Michigan State University
- Marcelo Zimmer, graduate research assistant, weed science program specialist, Botany and Plant Pathology
- Mark Carter, former agriculture and natural resources, precision ag educator, Blackford County
- Mathias Ingle, agriculture and natural resources educator, Howard County
- Molley Hasenour, 4-H youth development and agriculture and natural resources educator, Crawford County

- Nathan Davis, certification and licensing manager, Office of Indiana State Chemist
- Phil Cox, agriculture and natural resources educator, Vermillion County
- Phil Woolery, agriculture and natural resources educator, Pulaski and Starke counties
- Robby Kelly, 4-H youth development educator, Elkhart County
- Ron Turco, associate dean for research, graduate education and faculty affairs, College of Agriculture
- Scott Gabbard, Purdue on the Farm senior administrator, agricultural research and graduate education,
 College of Agriculture
- Shaun Casteel, professor, Agronomy
- Summer Brown, agriculture and natural resources educator, Jasper County
- Tabatha Flinn, agriculture and natural resources educator, Vigo County
- Tom Springstun, agriculture and natural resources educator, Scott County
- Tricia Herr, agriculture and natural resources educator, Montgomery County
- Valerie Clingerman, county Extension director, agriculture and natural resources educator, Knox County
- Zoë Robinson, health and human sciences educator, Randolph County

2-6 Purdue Extension's Beginner's Guide to Grant Writing helps more Indiana organizations secure funding

- Abigail Heidenreich, agriculture and natural resources educator, Gibson County
- Allison Roberts, former agriculture and natural resources and health and human sciences educator,
 Brown County
- Andrea Hatfield, agriculture and natural resources and community development educator, Boone County
- Ashlee Sudbury, training specialist, Nutrition Education Program
- Beth Vansickle, agriculture and natural resources educator, Madison County
- Caren Crum, health and human sciences educator, Clinton and Carroll counties
- Cindy Barber, community development educator, Daviess County
- Cora Reinbolt, agriculture and natural resources and community development educator, Bartholomew County, small ruminant specialist
- Courtney Schmidt, agriculture and natural resources and health and human sciences educator, Miami County
- Dallas Evans, former community development educator, Marion County
- Elisa Worland, former community development and health and human sciences educator, Wayne County
- Emily Evers, agriculture and natural resources educator, St. Joseph County
- Emma Finerfrock, health and human sciences educator, Clark County
- Jeff Pell, agriculture and natural resources and community development educator, Putnam County
- Jennifer Stefancik, health and human sciences educator, Daviess County
- Jessica Riffle, health and human sciences educator, Fulton County
- Katie Whiteford, 4-H youth development educator, Clark County
- Kayla Wright, community development, community resilience specialist
- Kris Parker, community development regional educator, leadership and civic engagement
- Kristi Whitacre, former community development educator, Vigo County
- Lupe Valtierra, community development educator, Lake County
- Malea Huffman, youth protection compliance administrator, Purdue Extension

- Mary Komenas, former community development educator, LaPorte County
- Melinda Grismer, community and regional development specialist, Purdue Center for Regional Development
- Olivia Morgan, health and human sciences educator, Clay County
- Rena Sheldon, 4-H youth development educator, Morgan County
- Steve Yoder, community development regional educator
- Veronica Bullock, agriculture and natural resources educator, Franklin County

2-7 Restaurant and food service managers and handlers earn certification for compliance with state food safety laws

- Abbigail Smith, former health and human sciences educator, Putnam County
- Abigail Creigh, health and human sciences educator, Noble County
- Allison Hillis, health and human sciences educator, Howard County
- Amanda Bullion, health and human sciences educator, Delaware County
- Amanda Deering, associate professor of produce food safety, Food Science
- Amanda Gray, health and human sciences educator, Hancock County
- Ashley Drees, health and human sciences educator, Jay County
- Autumn Trice Johnson, former health and human sciences educator, Allen County
- Carly Holland, health and human sciences educator, Rush County
- Carmen Fortney, health and human sciences educator, Jasper County
- Chelsea Brewer, health and human sciences educator, Dubois County
- Christopher Fogle, health and human sciences educator, Decatur County
- Dana Stanley, health and human sciences educator, Steuben County
- Danielle Scott, health and human sciences educator, Madison County
- Diedre Wagster, health and human sciences educator, Jennings County
- Elisa Worland, former community development and health and human sciences educator, Wayne County
- Emily Christ, health and human sciences educator, Elkhart County
- Elizabeth Evans, 4-H youth development and health and human sciences educator, Parke County
- Emma Finerfrock, health and human sciences educator, Clark County
- Esmeralda Cruz, health and human sciences educator, Clinton County
- Jane Horner, former health and human sciences educator, Cass County
- Janel Franks, health and human sciences educator, Blackford County
- Janet Steffens, former health and human sciences educator, Floyd County
- Jennifer Stefancik, health and human sciences educator, Daviess County
- Jessica Riffle, health and human sciences educator, Fulton County
- Jo Gilreath, health and human sciences educator, Warrick County
- Karen Richey, health and human sciences educator, Marshall County
- Kevin Davis, health and human sciences educator, Marion County
- Linda Curley, health and human sciences educator, Lake County
- Luis Santiago, community outreach and engagement, health and human sciences and
 4-H youth development educator, Daviess County

- Marcia Parcell, health and human sciences educator, Dearborn County
- Meagan Salomon, health and human sciences educator, Gibson and Vanderburgh counties
- Mindy Mayes, health and human sciences educator, Wabash County
- Molly Hoag, health and human sciences educator, Wells County
- Molly Marshall, health and human sciences educator, Jackson County
- Monica Nagele, health and human sciences educator, Montgomery County
- Rachel Dillhoff, social media coordinator, Purdue Extension
- Shannon Chipman, 4-H youth development and health and human sciences educator, Ohio County
- · Shannon Shepherd, health and human sciences educator, Kosciusko County
- Sonya Mitchell, health and human sciences educator, Washington County
- Stephanie McCurdy, 4-H youth development and health and human sciences educator, Fayette County
- Susan Peterson, health and human sciences educator, Hamilton County
- Tara Beckman, health and human sciences and community development educator, Harrison County
- Tari Gary, Extension administrator, Food Science
- Tonya Short, health and human sciences educator, Knox County
- Zoë Robinson, health and human sciences educator, Randolph County

2-8 Through Purdue Extension's 4-H Academy, youth experienced career opportunities

- Angie Frost, 4-H youth development, healthy living Extension specialist
- Ashley Alexander, 4-H youth development educator, Hendricks County
- Ashley Piland, health and human sciences educator, Marion County
- Baylee Dwenger, 4-H youth development and health and human sciences educator, Ripley County
- Bill Decker, regional 4-H youth development educator, 4-H project achievement and exploration
- Brian Howell, 4-H youth development educator, Tipton County
- Cheryl Casselman, 4-H youth development and health and human sciences educator, Sullivan County
- Claire Crum, 4-H youth development educator, Cass County
- Corey Sharp, 4-H youth development educator, Elkhart County
- David Osborne, 4-H youth development and agriculture and natural resources educator, Ripley County
- Deidra Nicley, 4-H youth development educator, Clinton and Tippecanoe counties
- Dena Held, 4-H youth development educator, Martin County
- Edwin Flores, regional 4-H youth development educator
- Effie Campbell, 4-H youth development educator, DeKalb County
- Emily Brown, 4-H youth development educator, Vigo County
- Emma Finerfrock, health and human sciences educator, Clark County
- Hannah Lasher, 4-H youth development educator, Perry County
- Heather Caldwell, former 4-H youth development and agriculture and natural resources educator, Fayette County
- Jennifer Haynes, 4-H youth development educator, Lake County
- Matt Dice, 4-H youth development educator, LaGrange County
- Pandora Taylor, health and human sciences educator, Boone County

- Pat Williams, former agriculture and natural resources educator, Tippecanoe County
- Rachel Haselby, 4-H youth development, computer science Extension specialist
- Shannon Chipman, 4-H youth development and health and human sciences educator, Ohio County
- Shannon Shepherd, health and human sciences educator, Kosciusko County
- Stephen Dishinger, health and human sciences educator, Bartholomew County
- Tony Carrell, former Indiana 4-H youth development Extension specialist
- Wes Richardson, 4-H youth development educator, Daviess County

2-9 Youth in Indiana 4-H programs demonstrated skills and expressed interest in getting jobs in science and engineering

- Allison Keen, 4-H youth development educator, Jay County
- Christie Jacob, 4-H youth development educator, Vigo County
- Corey Sharp, 4-H youth development educator, Elkhart County
- Dani Lay, 4-H youth development specialist science, technology, engineering, and mathematics
- Danielle Nylund, former 4-H youth development educator, Madison County
- Dena Held, 4-H youth development educator, Martin County
- Hannah Lasher, 4-H youth development educator, Perry County
- Jacob Shuman, former 4-H youth development educator, Gibson County
- Jill Andrew-Richards, 4-H youth development and agriculture and natural resources educator, Ohio County
- Kathleen Bohde, 4-H youth development educator, Hamilton County
- Kurt Lanzone, agriculture and natural resources educator, Parke County
- Lauren Fenneman, 4-H youth development educator, Dubois County
- Malea Huffman, youth protection compliance administrator, Purdue Extension
- Rebecca Wilkins, former 4-H youth development educator, Harrison County
- Scott Monroe, food safety educator
- Sthele Greybar, 4-H youth development educator, Elkhart County
- Tami Mosier, former 4-H youth development educator, Steuben County
- Todd Geiger, 4-H youth development educator, Whitley County
- Tony Carrell, former Indiana 4-H Youth Development Extension specialist
- Valerie Clingerman, county Extension director, agriculture and natural resources educator, Knox County

