

“Greg LaBarge and the OSU Extension Agronomic Crops Team offer an unbiased voice that helped us increase our corn, soybean, and wheat yields while reducing and improving our nutrient use to lessen phosphorus runoff into Ohio waters. Their research helped us improve our soil moisture and health, even during drought.”

—Nate Andre, farmer and co-owner of Andre Farms, LLC, in Fulton County



Agronomic Crops Team Helps Farmers Manage Drought and Lower Phosphorus Use



Nate Andre credits research from OSU Extension's Agronomic Crops Team in helping his farm improve its soil moisture and health despite the 2012 drought that has devastated many growers nationwide.

Whether grappling with drought or managing crop nutrients, Fulton County farmer Nate Andre turns to Ohio State University Extension's Agronomic Crops Team for information and advice.

The 33-member team was quick to provide drought management tips—regarding everything from crop insurance management to nitrates in drought-stressed forages—early in the summer of 2012 through its weekly electronic *C.O.R.N.* newsletter and website.

The team has also played a large role in helping farmers manage phosphorus, identified as a contributor of recent algal blooms in Ohio lakes.

The goal is to provide solutions that still allow farmers to maximize yields and profit, said Greg LaBarge, an Extension field specialist and co-leader of the team.

In the case of phosphorus management, the goal is to apply just the amount of nutrients that the growing plants will remove. That includes quantifying all sources of nutrients, whether commercial fertilizers or organic nutrients such as animal manures, compost, or biosolids.

More: <http://agcrops.osu.edu/>

The Essentials

- **The calculated value to Ohio farmers** and industry professionals using research from the Agronomic Crops Team **was \$21.2 million** in 2010. This includes input savings and crop yield increases for corn and soybeans.
- Following research-based recommendations from the team, Ohio **farmers chose not to treat 53,676 acres of crops** with fungicides and/or insecticides in 2010.
- Ohio **farmers reported increased corn and soybean yields of 8.6 and 3.7 bushels per acre**, respectively, following research-based recommendations from the team.
- **Several online resources were offered** to help farmers deal with 2012 drought issues: <http://agcrops.osu.edu/drought-resources>, <http://agnr.osu.edu/managing-drought-2012>, and www.facebook.com/OHdrought12.



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Enhancing Agriculture and the Environment

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“Our program wouldn’t be as successful if it weren’t for Extension. Extension has wonderful programs and staff members to answer all of your questions and lead your classes. They work hand-in-hand with you to make sure you have a successful worksite wellness program.”

—Lesley Hartley, librarian, Chillicothe and Ross County Public Library



Healthy, Wealthy, and Wise: Extension’s Worksite Wellness Programs Are a Smart Choice



Chillicothe and Ross County Public Library staff push book carts through an obstacle course to promote physical activity. The library credits OSU Extension for helping keep its worksite wellness program on track.

Employers increasingly offer worksite wellness programs to employees, for good reason: A 2010 analysis in *Health Affairs* showed a decrease of \$3.27 in medical expenses and \$2.73 saved in absenteeism costs for every dollar invested in such programs. Ohio State University Extension’s Family and Consumer Sciences (FCS) educators give these efforts a much-needed shot in the arm. “We can invite people to our educational programs, but it often works better if we go to them,” said Lisa Barlage, FCS educator in Ross County.

A prime example is the Chillicothe and Ross County Public Library, where Barlage works with librarian Leslie Hartley to keep a wellness program strong. The result? Healthier snacks at meetings. Fitness breaks at in-services. Library-sponsored skin cancer screenings, glucose testing, and flu shots. The library’s program has won the Healthy Ohio Healthy Worksite Award three years in a row.

“Now when we have potlucks, we don’t even have to ask people to bring something healthy,” Hartley said. “It just happens.”

More: <http://go.osu.edu/wkstwlms>

The Essentials

- Forty-one FCS educators offer programs in 46 Ohio counties to help **residents manage their money, balance life and work, and stay healthy.**
- **OSU Extension is collaborating with the County Employee Benefits Consortium of Ohio** on worksite wellness programs. Of the 25 counties in the consortium, 11 have FCS educators who work with their local county wellness teams **to offer health-related materials and lunch-and-learn programs.** In counties without an FCS educator, **employees are encouraged to participate in online Extension-sponsored health challenges** through the *Live Healthy, Live Well* blog (open to all **at <http://livehealthyosu.com>**) and access other Extension materials.