Positive Youth Development

3-1 As camp counselors, Indiana 4-H high schoolers learn and apply leadership and teamwork skills

- Abby Morgan, 4-H youth development educator, Montgomery County
- Alicia Criswell, former 4-H youth development educator, Wayne County
- Allison Keen, 4-H youth development educator, Jay County
- Allison Roberts, former agriculture and natural resources and health and human sciences educator, Brown County
- Amy Rumschlag, 4-H youth development educator, Adams County
- Andrew Ferrell, former 4-H youth development educator, Kosciusko County

- Anya Aulbach, 4-H youth development educator, Wells County
- Ashley Alexander, 4-H youth development educator, Hendricks County
- Baylee Dwenger, 4-H youth development and health and human sciences educator, Ripley County
- Brian Howell, 4-H youth development educator, Tipton County
- Britt Copeland, 4-H youth development and agriculture and natural resources educator, Jefferson County
- Brittany Gilger, former 4-H youth development educator, LaGrange County
- Christie Jacob, 4-H youth development educator, Vigo County
- Danielle Nylund, former 4-H youth development educator, Madison County
- David Osborne, 4-H youth development and agriculture and natural resources educator, Ripley County
- Effie Campbell, 4-H youth development educator, DeKalb County
- Elizabeth Simmermeyer, 4-H youth development educator, Franklin County
- Hannah Lasher, 4-H youth development educator, Perry County
- Heather Caldwell, former 4-H youth development and agriculture and natural resources educator, Fayette County
- Heather VonDielingen, regional 4-H educator, Juntos 4-H, 4-H state office
- James McCollum, 4-H youth development educator, Floyd County
- Jennifer Logue, 4-H youth development and agriculture and natural resources educator, Union County
- Jessi Huston, 4-H youth development educator, Wabash County
- Jessica Scholer, 4-H youth development educator, Madison County
- Jill Andrew-Richards, 4-H youth development and agriculture and natural resources educator, Ohio County
- JP Pietrowski, 4-H youth development educator, Huntington County
- Julie Carrell, 4-H youth development and agriculture and natural resources educator, Orange County
- Julie Wilson, former Nutrition Education Program community wellness coordinator, health and human sciences
- Kathleen Bohde, 4-H youth development educator, Hamilton County
- Katie Whiteford, 4-H youth development educator, Clark County
- Kelsey Meyers, 4-H youth development and health and human sciences educator, Henry County
- Kevin Cross, former 4-H youth development and agriculture and natural resources educator, Sullivan County
- Kiley Erwin, former 4-H youth development educator, Delaware County
- Kyle Weaver, 4-H youth development and agriculture and natural resources educator, Switzerland County
- Kyli Penrod, 4-H youth development educator, Blackford County
- Lesley Lodmell, 4-H youth development educator, Lawrence County
- Liz Beiersdorfer, 4-H youth development educator, Dearborn County
- Mark Evans, agriculture and natural resources educator, Elkhart County
- Matt Dice, 4-H youth development educator, LaGrange County
- Morgan Lutz, 4-H youth development and agriculture and natural resources educator, Vermillion County
- Natalie Korniak, 4-H youth development educator, Clay County
- Nora Bruns, 4-H youth development educator, Decatur County
- Rachael Smith, 4-H youth development educator, Marion County
- Rebecca Doehrman, 4-H youth development educator, Allen County

- Rebekah Cartwright, 4-H youth development educator, Jennings County
- Rena Sheldon, 4-H youth development educator, Morgan County
- Sara Haag, 4-H youth development educator, Marion County
- Sarah Gettinger, 4-H youth development educator, Rush County
- Stephanie Gay, 4-H youth development educator, Boone County
- Stephanie McCurdy, 4-H youth development and health and human sciences educator, Fayette County
- Sthele Greybar, 4-H youth development educator, Elkhart County
- Tami Mosier, former 4-H youth development educator, Steuben County
- Taylor Chastain, 4-H youth development educator, Washington County
- Todd Geiger, 4-H youth development educator, Whitley County
- Wes Richardson, 4-H youth development educator, Daviess County

3-2 Indiana 4-H adult volunteers learn how to help youth thrive

Lake County

- Jamie Morris, 4-H youth development volunteer specialist
- Jennifer Haynes, 4-H youth development educator, Lake County
- Julie Jones, 4-H youth development educator, Lake County

Southeast Area

- Baylee Dwenger, 4-H youth development and health and human sciences educator, Ripley County
- Britt Copeland, 4-H youth development and agriculture and natural resources educator, Jefferson County
- David Osborne, 4-H youth development and agriculture and natural resources educator, Ripley County
- Elisabeth Eaton, 4-H youth development educator, Bartholomew County
- Jill Andrew-Richards, 4-H youth development and agriculture and natural resources educator, Ohio County
- Kyle Weaver, 4-H youth development and agriculture and natural resources educator, Switzerland County
- Liz Beiersdorfer, 4-H youth development educator, Dearborn County
- Nora Bruns, 4-H youth development educator, Decatur County
- Rebekah Cartwright, 4-H youth development educator, Jennings County
- Shannon Chipman, 4-H Youth Development and health and human sciences educator, Ohio County

3-3 Indiana 4-H programs generate positive youth development opportunities and successes

- Abby Morgan, 4-H youth development educator, Montgomery County
- Alicia Criswell, former 4-H youth development educator, Wayne County
- Allison Keen, 4-H youth development educator, Jay County
- Allison Roberts, former agriculture and natural resources and health and human sciences educator, Brown County
- Amanda Marciano, health and human sciences educator, Hendricks County
- Amber Barks, former 4-H youth development educator, Hancock County
- Amy Alka, agriculture and natural resources educator, Randolph County
- Amy Rumschlag, 4-H youth development educator, Adams County
- Andrew Ferrell, former 4-H youth development educator, Kosciusko County
- Annie Eakin, former Nutrition Education Program community wellness coordinator, health and human sciences

- Anya Aulbach, 4-H youth development educator, Wells County
- Ashley Alexander, 4-H youth development educator, Hendricks County
- Bailey York, health and human sciences educator, Putnam County
- Baylee Dwenger, 4-H youth development and health and human sciences educator, Ripley County
- Brad Shelton, superintendent, Feldun Purdue Agricultural Center
- Brian Howell, 4-H youth development educator, Tipton County
- Britt Copeland, 4-H youth development and agriculture and natural resources educator, Jefferson County
- Brittany Gilger, former 4-H youth development educator, LaGrange County
- Brittni Gendron, former 4-H youth development educator, St. Joseph County
- Chelsea Brewer, health and human sciences educator, Dubois County
- Christie Jacob, 4-H youth development educator, Vigo County
- Christina Lai, health and human sciences educator, LaPorte County
- Corey Sharp, 4-H youth development educator, Elkhart County
- Dani Lay, 4-H youth development specialist science, technology, engineering, and mathematics
- Danielle Nylund, former 4-H youth development educator, Madison County
- David Osborne, 4-H youth development and agriculture and natural resources educator, Ripley County
- Dena Held, 4-H youth development educator, Martin County
- Effie Campbell, 4-H youth development educator, DeKalb County
- Elizabeth Simmermeyer, 4-H youth development educator, Franklin County
- Emily Christ, health and human sciences educator, Elkhart County
- Emma Rauch, former 4-H youth development educator, St. Joseph County
- Gail Peitzmeier, 4-H youth development and health and human sciences educator, Crawford County
- Hannah Lasher, 4-H youth development educator, Perry County
- Heather Caldwell, former 4-H youth development and agriculture and natural resources educator, Fayette County
- Heather Dougherty, 4-H youth development educator, Johnson County
- Heather VonDielingen, regional 4-H educator, Juntos 4-H, 4-H state office
- Jacob Shuman, former 4-H youth development educator, Gibson County
- James McCollum, 4-H youth development educator, Floyd County
- Jason Tower, senior research operation administrator, Southern Indiana Purdue Agricultural Center
- Jennifer Logue, 4-H youth development and agriculture and natural resources educator, Union County
- Jennifer Mayo, 4-H youth development educator, Spencer County
- Jessi Huston, 4-H youth development educator, Wabash County
- Jessica Scholer, 4-H youth development educator, Madison County
- Jill Andrew-Richards, 4-H youth development and agriculture and natural resources educator, Ohio County
- JP Pietrowski, 4-H youth development educator, Huntington County
- Julie Carrell, 4-H youth development and agriculture and natural resources educator, Orange County
- Julie Wilson, former Nutrition Education Program community wellness coordinator, health and human sciences
- Kathleen Bohde, 4-H youth development educator, Hamilton County

- Kathryn Jennings, agriculture and natural resources educator, Elkhart County
- Katie Whiteford, 4-H youth development educator, Clark County
- Kelsey Guadarrama, 4-H youth development educator, LaPorte County
- Kelsey Meyers, 4-H youth development and health and human sciences educator, Henry County
- Kevin Cross, former 4-H youth development and agriculture and natural resources educator, Sullivan County
- Kiley Erwin, former 4-H youth development educator, Delaware County
- Kurt Lanzone, agriculture and natural resources educator, Parke County
- Kyle Weaver, 4-H youth development and agriculture and natural resources educator, Switzerland County
- Kyli Penrod, 4-H youth development educator, Blackford County
- Lauren Fenneman, 4-H youth development educator, Dubois County
- Lesley Lodmell, 4-H youth development educator, Lawrence County
- Liz Beiersdorfer, 4-H youth development educator, Dearborn County
- Malea Huffman, youth protection compliance administrator, Purdue Extension
- Marina Guerrero, former program assistant, Dubois County
- Mark Evans, agriculture and natural resources educator, Elkhart County
- Matt Dice, 4-H youth development educator, LaGrange County
- Megan Stone, former 4-H youth development educator, Scott County
- Mercedes Brunton, 4-H youth development educator, Newton County
- Mitch Wagoner, 4-H youth development educator, Knox County
- Molley Hasenour, 4-H youth development and agriculture and natural resources educator, Crawford County
- Molly Marshall, health and human sciences educator, Jackson County
- Monica Nagele, health and human sciences educator, Montgomery County
- Morgan Lutz, 4-H youth development and agriculture and natural resources educator, Vermillion County
- Natalie Korniak, 4-H youth development educator, Clay County
- Nick Minton, beef systems specialist, Animal Sciences
- Nora Bruns, 4-H youth development educator, Decatur County
- Peyton Newman, 4-H youth development educator, Jasper County
- Rachael Smith, 4-H youth development educator, Marion County
- Rebecca Doehrman, 4-H youth development educator, Allen County
- Rebecca Wilkins, former 4-H youth development educator, Harrison County
- Rebekah Cartwright, 4-H youth development educator, Jennings County
- Rena Sheldon, 4-H youth development educator, Morgan County
- Richard Beckort, agriculture and natural resources educator, Jackson County
- Robby Kelly, 4-H youth development educator, Elkhart County
- Samantha Williams, 4-H youth development educator, Pulaski County
- Sara Haag, 4-H youth development educator, Marion County
- Sarah Gettinger, 4-H youth development educator, Rush County
- Scott Monroe, food safety educator, Purdue Extension

- Shannon Chipman, 4-H youth development and health and human sciences educator, Ohio County
- Stephanie Gay, 4-H youth development educator, Boone County
- Stephanie McCurdy, 4-H youth development and health and human sciences educator, Fayette County
- Sthele Greybar, 4-H youth development educator, Elkhart County
- Summer Brown, agriculture and natural resources educator, Jasper County
- Tami Mosier, former 4-H youth development educator, Steuben County
- Taylor Chastain, 4-H youth development educator, Washington County
- Todd Geiger, 4-H youth development educator, Whitley County
- Tony Carrell, former Indiana 4-H youth development Extension specialist
- Valerie Clingerman, county Extension director, agriculture and natural resources educator, Knox County
- Wes Richardson, 4-H youth development educator, Daviess County
- Zoë Robinson, health and human sciences educator, Randolph County

Agricultural and Digital Technology and Innovation

4-1 Residents conducted broadband speed tests resulting in 12,000 more serviceable locations and \$868 million for high-speed broadband access for Indiana

- All Extension educators
- Angie Abbott, interim associate dean of agriculture and director of Extension
- Roberto Gallardo, vice president for engagement

4-2 UAV program participants would like to further their career or prepare a future career with a remote pilot certificate

- Adam Shanks, digital agriculture and natural resources curriculum lead, Purdue Extension
- Adam Tyler, 4-H youth development and agriculture and natural resources educator, Fountain County
- Bill Horan, agriculture and natural resources and community development educator, Wells County
- Brieanna Slonaker, agriculture and natural resources educator, Marshall County
- Bryan Overstreet, conservation agronomist and soil health statewide coordinator, Northern Indiana
- Crystal Van Pelt, former agriculture and natural resources educator, Elkhart County
- David Osborne, 4-H youth development and agriculture and natural resources educator, Ripley County
- Dena Held, 4-H youth development educator, Martin County
- Ed Oehlman, former agriculture and natural resources educator, Monroe County
- Emily Evers, agriculture and natural resources educator, St. Joseph County
- Emily Kresca, agriculture and natural resources educator, Kosciusko County
- Hans Schmitz, former lead conservation cropping systems agronomist, Purdue Extension and conservation cropping systems initiative, Agronomy
- Heidi Potter, agriculture and natural resources educator, Clark County
- James Wolff, agriculture and natural resources educator, Allen County
- Jon Charlesworth, agriculture and natural resources educator, Benton and Warren counties
- Mark Carter, former agriculture and natural resources, precision ag educator, Blackford County
- Nikky Witkowski, agriculture and natural resources educator, Porter County
- Phil Woolery, agriculture and natural resources educator, Pulaski and Starke counties

- Scott Gabbard, Purdue on the Farm senior administrator, agricultural research and graduate education,
 College of Agriculture
- Tricia Herr, agriculture and natural resources educator, Montgomery County
- Valerie Clingerman, agriculture and natural resources educator, Knox County
- Veronica Bullock, agriculture and natural resources educator, Franklin County

Human, Family, and Community Health

5-1 Adults in the Jail Chemical Addiction Program are building healthier relationships

Caroline Everidge, health and human sciences educator, Allen County

5-2 American Citizen Planner-Indiana participants applied knowledge and skills, tools and resources, to make community land-use decisions about natural resources

- Adam Tyler, 4-H youth development and agriculture and natural resources educator, Fountain County
- Dan Walker, community development regional educator, community planning
- Gina Anderson, agriculture and natural resources and community development educator, Floyd County
- Kara Salazar, community development, assistant program leader and sustainable communities Extension specialist, Illinois-Indiana Sea Grant, Forestry and Natural Resources
- Tamara Ogle, community development regional educator, leadership and civic engagement

5-3 Due to Purdue Extension, most counties have local coalitions making an impact on the health of Indiana's communities

- Abbigail Smith, former health and human sciences educator, Putnam County
- Abigail Creigh, health and human sciences educator, Noble County
- Allison Hillis, health and human sciences educator, Howard County
- Amanda Bullion, health and human sciences educator, Delaware County
- Amanda Gray, health and human sciences educator, Hancock County
- Amanda Marciano, health and human sciences educator, Hendricks County
- Amy Runkel, program assistant, Morgan County
- Angela Ray, health and human sciences educator, Gibson County
- Annetta Jones, former health and human sciences educator, Porter County
- Annie Eakin, former Nutrition Education Program community wellness coordinator, health and human sciences
- Ashley Drees, health and human sciences educator, Jay County
- Autumn Trice Johnson, former health and human sciences educator, Allen County
- Baylee Dwenger, 4-H youth development and health and human sciences educator, Ripley County
- Betsy Coffing, former Nutrition Education Program community wellness coordinator, health and human sciences
- Brittney Schori, health and human sciences educator, Whitley County
- Brooke Goble, 4-H youth development and health and human sciences educator, Pike County
- Carly Holland, health and human sciences educator, Rush County
- Carmen Fortney, health and human sciences educator, Jasper County
- Caroline Arnett, former Nutrition Education Program community wellness coordinator, health and human sciences
- Caroline Everidge, health and human sciences educator, Allen County

- Casey Williams, former Nutrition Education Program community wellness coordinator, health and human sciences
- Christopher Fogle, health and human sciences educator, Decatur County
- Claire Rivron, nutrition education program advisor, Shelby County
- Corinne Chatterton, former Nutrition Education Program community wellness coordinator, health and human sciences
- Courtney Schmidt, agriculture and natural resources and health and human sciences educator, Miami County
- Danielle Scott, health and human sciences educator, Madison County
- Debbie Mix, former Nutrition Education Program community wellness coordinator, health and human sciences
- Debora Arseneau, health and human sciences educator, Newton County
- Diedre Wagster, health and human sciences educator, Jennings County
- Donna Vandergraff, foods and nutrition Extension specialist, health and human sciences
- Elisa Worland, former community development and health and human sciences educator, Wayne County
- Emily Christ, health and human sciences educator, Elkhart County
- Emma Finerfrock, health and human sciences educator, Clark County
- Eric Hillis, health and human sciences educator, Tipton County
- Erin Meyer, former Nutrition Education Program community wellness coordinator, health and human sciences
- Erin Sherrow-Hayse, former Nutrition Education Program community wellness coordinator, health and human sciences
- Erin Slevin, former Nutrition Education Program community wellness coordinator, health and human sciences
- Gail Peitzmeier, 4-H youth development and health and human sciences educator, Crawford County
- Gail Wright, health and human sciences educator, Vigo County
- Hillary Hawkins, health and human sciences educator, White County
- Jamie Lowder, health and human sciences educator, Owen County
- Janel Franks, health and human sciences educator, Blackford County
- Janet Steffens, former health and human sciences educator, Floyd County
- Jeff Walker, community development, community vitality specialist
- Jennifer Brady, former Nutrition Education Program community wellness coordinator, health and human sciences
- Jennifer Stefancik, health and human sciences educator, Daviess County
- Jered Blanchard, former Nutrition Education Program community wellness coordinator, health and human sciences
- Jessica Martini, former Nutrition Education Program community wellness coordinator, health and human sciences
- Jessica Riffle, health and human sciences educator, Fulton County
- Jo Gilreath, health and human sciences educator, Warrick County
- Julie Threadgill, former 4-H youth development and health and human sciences educator, Switzerland County
- Kailey Dockerty, health and human sciences educator, Grant County
- Karen Richey, health and human sciences educator, Marshall County
- Katie Davidson, former Nutrition Education Program community wellness coordinator, health and human sciences
- Katie Howell, former Nutrition Education Program community wellness coordinator, health and human sciences