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“OSU Extension helped to ensure that the 4,000 acres of corn and soybeans we have farmed for over 40 years gets passed on to our children and to our children’s children. . . . Extension helped plant the seeds for our estate planning and gave us the resources we needed to ensure we don’t lose the farm because of bad estate planning.”

—Roger Zeedyk, owner of Zeedyk Family Farm in Hicksville, Ohio



Transitioning Family Farms to the Next Generation



First-generation farmer Roger Zeedyk (back row, left) credits OSU Extension with helping him transition his family farm: “Extension has helped make sure our family inherits the land that we’ve worked hard for.”

Only 16.5 percent of family businesses, including family farms, survive to a third generation, according to the U.S. Small Business Administration. And 39 percent of U.S. farmland is owned by those 65 and older, with fewer than 30 percent having identified a successor.

An Ohio State University Extension program is working to ensure smooth transitions of family farm businesses to the next generation.

David Marrison, an OSU Extension educator for Ashtabula and Trumbull counties, coordinates Building for the Successful Transition of Your Family Business.

The program consists of multiple workshops and covers such topics as family communications, next generation planning, state and federal tax laws, and business structures and transfers.

“Strong communications are especially important,” Marrison said. “While poor family communication is at the center of many farm transitions and estate transfer problems, Extension has gotten people to sit down, talk to each other, and put a plan into action.”

More: <http://go.osu.edu/transition>

The Essentials

- Program participants indicated improved knowledge of the following: importance of family business meetings, business transfer strategies, tax issues in farm transfers, SWOT (strengths, weaknesses, opportunities, and threats) analyses, financial issues in transferring the family business, and buy-sell agreements.
- The program prompted results: **96 percent held an intergenerational family meeting, 89 percent met with an attorney, and 76 percent met with an accountant.**
- A survey taken 6 months after the program shows that the participants put into action the tools they learned during the workshops: **85 percent reported family discussions about business transition; 85 percent improved their communication; 81 percent started retirement planning; and 77 percent started estate planning.**

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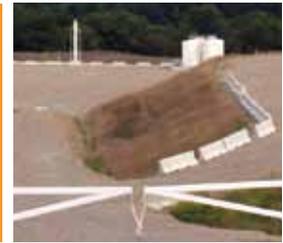
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"The Extension programs in our county have been very educational and enlightening, and beneficial for both elected officials and citizens. Extension has credibility. It provides the facts. It doesn't sugarcoat things like you might get from industry groups. That's very helpful for me; it helps me to better deal with the people I represent."

—Terry Bell, Salem Township trustee, Jefferson County



Energizing Ohio: Helping Communities Make Informed Decisions on Shale and Green Energy



Mike Hogan, left, is one of several OSU Extension educators helping public officials such as Jefferson County township trustee Terry Bell make informed decisions regarding shale energy development in eastern Ohio.

Ohio is experiencing an energy boom: Large solar and wind farms are rising from the ground, along with the thousands of jobs and economic prosperity expected from shale energy development.

To help landowners, communities, and public officials navigate the complexities of new energy opportunities and make informed decisions, Ohio State University Extension has taken on a leadership role throughout the state—becoming a trusted, unbiased source of education and training regardless of the type of energy development with which Buckeye communities are being presented.

To better serve the state, OSU Extension has created a new signature program called Energize Ohio: Building Ohio's Energy Future. This initiative builds upon current expertise on energy development topics throughout the Extension system, allocating further resources for partnering with communities, organizations, and other university groups.

The signature program's ultimate goal is to generate and deliver comprehensive educational tools that help Ohioans capitalize on the energy boom in a sustainable way.

More: <http://energizeohio.osu.edu>

The Essentials

- By fall 2012, **OSU Extension and the OSU Subsurface Energy Resource Center (SERC) had conducted 149 programs, reaching more than 14,000 people, on shale energy-related topics** such as legal and financial aspects of leases, and water and environmental issues.
- In Jefferson County alone, **landowners who participated** in OSU Extension workshops **received, on average, \$402 more per acre for shale mineral leases.**
- Also in 2012, OSU Extension **taught more than 1,000 Ohioans how to prepare for and attract potential renewable energy developments.**
- **OSU Extension educators have assisted with utility-scale green energy projects in Ohio.** Just **two of those projects**—the Timber Road II and Blue Creek wind energy farms in Van Wert and Paulding counties—**will pay \$2.6 million annually to landowners in lease payments and will generate \$3.6 million a year in local taxes.**

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Advancing Employment and Income Opportunities

OSU Extension's economic, small business, and job development programs are tailored to local community needs in every county, whether metropolitan, rural, or a combination.