- Kelsey Meyers, 4-H youth development and health and human sciences educator, Henry County
- Keri Salb-Mertz, former Nutrition Education Program community wellness coordinator, Wabash County, health and human sciences
- Kevin Davis, health and human sciences educator, Marion County
- Krista Pullen, associate Extension educator, food access coordinator, Purdue Extension
- Lacy Wilson, former Nutrition Education Program community wellness coordinator, health and human sciences
- Linda Clutz, former health and human sciences educator, Johnson County
- Linda Curley, health and human sciences educator, Lake County
- Lindsey Cox, former Nutrition Education Program community wellness coordinator, health and human sciences
- Lori Bouslog, health and human sciences educator, Vermillion County
- Marcia Parcell, health and human sciences educator, Dearborn County
- Megan Broughton, health and human sciences educator, Scott County
- Megan Jaspersen, former health and human sciences educator, Perry and Spencer counties
- Mindy Duckett, former Nutrition Education Program community wellness coordinator, health and human sciences
- Mindy Mayes, health and human sciences educator, Wabash County
- Molly Hoag, health and human sciences educator, Wells County
- Molly Marshall, health and human sciences educator, Jackson County
- Monica Nagele, health and human sciences educator, Montgomery County
- Ody Ekwonwa, health and human sciences educator, Monroe County
- Olivia Morgan, health and human sciences educator, Clay County
- Pandora Taylor, health and human sciences educator, Boone County
- Rebecca Doehrman, 4-H youth development educator, Allen County
- Rebecca Lies, former Nutrition Education Program community wellness coordinator, health and human sciences
- Rebecca Marvel, former Nutrition Education Program community wellness coordinator, health and human sciences
- Rebecca Thomas, former health and human sciences educator, St. Joseph County
- Shannon Chipman, 4-H youth development and health and human sciences educator, Ohio County
- Shannon Shepherd, health and human sciences educator, Kosciusko County
- Sonya Mitchell, health and human sciences educator, Washington County
- Stephen Dishinger, health and human sciences educator, Bartholomew County
- Susan Peterson, health and human sciences educator, Hamilton County
- Tanya Hall, community development regional educator, community economics and workforce development
- Tara Beckman, community development and health and human sciences educator, Harrison County
- Tonya Short, health and human sciences educator, Knox County
- Viviana Guzman, health and human sciences educator, LaGrange County
- Zoë Robinson, health and human sciences educator, Randolph County

5-4 Empowering rural resilience: Purdue Extension's farm stress team tackles mental health stigma in agriculture

Abigail Heidenreich, agriculture and natural resources educator, Gibson County

- Adam Tyler, 4-H youth development and agriculture and natural resources educator, Fountain County
- Amanda Bullion, health and human sciences educator, Delaware County
- Andrea Hatfield, agriculture and natural resources and community development educator, Boone County
- Angela Sorg, health and human sciences educator, DeKalb County
- Brittney Schori, health and human sciences educator, Whitley County
- Bryan Overstreet, conservation agronomist and soil health statewide coordinator, Northern Indiana
- · Elisa Worland, former community development and health and human sciences educator, Wayne County
- Elysia Rodgers, agriculture and natural resources educator, DeKalb County
- Emily Kresca, agriculture and natural resources educator, Kosciusko County
- Gail Peitzmeier, 4-H youth development and health and human sciences educator, Crawford County
- Jonathan Ferris, former agriculture and natural resources educator, Wayne County
- Kelly Heckaman, area director, Purdue Extension
- Kelsey Meyers, 4-H youth development and health and human sciences educator, Henry County
- Kurt Lanzone, agriculture and natural resources educator, Parke County
- Marcia Parcell, health and human sciences educator, Dearborn County
- Mathias Ingle, agriculture and natural resources educator, Howard County
- Rachel Dillhoff, social media coordinator, Purdue Extension
- Richard Beckort, agriculture and natural resources educator, Jackson County
- Robby Kelly, 4-H youth development educator, Elkhart County
- Shannon Chipman, 4-H youth development and health and human sciences educator, Ohio County
- Zoë Robinson, health and human sciences educator, Randolph County

5-5 Food is Medicine helps Indiana residents address priority health issues in their communities

- Allison Finzel, former Nutrition Education Program community wellness coordinator, health and human sciences
- Allison Hillis, health and human sciences educator, Howard County
- Allison Keen, 4-H youth development educator, Jay County
- Amanda Marciano, health and human sciences educator, Hendricks County
- Amy Burch, former Nutrition Education Program community wellness coordinator, health and human sciences
- Angela Ray, health and human sciences educator, Gibson County
- Angela Sorg, health and human sciences educator, DeKalb County
- Ann Kline, agriculture and natural resources educator, Noble County
- Annetta Jones, former health and human sciences educator, Porter County
- Annie Eakin, former Nutrition Education Program community wellness coordinator, health and human sciences
- Becky Marvel, former Nutrition Education Program community wellness coordinator, health and human sciences
- Betsy Coffing, former Nutrition Education Program community wellness coordinator, health and human sciences
- Casey Williams, former Nutrition Education Program community wellness coordinator, health and human sciences
- Catherine Niese, former Nutrition Education Program community wellness coordinator, health and human sciences
- Chelsea Brewer, health and human sciences educator, Dubois County

- Cheri Brown, former community development educator, Blackford County
- Chloee Hurst, former Nutrition Education Program community wellness coordinator, health and human sciences
- Courtney Schmidt, agriculture and natural resources and health and human sciences educator, Miami County
- Debora Arseneau, health and human sciences educator, Newton County
- Diedre Wagster, health and human sciences educator, Jennings County
- Elisa Worland, former community development and health and human sciences educator, Wayne County
- Emily Christ, health and human sciences educator, Elkhart County
- Emma Finerfrock, health and human sciences educator, Clark County
- Erin Meyer, former Nutrition Education Program community wellness coordinator, health and human sciences
- Erin Slevin, former Nutrition Education Program community wellness coordinator, health and human sciences
- Gabrielle Fritz, 4-H youth development educator, Greene County
- Gail Wright, health and human sciences educator, Vigo County
- Jamie Lowder, health and human sciences educator, Owen County
- Janet Steffens, former health and human sciences educator, Floyd County
- Jeff Walker, community development, community vitality specialist
- Jennifer Mayo, 4-H youth development educator, Spencer County
- Jenny Haskins, former Nutrition Education Program community wellness coordinator, health and human sciences
- Jessica Martini, former Nutrition Education Program community wellness coordinator, health and human sciences
- Jessica Riffle, health and human sciences educator, Fulton County
- Jim Luzar, former agriculture and natural resources educator, Clay and Owen counties
- Karen Richey, health and human sciences educator, Marshall County
- Katelyn Kutemeier, former Nutrition Education Program community wellness coordinator, health and human sciences
- Katie Davidson, former Nutrition Education Program community wellness coordinator, health and human sciences
- Keri Salb- Mertz, former Nutrition Education Program community wellness coordinator, health and human sciences
- · Lacy Wilson, former Nutrition Education Program community wellness coordinator, health and human sciences
- Linda Adams, former Nutrition Education Program community wellness coordinator, health and human sciences
- Lindsey Caterina, former Nutrition Education Program community wellness coordinator, health and human sciences
- Lindsey Cox, former Nutrition Education Program community wellness coordinator, health and human sciences
- Lisa Graves, interim program leader, health and human sciences
- Luis Santiago, community outreach and engagement, health and human sciences,
 4-H youth development educator, Daviess County
- Marcia Parcell, health and human sciences educator, Dearborn County
- Megan Jaspersen, former health and human sciences educator, Perry and Spencer counties
- Mindy Duckett, former Nutrition Education Program community wellness coordinator, health and human sciences
- Molly Marshall, health and human sciences educator, Jackson County
- Ody Ekwonwa, health and human sciences educator, Monroe County

- Olivia Morgan, health and human sciences educator, Clay County
- Shannon Chipman, 4-H youth development and health and human sciences educator, Ohio County

5-6 Indiana 4-H youth in civic engagement activities reported feeling a responsibility to help their community

- Amber Barks, former 4-H youth development educator, Hancock County
- Christie Jacob, 4-H youth development educator, Vigo County
- Corey Sharp, 4-H youth development educator, Elkhart County
- David Osborne, 4-H youth development and agriculture and natural resources educator, Ripley County
- Effie Campbell, 4-H youth development educator, DeKalb County
- Elizabeth Simmermeyer, 4-H youth development educator, Franklin County
- Heather Dougherty, 4-H youth development educator, Johnson County
- Jennifer Mayo, 4-H youth development educator, Spencer County
- Kelsey Guadarrama, 4-H youth development educator, LaPorte County
- Kurt Lanzone, agriculture and natural resources educator, Parke County
- Kyle Weaver, 4-H youth development and agriculture and natural resources educator, Switzerland County
- Sthele Greybar, 4-H youth development educator, Elkhart County

5-7 Indiana 4-H youth reported they learned skills for healthy eating, being active, healthy decision-making, and food preparation and safety

- Abby Morgan, 4-H youth development educator, Montgomery County
- Amanda Marciano, health and human sciences educator, Hendricks County
- Amber Barks, former 4-H youth development educator, Hancock County
- Annie Eakin, former Nutrition Education Program community wellness coordinator, health and human sciences
- Ashley Alexander, 4-H youth development educator, Hendricks County
- Chelsea Brewer, health and human sciences educator, Dubois County
- Christie Jacob, 4-H youth development educator, Vigo County
- Kyli Penrod, 4-H youth development educator, Blackford County
- Lauren Fenneman, 4-H youth development educator, Dubois County
- Lesley Lodmell, 4-H youth development educator, Lawrence County
- Marina Guerrero, former program assistant, Dubois County
- Mark Evans, agriculture and natural resources educator, Elkhart County
- Monica Nagele, health and human sciences educator, Montgomery County
- Robby Kelly, 4-H youth development educator, Elkhart County
- Sara Haag, 4-H youth development educator, Marion County
- Shannon Chipman, 4-H youth development and health and human sciences educator, Ohio County
- Tami Mosier, former 4-H youth development educator, Steuben County

5-8 Military personnel in Youth Mental Health First Aid training gained knowledge and skills to assist youth experiencing mental health or substance use challenges or crises

- Alicia Criswell, former 4-H youth development educator, Wayne County
- Amy Rumschlag, 4-H youth development educator, Adams County
- Angie Frost, 4-H youth development, healthy living Extension specialist

- Britt Copeland, 4-H youth development and agriculture and natural resources educator, Jefferson County
- Carla Kidwell, 4-H youth development educator, Warrick County
- Jennifer Abrell, regional 4-H youth development educator, college and career readiness
- Jennifer Mayo, 4-H youth development educator, Spencer County
- Kelsey Meyers, 4-H youth development and health and human sciences educator, Henry County
- Kelsie Muller, human development and family science Extension specialist, health and human sciences
- Megan Hoffherr, 4-H youth development educator, Vanderburgh County
- Rachael Smith, 4-H youth development educator, Marion County

5-9 Purdue Extension facilitated community actions for improving health and public spaces

- Blake Connolly, Nutrition Education Program assistant director, health and human sciences
- Dan Walker, community development regional educator, community planning
- Gina Anderson, agriculture and natural resources and community development educator, Floyd County
- Kara Salazar, community development, assistant program leader and sustainable communities Extension specialist, Illinois-Indiana Sea Grant, Forestry and Natural Resources
- Katie Davidson, former Nutrition Education Program community wellness coordinator, health and human sciences
- · Lisa Graves, interim program leader, health and human sciences

5-10 Purdue Extension helps reduce fall risk among older adults in Indiana

- Allison Hillis, health and human sciences educator, Howard County
- Amanda Bullion, health and human sciences educator, Delaware County
- Amanda Marciano, health and human sciences educator, Hendricks County
- Angela Ray, health and human sciences educator, Gibson County
- Ashlee Davis, 4-H youth development and health and human sciences educator, Fountain County
- Ashley Drees, health and human sciences educator, Jay County
- Baylee Dwenger, 4-H youth development and health and human sciences educator, Ripley County
- Brock Turner, health and human sciences educator, Tippecanoe County
- Carmen Fortney, health and human sciences educator, Jasper County
- Caroline Everidge, health and human sciences educator, Allen County
- Cheryl Casselman, 4-H youth development and health and human sciences educator, Sullivan County
- Christopher Fogle, health and human sciences educator, Decatur County
- Danielle Scott, health and human sciences educator, Madison County
- Debora Arseneau, health and human sciences educator, Newton County
- Emily Christ, health and human sciences educator, Elkhart County
- Gail Wright, health and human sciences educator, Vigo County
- Jane Horner, health and human sciences educator, Cass County
- Janel Franks, health and human sciences educator, Blackford County
- Jennifer Stefancik, health and human sciences educator, Daviess County
- Jessica Riffle, health and human sciences educator, Fulton County
- Jo Gilreath, health and human sciences educator, Warrick County

- Joanne Lytton, former 4-H youth development and health and human sciences educator, Carroll County
- · Karen Richey, health and human sciences educator, Marshall County
- Kelsie Muller, human development and family science Extension specialist, health and human sciences
- Kristen Lowry, health and human sciences educator, Posey County
- Linda Curley, health and human sciences educator, Lake County
- Marcia Parcell, health and human sciences educator, Dearborn County
- · Meagan Salomon, health and human sciences educator, Gibson and Vanderburgh counties
- Molly Hoag, health and human sciences educator, Wells County
- Molly Marshall, health and human sciences educator, Jackson County
- Ody Ekwonwa, health and human sciences educator, Monroe County
- Olivia Morgan, health and human sciences educator, Clay County
- Pandora Taylor, health and human sciences educator, Boone County
- Shannon Chipman, 4-H Youth Development and health and human sciences educator, Ohio County
- Shannon Shepherd, health and human sciences educator, Kosciusko County
- Stephanie McCurdy, 4-H youth development and health and human sciences educator, Fayette County
- Tonya Short, health and human sciences educator, Knox County
- Zoë Robinson, health and human sciences educator, Randolph County

5-11 Purdue Extension teaches adults lifestyle practices to ease the burden of diabetes

- Abbigail Smith, former health and human sciences educator, Putnam County
- Abigail Creigh, health and human sciences educator, Noble County
- Amanda Bullion, health and human sciences educator, Delaware County
- Ashley Drees, health and human sciences educator, Jay County
- Carly Holland, health and human sciences educator, Rush County
- Carmen Fortney, health and human sciences educator, Jasper County
- · Courtney Schmidt, agriculture and natural resources and health and human sciences educator, Miami County
- Diana Stone, health and human sciences educator, Shelby County
- Diedre Wagster, health and human sciences educator, Jennings County
- Donna Vandergraff, foods and nutrition Extension specialist, health and human sciences
- Elizabeth Evans, 4-4 youth development and health and human sciences educator, Parke County
- Emily Christ, health and human sciences educator, Elkhart County
- Emma Finerfrock, health and human sciences educator, Clark County
- Gail Peitzmeier, 4-H youth development and health and human sciences educator, Crawford County
- Gail Wright, health and human sciences educator, Vigo County
- Jamie Lowder, health and human sciences educator, Owen County
- Janel Franks, health and human sciences educator, Blackford County
- Janet Steffens, former health and human sciences educator, Floyd County
- Jennifer Stefancik, health and human sciences educator, Daviess County
- Jessica Riffle, health and human sciences educator, Fulton County

- Karen Richey, health and human sciences educator, Marshall County
- Linda Curley, health and human sciences educator, Lake County
- Lisa Graves, interim program leader, health and human sciences
- Lori Bouslog, health and human sciences educator, Vermillion County
- Megan Broughton, health and human sciences educator, Scott County
- Molly Marshall, health and human sciences educator, Jackson County
- Monica Nagele, health and human sciences educator, Montgomery County
- Ody Ekwonwa, health and human sciences educator, Monroe County
- Olivia Morgan, health and human sciences educator, Clay County
- Sonya Mitchell, health and human sciences educator, Washington County

5-12 With Purdue Extension's programs, adults strengthened relationships, ate smart, improved health, and built financial wellness

- Abbigail Smith, former health and human sciences educator, Putnam County
- Abigail Creigh, health and human sciences educator, Noble County
- Allison Hillis, health and human sciences educator, Howard County
- Allison Roberts, former agriculture and natural resources and health and human sciences educator,
 Brown County
- Amanda Bullion, health and human sciences educator, Delaware County
- Amanda Gray, health and human sciences educator, Hancock County
- Angela Ray, health and human sciences educator, Gibson County
- Angela Sorg, health and human sciences educator, DeKalb County
- Angie Abbott, interim associate dean of agriculture and interim director of Extension
- Annetta Jones, former health and human sciences educator, Porter County
- Ashley Drees, health and human sciences educator, Jay County
- Ashley Piland, health and human sciences educator, Marion County
- Autumn Trice Johnson, former health and human sciences educator, Allen County
- Baylee Dwenger, 4-H youth development and health and human sciences educator, Ripley County
- Beth Switzer, former county Extension director, health and human sciences educator, Hendricks County
- Brittney Schori, health and human sciences educator, Whitley County
- Brock Turner, health and human sciences educator, Tippecanoe County
- Carly Holland, health and human sciences educator, Rush County
- Carmen Fortney, health and human sciences educator, Jasper County
- Caroline Everidge, health and human sciences educator, Allen County
- Cheryl Casselman, 4-H youth development and health and human sciences educator, Sullivan County
- Christina Lai, health and human sciences educator, LaPorte County
- Christina Swathwood, operations specialists, health and human sciences
- Christopher Fogle, health and human sciences educator, Decatur County
- · Courtney Schmidt, agriculture and natural resources and health and human sciences educator, Miami County
- Dana Stanley, health and human sciences educator, Steuben County

- Danielle Scott, health and human sciences educator, Madison County
- Debora Arseneau, health and human sciences educator, Newton County
- Diana Stone, health and human sciences educator, Shelby County
- Donna Vandergraff, foods and nutrition Extension specialist, health and human sciences
- Elisa Worland, former community development and health and human sciences educator, Wayne County
- Elizabeth Evans, 4-4 youth development and health and human sciences educator, Parke County
- Emily Christ, health and human sciences educator, Elkhart County
- Emma Finerfrock, health and human sciences educator, Clark County
- Eric Hillis, health and human sciences educator, Tipton County
- Gail Peitzmeier, 4-H youth development and health and human sciences educator, Crawford County
- Gail Wright, health and human sciences educator, Vigo County
- Grace Thompson, former health and human sciences educator, Lawrence County
- Hillary Hawkins, health and human sciences educator, White County
- Jamie Lowder, health and human sciences educator, Owen County
- Jane Horner, health and human sciences educator, Cass County
- Janel Franks, health and human sciences educator, Blackford County
- Janet Steffens, former health and human sciences educator, Floyd County
- Jennifer Stefancik, health and human sciences educator, Daviess County
- Jessica Riffle, health and human sciences educator, Fulton County
- Jo Gilreath, health and human sciences educator, Warrick County
- Joanne Lytton, former 4-H youth development and health and human sciences educator, Carroll County
- Julie Threadgill, former 4-H youth development and health and human sciences educator, Switzerland County
- Kailey Dockerty, health and human sciences educator, Grant County
- · Kanza Zafar, former health and human sciences educator, Greene County
- Karen Richey, health and human sciences educator, Marshall County
- Kelsie Muller, human development and family science Extension specialist, health and human sciences
- Kevin Davis, health and human sciences educator, Marion County
- Linda Curley, health and human sciences educator, Lake County
- Lisa Graves, interim program leader, health and human sciences
- Lori Bouslog, health and human sciences educator, Vermillion County
- Marcia Parcell, health and human sciences educator, Dearborn County
- Meagan Salomon, health and human sciences educator, Gibson and Vanderburgh counties
- Megan Broughton, health and human sciences educator, Scott County
- Megan Jaspersen, former health and human sciences educator, Perry and Spencer counties
- Mindy Mayes, health and human sciences educator, Wabash County
- Molly Hoag, health and human sciences educator, Wells County
- Molly Marshall, health and human sciences educator, Jackson County
- Monica Nagele, health and human sciences educator, Montgomery County