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“The economic development toolbox has been growing, and one of the things we decided we had to have in this toolbox was cooperation between business and education. It wouldn’t have happened without the collaboration we had with Ohio State University Extension. To me, this was so important.”

—John Hohn, director of economic development, Hardin County Chamber & Business Alliance



Program Shows People the Training Needed for Open Jobs and Where to Get It Locally



John Hohn works to grow Hardin County’s businesses. OSU Extension’s Business Retention and Expansion Program helped him do just that.

Hardin County had broken new ground, merging its chamber of commerce and its downtown, tourism, and countywide economic development divisions into a single, coordinated program. When county leaders wanted to leverage that improvement and strengthen their efforts even further, they knew where to turn.

By teaming up with Ohio State University Extension’s Business Retention and Expansion (BR&E) Program, they created something new: a web-based platform cross-listing the training needs of Hardin County businesses with the training offered by area educational institutions. Today, companies are using this website to list the special skills needed by their workers, and potential future employees are using it to see where to learn these skills locally.

The project was designed to serve as a model for other counties. “It’s our intent to share what we’ve done here,” said John Hohn, director of economic development for the Hardin County Chamber & Business Alliance. “We’ve now got a process that we can replicate in almost any community.”

More: <http://go.osu.edu/BRnEvideo> and <http://go.osu.edu/BusinessRnE>

The Essentials

- **Communities with ongoing BR&E programs enjoy a better business climate, increased employment, and a more stable local economy.**
- Retention and expansion are equally key: **Studies show that existing businesses create 60–90 percent of all new jobs.**
- About **140 Ohio communities have partnered with OSU Extension’s BR&E Program** in the past 25 years.
- **OSU Extension BR&E specialists** are available throughout Ohio. Their mission is to **identify areas of strength in local economies, while building communication and cooperation between community leaders**—as, for example, in Hardin County.
- **See more examples of BR&E success stories**, including in Van Wert, Wyandot, Miami, and Cuyahoga counties, at <http://go.osu.edu/BRnEsuccess>.

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“We realized our cafeteria didn’t match our wellness policy. We wanted to provide our students with fresh-cooked meals with local products. Before the Farm to School initiative, only 22 percent of our students purchased school meals. We now serve 65 percent of our kids. I firmly believe every school district can do this to some extent.”

—Chuck Dilbone, business operations director, Granville School District



Farm to School: Feeding Kids Good Food and Giving Local Farms More Business



Greg Enslein, left, and Chuck Dilbone serve more and more fresh local food to Granville students thanks to OSU Extension’s Farm to School Program. The number of students buying school lunches has tripled.

It took 2,500 pounds of organic potatoes, bought from a local Amish farmer at just 40 cents a pound, for Chuck Dilbone to taste the benefits of Ohio’s Farm to School Program. Today, Dilbone, who is the business operations director for the Granville School District in central Ohio, is sold on the program, which is led by Ohio State University Extension.

Now, “When we make potatoes, they aren’t powdered. They’re right there with their skins on, and our kids are loving every minute of it,” said Dilbone, who struck a long-term deal with that farmer and buys local vegetables and apples from others.

The Farm to School Program works statewide to bring healthy food to school cafeterias while supporting local farmers.

Marie Economos, an OSU Extension educator in Trumbull County, said students who are touched by the program gain “healthy eating habits that will set the foundation for a healthier lifestyle.”

More: <http://farmtoschool.osu.edu/>

The Essentials

- Part of a national network, **Ohio’s Farm to School Program has projects and partnerships in all 88 Ohio counties.**
- **Leadership** of Ohio’s program **was transitioned** from the Ohio Department of Agriculture **to OSU Extension last year.**
- **A recent study** at The Ohio State University **found that** Cleveland, Akron, and other **cities could produce almost all the fresh fruits and vegetables their residents need.**
- The same study also determined that **increasing local food production would keep millions of dollars in local economies**—up to \$115 million a year in Cleveland alone. Greater demand from schools could help fuel this.
- Food choices affect our health and economy: **Almost 30 percent of Ohioans are obese, and the state spends more than \$3 billion a year treating the health-related consequences.**



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"I actually read food labels now. They tell you the sugar content, the calories, the carbohydrates, the fiber—all these things help you in making healthy choices, which can bring you back from a diabetes situation."