- Naomi Bechtold, former financial resource management Extension specialist, health and human sciences
- Ody Ekwonwa, health and human sciences educator, Monroe County
- Olivia Morgan, health and human sciences educator, Clay County
- Pandora Taylor, health and human sciences educator, Boone County
- Shannon Chipman, 4-H Youth Development and health and human sciences educator, Ohio County
- Shannon Shepherd, health and human sciences educator, Kosciusko County
- Sonya Mitchell, health and human sciences educator, Washington County
- Stephanie McCurdy, 4-H youth development and health and human sciences educator, Fayette County
- Stephanie Woodcox, assistant program leader, health and human sciences
- Susan Peterson, health and human sciences educator, Hamilton County
- Tara Beckman, health and human sciences and community development educator, Harrison County
- Tessa Garrow, behavioral health specialist, health and human sciences
- Viviana Guzman, health and human sciences educator, LaGrange County
- Zoë Robinson, health and human sciences educator, Randolph County

5-13 'Where does your money go?' helps Indiana adults stop the outflow of their hard-earned cash

- Allison Hillis, health and human sciences educator, Howard County
- Amanda Bullion, health and human sciences educator, Delaware County
- Angela Ray, health and human sciences educator, Gibson County
- Angela Sorg, health and human sciences educator, DeKalb County
- Annetta Jones, former health and human sciences educator, Porter County
- Ashley Piland, health and human sciences educator, Marion County
- Autumn Trice Johnson, former health and human sciences educator, Allen County
- Brittney Schori, health and human sciences educator, Whitley County
- Brock Turner, health and human sciences educator, Tippecanoe County
- Caroline Everidge, health and human sciences educator, Allen County
- Cheryl Casselman, 4-H youth development and health and human sciences educator, Sullivan County
- Courtney Schmidt, agriculture and natural resources and health and human sciences educator, Miami County
- Dana Stanley, health and human sciences educator, Steuben County
- Danielle Scott, health and human sciences educator, Madison County
- Elisa Worland, former community development and health and human sciences educator, Wayne County
- Emily Christ, health and human sciences educator, Elkhart County
- Emma Finerfrock, health and human sciences educator, Clark County
- Gail Wright, health and human sciences educator, Vigo County
- Grace Thompson, former health and human sciences educator, Lawrence County
- Jennifer Stefancik, health and human sciences educator, Daviess County
- Karen Richey, health and human sciences educator, Marshall County
- Linda Curley, health and human sciences educator, Lake County
- Lori Bouslog, health and human sciences educator, Vermillion County

- Marcia Parcell, health and human sciences educator, Dearborn County
- Megan Broughton, health and human sciences educator, Scott County
- Megan Jaspersen, former health and human sciences educator, Perry and Spencer counties
- Mindy Mayes, health and human sciences educator, Wabash County
- Molly Hoag, health and human sciences educator, Wells County
- Naomi Bechtold, former financial resource management Extension specialist, health and human sciences
- Ody Ekwonwa, health and human sciences educator, Monroe County
- Olivia Morgan, health and human sciences educator, Clay County
- Pandora Taylor, health and human sciences educator, Boone County
- Shannon Shepherd, health and human sciences educator, Kosciusko County
- Sonya Mitchell, health and human sciences educator, Washington County
- Stephen Dishinger, health and human sciences educator, Bartholomew County
- Susan Peterson, health and human sciences educator, Hamilton County
- Tara Beckman, health and human sciences and community development educator, Harrison County

Food Production, Security, and Safety

6-1 Ag Women Engage Conference participants applied recommended practices resulting in increased efficiencies and economic returns

- Beth Vansickle, agriculture and natural resources educator, Madison County
- Courtney Schmidt, agriculture and natural resources and health and human sciences educator, Miami County
- Danielle Nylund, former 4-H youth development educator, Madison County
- Ed Farris, agriculture and natural resources educator, Huntington County
- Elysia Rodgers, agriculture and natural resources educator, DeKalb County
- Emily Evers, agriculture and natural resources educator, St. Joseph County
- Jenna Nees, agriculture and natural resources educator, Putnam County
- Kelly Heckaman, area director, Purdue Extension
- Mathias Ingle, agriculture and natural resources educator, Howard County
- Michele Jones, agriculture and natural resources educator, Morgan County
- Reba Wicker, former agriculture and natural resources and community development educator, Steuben County
- Tricia Herr, agriculture and natural resources educator, Montgomery County
- Veronica Bullock, agriculture and natural resources educator, Franklin County
- Jessica Outcalt, former ANR educator in Grant County

6-2 Applying Purdue Plant and Pest Diagnostic Lab recommended practices, clients saved \$890,000 by avoiding crop loss or unnecessary pesticide use

- Aaron Patton, interim department head and professor, Horticulture and Landscape Architecture
- Brad Sewell, strategic initiatives coordinator, Purdue Extension
- Darcy Telenko, associate professor, Botany and Plant Pathology
- Douglas Richmond, professor, Entomology
- Elizabeth Long, assistant professor, Entomology

- Elizabeth Maynard, clinical engagement professor, Horticulture and Landscape Architecture
- Janna Beckerman, emeritus professor, Botany and Plant Pathology
- John Bonkowski, plant disease diagnostician, Plant and Pest Diagnostic Laboratory
- Karen Mitchell, consumer horticulture Extension specialist, Horticulture and Landscape Architecture
- Kyle Daniel, nursery and landscape outreach specialist, Horticulture and Landscape Architecture
- Laura Ingwell, assistant professor, Entomology
- Leo Miller, assistant professor, Botany and Plant Pathology
- Marcelo Zimmer, graduate research assistant, weed science program specialist, Botany and Plant Pathology
- Murray Johnston, clinical assistant professor, Entomology
- Stephen Meyers, assistant professor, Horticulture and Landscape Architecture
- Tom Creswell, clinical engagement professor and director, Plant and Pest Diagnostic Laboratory

6-3 Purdue Agricultural Center field day participants reported adopting new recommended practices for cover crops, no-till, and sulfur and fungicide applications

- Abigail Heidenreich, agriculture and natural resources educator, Gibson County
- Adam Shanks, digital agriculture and natural resources curriculum lead, Extension
- Alex Helms, assistant director, Purdue Agricultural Centers
- Allison Roberts, former agriculture and natural resources and health and human sciences educator, Brown County
- Amanda Bradshaw Burks, agriculture and natural resources educator, Vanderburgh County
- Amy Alka, agriculture and natural resources educator, Randolph County
- Ann Kline, agriculture and natural resources educator, Noble County
- Ashley Adair, Extension organic agriculture specialist, Horticulture and Landscape Architecture
- Beth Vansickle, agriculture and natural resources educator, Madison County
- Bill Horan, agriculture and natural resources and community development educator, Wells County
- Bill Johnson, professor of weed science, Botany and Plant Pathology
- Brad Kohlhagen, agriculture and natural resources educator, Adams County
- Britt Copeland, 4-H youth development and agriculture and natural resources educator, Jefferson County
- Christian Krupke, professor, Entomology
- Cora Reinbolt, agriculture and natural resources and community development educator, Bartholomew County, small ruminant specialist
- Dan Egel, emeritus professor, Botany and Plant Pathology
- Danielle Nylund, former 4-H youth development educator, Madison County
- Darcy Telenko, associate professor, Botany and Plant Pathology
- David Osborne, 4-H youth development and agriculture and natural resources educator, Ripley County
- Dennis Nowaskie, senior research operation administrator, Southwest Purdue Agricultural Center
- Ed Farris, agriculture and natural resources educator, Huntington County
- Elysia Rodgers, agriculture and natural resources educator, DeKalb County
- Emily Kring, agriculture and natural resources educator, Jay County
- Emily Peterson, agriculture and natural resources educator, Jennings County

- Hans Schmitz, former lead conservation cropping systems agronomist, Purdue Extension and conservation cropping systems initiative, Agronomy
- Heather Caldwell, former 4-H youth development and agriculture and natural resources educator, Fayette County
- James Camberato, emeritus professor, Agronomy
- James Wolff, agriculture and natural resources educator, Allen County
- Jeff Boyer, superintendent, Davis Purdue Agricultural Center
- Jeff Burbrink, agriculture and natural resources and community development educator, LaGrange County
- Jeff Hermesch, former agriculture and natural resources educator, Dearborn County
- Jennifer Logue, 4-H youth development and agriculture and natural resources educator, Union County
- Jessica Roberts, former agriculture and natural resources and community development educator, Rush County
- Jill Andrew-Richards, 4-H youth development and agriculture and natural resources educator, Ohio County
- John Woodmansee, agriculture and natural resources educator, Whitley County
- Jon Leuck, director, Purdue Agricultural Centers
- Jonathan Ferris, former agriculture and natural resources educator, Wayne County
- Justin Curley, agriculture and natural resources educator, Delaware County
- Kenneth Eck, agriculture and natural resources educator, Dubois County
- · Kyle Weaver, 4-H youth development and agriculture and natural resources educator, Switzerland County
- Mark Carter, former agriculture and natural resources, precision ag educator, Blackford County
- Nikky Witkowski, agriculture and natural resources educator, Porter County
- Phil Woolery, agriculture and natural resources educator, Pulaski and Starke counties
- Reba Wicker, former agriculture and natural resources and community development educator, Steuben County
- Sabrina Gregory, agriculture and natural resources educator, Decatur County
- Sara Brackney, agriculture and natural resources educator, Daviess County
- Valerie Clingerman, agriculture and natural resources educator, Knox County
- Veronica Bullock, agriculture and natural resources educator, Franklin County
- Wenjing Guan, clinical/engagement associate professor, Horticulture and Landscape Architecture

6-4 Purdue Extension kept producers up to date on the status of avian influenza in Indiana and surrounding states