—Jim Parris, Buckeye Lake



Program "Can Bring You Back" from Diabetes



Jim Parris credits OSU Extension for helping to keep his diabetes in check. Dining with Diabetes has helped him make healthy food choices and understand the importance of keeping active.

Jim Parris was battling prostate and bone cancer when he noticed numbness in his feet. The diagnosis: diabetes. Fortunately, he saw a flier for Dining with Diabetes, offered by Ohio State University Extension. Parris credits the program for helping him focus on a healthy diet and physical activity. That and medication have allowed him to stay off insulin. Parris said, "My A1C [blood sugar] test results are now under 7.0, which is within acceptable limits. The last time I was at the doctor's, it was 6.7. That's really good. Everyone at the office actually clapped."

Dining with Diabetes is a three-part class co-taught by Extension educators and local dietitians. While learning about menu planning, carbohydrate counting, portion control, and label reading, participants taste-test healthy foods that the educator prepares right in front of them.

"The focus is on behavior change through a medium we all understand—cooking," said Shari Gallup, Extension educator in Licking County who leads Dining with Diabetes in Ohio.

More: <http://go.osu.edu/diabetes>

The Essentials

- **Ohio ranks eighth in the number of people diagnosed with diabetes**, with an estimated 889,000 adult Ohioans, or 1 in 10, having the disease—more than the populations of Montgomery, Mahoning, Sandusky, Pike, and Highland counties combined. **Another 267,000 Ohioans are believed to have diabetes without knowing it.**
- **Diabetes costs Ohio \$5.9 billion annually**, including \$3.9 billion in medical expenditures and \$2 billion in reduced productivity and premature mortality.
- More than 2,100 Ohioans participated in 2011. Evaluations show that **participants are more likely to check their blood glucose daily. They also know more about** which foods contain **carbohydrates**, what counts as a carbohydrate exchange, **and which foods are heart healthy.**

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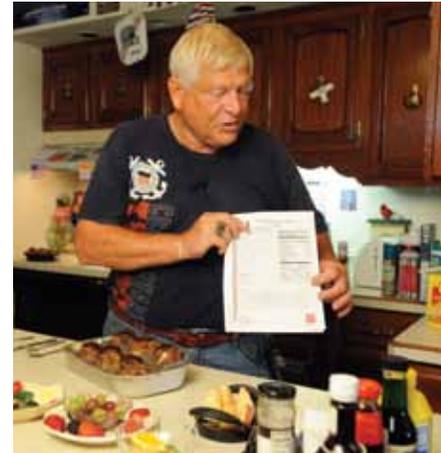
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"I sit in on the food safety class every year, and I find it wonderfully refreshing. It keeps me knowledgeable. The training Extension offers is outstanding because you can ask questions, get clarification, and learn from others who are there."

—Michele Gross, director of dining and business operations, Oberlin College



Food Safety On the Job



Michele Gross, left, credits the food safety training offered by OSU Extension with helping the cooks at Oberlin College provide "the safest environment we can, by having the best knowledge we can."

With an estimated 48 million illnesses, 128,000 hospitalizations, and 3,000 deaths, foodborne illness costs the nation \$77.7 billion a year. And research indicates that restaurants and other food service outlets are responsible for 7 in 10 outbreaks. But Michele Gross is determined not to let an outbreak happen on her watch. That's why she asks Ohio State University Extension to conduct food safety training annually at Oberlin College.

"Our management team has always been required to have food safety certification, but about seven years ago, we made it a requirement for our cooks, too," said Gross, Oberlin's director of dining and business operations. Now, nearly all 50 cooks are certified.

As a result, "we do things very differently," Gross said. "It's a job expectation." Food temperatures are measured and logged "from delivery and storage to cooking, holding, cooling, and reheating." Kitchen staff take precautions to prevent cross contamination, and they keep each other on their toes. "It's made us a much more educated organization."