- Brian Richert, associate professor, Animal Sciences
- Cora Reinbolt, agriculture and natural resources and community development educator, Bartholomew County, small ruminant specialist
- Darrin Karcher, associate professor, Animal Sciences
- Jacquelyn Boerman, associate professor, Animal Sciences
- Marisa Erasmus, associate professor, Animal Sciences
- Michele Jones, agriculture and natural resources educator, Morgan County
- Ron Lemenager, professor, Animal Sciences

6-5 Purdue Extension's Breeding Soundness Evaluation improves beef herd economic values

Danielle Walker, agriculture and natural resources educator, Washington County

6-6 Purdue Field Crop Pathology Research and Extension continues on the front line for monitoring, detecting, and managing tar spot of corn

- Darcy Telenko, associate professor, Botany and Plant Pathology
- John Bonkowski, plant disease diagnostician, Plant and Pest Diagnostic Laboratory
- Tom Creswell, clinical engagement professor and director, Plant and Pest Diagnostic Laboratory

6-7 Purdue on the Farm: Indiana farmers reported adopting recommended practices resulting in reduced costs per acre

- Adam Shanks, digital agriculture and natural resources curriculum lead, Purdue Extension
- Alex Helms, assistant director, Purdue Agricultural Centers
- Amy Rhodes, former agriculture and natural resources educator, Posey County
- Ann Kline, agriculture and natural resources educator, Noble County
- Brad Kohlhagen, agriculture and natural resources educator, Adams County
- Brad Sewell, strategic initiatives coordinator, Purdue Extension
- Brieanna Slonaker, agriculture and natural resources educator, Marshall County
- Bryan Overstreet, conservation agronomist and soil health statewide coordinator, Northern Indiana
- Dan Quinn, assistant professor, corn production, Agronomy
- Darcy Telenko, associate professor, Botany and Plant Pathology
- Ed Farris, agriculture and natural resources educator, Huntington County
- Edward Oehlman, former agriculture and natural resources educator, Monroe County
- Emily Kring, agriculture and natural resources educator, Jay County
- Henry Quesada, agriculture and natural resources, program leader, Purdue Extension
- Jamie Reed, agriculture and natural resources educator, Newton County
- Jenna Nees, agriculture and natural resources educator, Putnam County
- Jessica Outcalt, natural resources training specialist, Forestry and Natural Resources
- Jessica Roberts, former agriculture and natural resources and community development educator, Rush County
- Joe Rorick, on-farm sustainability programs and research coordinator, Agronomy
- John Woodmansee, agriculture and natural resources educator, Whitley County
- Jon Charlesworth, agriculture and natural resources educator, Benton and Warren counties
- Kenneth Eck, agriculture and natural resources educator, Dubois County
- Kurt Lanzone, agriculture and natural resources educator, Parke County
- Lais McCartney, agriculture and natural resources educator, Hancock County
- Mark Carter, former agriculture and natural resources, precision ag educator, Blackford County
- Marty Huseman, agriculture and natural resources educator, White County
- Mathias Ingle, agriculture and natural resources educator, Howard County
- Michele Jones, agriculture and natural resources educator, Morgan County
- Nikky Witkowski, agriculture and natural resources educator, Porter County
- Phil Woolery, agriculture and natural resources educator, Pulaski and Starke counties
- Ron Turco, associate dean for research, graduate education and faculty affairs, College of Agriculture
- Sabrina Gregory, agriculture and natural resources educator, Decatur County

- Scott Gabbard, Purdue on the Farm senior administrator, agricultural research and graduate education,
 College of Agriculture
- Shaun Casteel, professor, Agronomy
- Summer Brown, agriculture and natural resources educator, Jasper County
- Tabatha Flinn, agriculture and natural resources educator, Vigo County
- Tommy Butts, clinical assistant professor, site-specific weed management, Botany and Plant Pathology
- Veronica Bullock, agriculture and natural resources educator, Franklin County

Gardening, Specialty Crops and Small-scale Farming

7-1 At Purdue's Student Farm, small-scale farmers plan to adopt recommended diversified farming practices

- Amanda Deering, associate professor of produce food safety, Food Science
- Amy Thompson, agriculture and natural resources, beginning farmer coordinator
- Ankita Raturi, assistant professor, Agricultural and Biological Engineering
- Ashley Adair, Extension organic agriculture specialist, Horticulture and Landscape Architecture
- Brad Sewell, strategic initiatives coordinator, Purdue Extension
- Brittany Weerts, former hydroponic research operations administrator, Horticulture and Landscape Architecture
- Chris Adair, senior Student Farm manager, Horticulture and Landscape Architecture
- Laura Ingwell, assistant professor, Entomology
- Lori Hoagland, professor, Horticulture and Landscape Architecture
- Lori Jolly-Brown, Extension events and communication coordinator, Horticulture and Landscape Architecture
- Miranda Purcell, viticulture Extension specialist, Horticulture and Landscape Architecture
- Nathan Shoaf, agriculture and natural resources, assistant program leader and urban agriculture Extension specialist
- Petrus Langenhoven, clinical assistant professor, Horticulture and Landscape Architecture
- Scott Monroe, food safety educator
- Stephen Meyers, assistant professor, Horticulture and Landscape Architecture
- Wenjing Guan, clinical/engagement associate professor, Horticulture and Landscape Architecture

7-2 Beef Basics in the Eastern Corn Belt helped new and aspiring cattle producers build their operations, and ag teachers earn professional credits

- Adam Tyler, 4-H youth development and agriculture and natural resources educator, Fountain County
- Beth Vansickle, agriculture and natural resources educator, Madison County
- Bethany Funnell, clinical associate professor, College of Veterinary Medicine
- Danielle Walker, agriculture and natural resources educator, Washington County
- Elysia Rodgers, agriculture and natural resources educator, DeKalb County
- Hattie McGrady, livestock judging coach and judging teams coordinator, Animal Sciences
- Jason Tower, senior research operation administrator, Southern Indiana Purdue Agricultural Center
- Jill Andrew-Richards, 4-H youth development and agriculture and natural resources educator, Ohio County
- Keith Johnson, emeritus professor, Agronomy
- Marisa Erasmus, associate professor, Animal Sciences
- Michele Jones, agriculture and natural resources educator, Morgan County

- Molley Hasenour, 4-H youth development and agriculture and natural resources educator, Crawford County
- Nick Minton, beef systems specialist, Animal Sciences
- Ophelia Davis, former agriculture and natural resources educator, Lawrence County
- Ron Lemenager, professor, Animal Sciences
- Sabrina Gregory, agriculture and natural resources educator, Decatur County

7-3 Growing Together project provides fresh produce for Indiana residents

- Andrea Hatfield, agriculture and natural resources and community development educator, Boone County
- · Becky Lies, former Nutrition Education Program community wellness coordinator, health and human sciences
- Blake Connolly, Nutrition Education Program assistant director, Health and human sciences
- Brieanna Slonaker, agriculture and natural resources educator, Marshall County
- Carey Grable, horticulture educator, Marion County
- Courtney Schmidt, agriculture and natural resources and health and human sciences educator, Miami County
- Cristiana Verissimo, former Nutrition Education Program community wellness coordinator, health and human sciences
- Danielle Nylund, former 4-H youth development educator, Madison County
- Eric Hillis, health and human sciences educator, Tipton County
- Erin Meyer, former Nutrition Education Program community wellness coordinator, health and human sciences
- Erin Sherrow-Hayse, former Nutrition Education Program community wellness coordinator, health and human sciences
- Gabrielle Fritz, 4-H youth development educator, Greene County
- Geoff Schortgen, agriculture and natural resources educator, Wabash County
- Gina Anderson, agriculture and natural resources and community development educator, Floyd County
- Heather Caldwell, former 4-H youth development and agriculture and natural resources educator, Fayette County
- Jeff Hermesch, former agriculture and natural resources educator, Dearborn County
- Jeff Pell, agriculture and natural resources and community development educator, Putnam County
- Jeff Walker, community development, community vitality specialist
- Jenny Haskins, former Nutrition Education Program community wellness coordinator, health and human sciences
- Jessica Martini, former Nutrition Education Program community wellness coordinator, health and human sciences
- Jill Andrew-Richards, 4-H youth development and agriculture and natural resources educator, Ohio County
- John Orick, Purdue Extension Master Gardener state program coordinator, Horticulture and Landscape Architecture
- Karen Mitchell, consumer horticulture Extension specialist, Horticulture and Landscape Architecture
- Katelyn Kutemeier, former Nutrition Education Program community wellness coordinator, health and human sciences
- Katie Davidson, former Nutrition Education Program community wellness coordinator, health and human sciences
- Keri Salb-Mertz, former Nutrition Education Program community wellness coordinator, Wabash County, health and human sciences
- · Krista Pullen, associate Extension educator, food access coordinator, Purdue Extension
- Linda Adams, former Nutrition Education Program community wellness coordinator, Marion County, health and human sciences

- Lindsey Caterina, former Nutrition Education Program community wellness coordinator, health and human sciences
- · Mindy Duckett, former Nutrition Education Program community wellness coordinator, health and human sciences
- Nicholas Held, agriculture and natural resources educator, Spencer County
- Rebecca Koetz, agriculture and natural resources educator, Lake County
- Rebecca Marvel, former Nutrition Education Program community wellness coordinator, health and human sciences
- Richard Beckort, agriculture and natural resources educator, Jackson County
- Ryleigh Scott, former Nutrution Education Program community wellness coordinator, health and human sciences
- Sean Huss, agriculture and natural resources educator, Greene County
- Veronica Bullock, agriculture and natural resources educator, Franklin County
- Vici Gasaway, 4-H youth development educator, Delaware County

7-4 Indiana Small Farm Conference connects diversified farmers and strengthens small-scale operations

- Amy Thompson, agriculture and natural resources, beginning farmer coordinator
- Ankita Raturi, assistant professor, Agricultural and Biological Engineering
- Ariana Torres, associate professor, agricultural economics and Horticulture and Landscape Architecture
- Ashley Adair, Extension organic agriculture specialist, Horticulture and Landscape Architecture
- Chris Adair, senior Student Farm manager, Horticulture and Landscape Architecture
- Courtney Schmidt, agriculture and natural resources and health and human sciences educator, Miami County
- Dennis Buckmaster, professor, Agricultural and Biological Engineering
- Elizabeth Maynard, clinical engagement professor, Horticulture and Landscape Architecture
- Emily Evers, agriculture and natural resources educator, St. Joseph County
- Heidi Potter, agriculture and natural resources educator, Clark County
- James Wolff, agriculture and natural resources educator, Allen County
- Jayde Grisham, agriculture and natural resources educator, Marion County
- Jeff Hermesch, former agriculture and natural resources educator, Dearborn County
- Jeff Pell, agriculture and natural resources and community development educator, Putnam County
- · Karen Mitchell, consumer horticulture Extension specialist, Horticulture and Landscape Architecture
- Lais McCartney, agriculture and natural resources educator, Hancock County
- Laura Ingwell, assistant professor, Entomology
- Mathias Ingle, agriculture and natural resources educator, Howard County
- Miranda Purcell, viticulture Extension specialist, Horticulture and Landscape Architecture
- Nathan Shoaf, agriculture and natural resources, assistant program leader and urban agriculture Extension specialist
- Petrus Langenhoven, clinical assistant professor, Horticulture and Landscape Architecture
- Phil Cox, agriculture and natural resources educator, Vermillion County
- Richard Beckort, agriculture and natural resources educator, Jackson County
- Sarah Hanson, agriculture and natural resources, food systems coordinator
- Scott Monroe, food safety educator
- Wenjing Guan, clinical/engagement associate professor, Horticulture and Landscape Architecture

7-5 Master Gardeners completed community service volunteer hours valued at over \$5 million: Demonstration gardens provided 37,795 pounds of produce for local food banks

1-Purdue Extension Master Gardener (EMG) Program Impact Statewide

- Abigail Heidenreich, agriculture and natural resources educator, Gibson County
- Adam Tyler, 4-H youth development and agriculture and natural resources educator, Fountain County
- Amanda Bradshaw Burks, agriculture and natural resources educator, Vanderburgh County
- Amanda Mosiman, former agriculture and natural resources educator, Warrick County
- Ann Kline, agriculture and natural resources educator, Noble County
- Ariel Wilson, agriculture and natural resources educator, Harrison County
- Beth Vansickle, agriculture and natural resources educator, Madison County
- Bill Horan, agriculture and natural resources and community development educator, Wells County
- Brian MacGowan, wildlife Extension specialist and Extension coordinator, Forestry and Natural Resources
- Brieanna Slonaker, agriculture and natural resources educator, Marshall County
- Britt Copeland, 4-H youth development and agriculture and natural resources educator, Jefferson County
- Carey Grable, horticulture educator, Marion County
- Cora Hill, urban agriculture and horticulture, Allen County
- Cora Reinbolt, agriculture and natural resources and community development educator, Bartholomew County, small ruminant specialist
- Courtney Lockwood, agriculture and natural resources educator, Hamilton County
- Courtney Schmidt, agriculture and natural resources and health and human sciences educator, Miami County
- Danielle Walker, agriculture and natural resources educator, Washington County
- Diana Davis, agriculture and natural resources educator, Tipton County
- Ed Farris, agriculture and natural resources educator, Huntington County
- Elysia Rodgers, agriculture and natural resources educator, DeKalb County
- Emily Evers, agriculture and natural resources educator, St. Joseph County
- Emily Kresca, agriculture and natural resources educator, Kosciusko County
- Fred Whitford, clinical engagement professor, Purdue pesticide programs, Botany and Plant Pathology
- Geoffrey Schortgen, agriculture and natural resources educator, Wabash County
- Gina Anderson, agriculture and natural resources and community development educator, Floyd County
- Heidi Potter, agriculture and natural resources educator, Clark County
- Jamie Reed, agriculture and natural resources educator, Newton County
- Jeff Hermesch, former agriculture and natural resources educator, Dearborn County
- Jeff Pell, agriculture and natural resources and community development educator, Putnam County
- Jeffrey Burbrink, agriculture and natural resources and community development educator, LaGrange County
- Jenna Nees, agriculture and natural resources educator, Putnam County
- Jestine Davenport, agriculture and natural resources educator, LaPorte County
- John Bonkowski, plant disease diagnostician, Plant and Pest Diagnostic Laboratory
- John Orick, Purdue Extension Master Gardener state program coordinator, Horticulture and Landscape Architecture

- John Woodmansee, agriculture and natural resources educator, Whitley County
- Jon Charlesworth, agriculture and natural resources educator, Benton and Warren counties
- Jonathan Ferris, former agriculture and natural resources educator, Wayne County
- Julia Carrell, 4-H youth development and agriculture and natural resources educator, Orange County
- Justin Curley, agriculture and natural resources educator, Delaware County
- · Karen Mitchell, consumer horticulture Extension specialist, Horticulture and Landscape Architecture
- Kurt Lanzone, agriculture and natural resources educator, Parke County
- Kyle Weaver, 4-H youth development and agriculture and natural resources educator, Switzerland County
- Lais McCartney, agriculture and natural resources educator, Hancock County
- Mathias Ingle, agriculture and natural resources educator, Howard County
- Michele Jones, agriculture and natural resources educator, Morgan County
- Miranda Purcell, viticulture Extension specialist, Horticulture and Landscape Architecture
- Molley Hasenour, 4-H youth development and agriculture and natural resources educator, Crawford County
- Nicholas Held, agriculture and natural resources educator, Spencer County
- Nikky Witkowski, agriculture and natural resources educator, Porter County
- Phil Cox, agriculture and natural resources educator, Vermillion County
- Phil Woolery, agriculture and natural resources educator, Pulaski and Starke counties
- Reba Wicker, former agriculture and natural resources and community development educator,
 Steuben County
- Rebecca Koetz, agriculture and natural resources educator, Lake County
- Richard Beckort, agriculture and natural resources educator, Jackson County
- Sara Dzimianski, agriculture and natural resources educator, Perry County
- Sarah Brackney, agriculture and natural resources educator, Daviess County
- Sean Huss, agriculture and natural resources educator, Greene County
- Shalee Bradley, former agriculture and natural resources educator, Johnson County
- Summer Brown, agriculture and natural resources educator, Jasper County
- Thomas Springstun, agriculture and natural resources educator, Scott County
- Tom Creswell, clinical engagement professor and director, Plant and Pest Diagnostic Laboratory
- Tricia Herr, agriculture and natural resources educator, Montgomery County
- Valerie Clingerman, county Extension director, agriculture and natural resources educator, Knox County

2- Statewide Virtual Purdue Extension Master Gardener Basic Training Impact

- Adam Tyler, 4-H youth development and agriculture and natural resources educator, Fountain County
- Amanda Mosiman, former agriculture and natural resources educator, Warrick County
- Andrea Hatfield, agriculture and natural resources and community development educator, Boone County
- Bill Horan, agriculture and natural resources and community development educator, Wells County
- Brian MacGowan, wildlife Extension specialist and Extension coordinator, Forestry and Natural Resources
- Carey Grable, horticulture educator, Marion County
- Cora Reinbolt, agriculture and natural resources and community development educator,
 Bartholomew County, small ruminant specialist

- Courtney Lockwood, agriculture and natural resources educator, Hamilton County
- Elizabeth Long, assistant professor, Entomology
- Emily Evers, agriculture and natural resources educator, St. Joseph County
- Fred Whitford, clinical engagement professor, Purdue pesticide programs, Botany and Plant Pathology
- Jeff Hermesch, former agriculture and natural resources educator, Dearborn County
- John Bonkowski, plant disease diagnostician, Plant and Pest Diagnostic Laboratory
- John Orick, Purdue Extension Master Gardener state program coordinator, Horticulture and Landscape Architecture
- John Woodmansee, agriculture and natural resources educator, Whitley County
- · Karen Mitchell, consumer horticulture Extension specialist, Horticulture and Landscape Architecture
- Lais McCartney, agriculture and natural resources educator, Hancock County
- Laura Ingwell, assistant professor, Entomology
- Mathias Ingle, agriculture and natural resources educator, Howard County
- Miranda Purcell, viticulture Extension specialist, Horticulture and Landscape Architecture
- Nikky Witkowski, agriculture and natural resources educator, Porter County
- Phil Woolery, agriculture and natural resources educator, Pulaski and Starke counties
- Richard Beckort, agriculture and natural resources educator, Jackson County
- Sara Dzimianski, agriculture and natural resources educator, Perry County
- Tom Creswell, clinical engagement professor and director, Plant and Pest Diagnostic Laboratory
- · Valerie Clingerman, county Extension director, agriculture and natural resources educator, Knox County

3-Purdue Extension Master Gardener Virtual Advanced Training

- Amy Thompson, agriculture and natural resources, beginning farmer coordinator
- Austin Pearson, service and outreach climatologist, Agronomy
- Carey Grable, horticulture educator, Marion County
- Jayde Grisham, agriculture and natural resources educator, Marion County
- Jessica Outcalt, natural resources training specialist, Forestry and Natural Resources
- John Orick, Purdue Extension Master Gardener state program coordinator, Horticulture and Landscape Architecture
- John Woodmansee, agriculture and natural resources educator, Whitley County
- Karen Mitchell, consumer horticulture Extension specialist, Horticulture and Landscape Architecture



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