More: <http://fcs.osu.edu/food-safety>

The Essentials

■ In 2011, Extension educators reached more than 14,000 people in food safety programs. Training is offered to food service workers at restaurants, schools, hospitals, childcare centers, nursing homes, and "anyone who serves food to the public," said Linnette Goard, Extension field specialist in food safety, selection, and management. "They could get online training or take courses from other organizations, but Extension educators have both the food safety know-how and the expertise in teaching adult learners. We offer a lot of advantages."

■ OSU Extension is teaming up with the Ohio Grocers Foundation to update the Pathway to Food Safety training offered to deli workers and other grocery store staff. Thanks to a U.S. Department of Agriculture Specialty Produce Grant, the curriculum includes special considerations for local produce.

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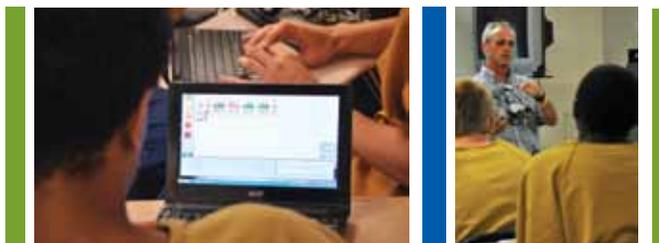
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“When we got our instructions and I got the robot to do the first move, I looked around and realized everyone else was still at their computer. I felt like, if I could get this done in this amount of time, why couldn’t I get a job doing this on a daily basis?”

—16-year-old participant in Tech Wizards at the Butler County Juvenile Detention Center



Tech Wizards: A Mentoring Program with Impact



Young men at the Butler County Juvenile Detention Center program light- and sound-wave sensors in LEGO robots, learning science and math skills—and the advantage of perseverance—along the way.

In the past, young men in the Butler County Juvenile Detention Center might have had trouble learning from their mistakes. But Tech Wizards, which teaches how to program robots to follow basic commands, has helped put that behind them.

“It was spectacular to see this project unfold,” said 4-H educator Jim Jordan. “They grew to understand that failing is not the end. If you go back and try something different, you might have success.”

For the weekly sessions in 2011–12, Jordan joined David Valentine, a technology education teacher who uses robotics to support the understanding of math concepts. Valentine gave a brief lesson explaining the day’s challenge. Then participants teamed up using laptop computers to make calculations and input programming. Sometimes the robots performed as predicted. Sometimes they didn’t, and the teams worked to determine what went wrong.

The hands-on learning has made an impact: Youths are more interested in engineering, technology, and auto mechanics, and they are doing better in math and science.

“It was so good to see kids who have been beat down to be so enthused about something,” Jordan said.

More: <http://go.osu.edu/4Hmentors>

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The Essentials

- **Tech Wizards is**, at its roots, **a mentoring program designed to prevent delinquency**. It’s funded by a grant from National 4-H Council and the U.S. Department of Justice’s Office of Juvenile Justice and Delinquency Prevention.
- **Ohio 4-H in Adams, Hardin, Lorain, and Mahoning counties is also taking part in the \$200,000 two-year grant**, mentoring young people in different ways.



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Preparing Youth for Success

OSU Extension's 4-H Youth Development program delivers skills in leadership, communications, math, science, and research to more than 250,000 young Ohioans. 4-H extends its reach through special in-school, after-school, and summer programs.

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OSU Extension is jointly funded via a line item in the State of Ohio's budget, county funds, and Smith-Lever Act appropriations from the federal government. It does not receive funding from student tuition.



“One of our team members who struggles in school blossomed during this project. Not everyone is a book-learner. This child is a builder, and really excelled. If you could have seen the transformation—it was amazing.”

—Jennifer Imbody, 4-H advisor in Licking County



4-H Cloverbuds Sparks Early Interest in Science



Koda Smith, 7, puts the finishing touches on the model representing his group's project in the 4-H Cloverbot Challenge. The program introduced basic engineering, design, and research skills to 4-H Cloverbud members.

Jennifer Imbody would never have learned that her eight-year-old son Zachary had an interest in robotics if it hadn't been for 4-H Cloverbuds. “And he definitely wouldn't have learned that about himself,” Imbody said.

Zachary's interest was sparked by an eight-week 4-H Cloverbot Challenge, which included 19 teams of children ages five through eight from across Ohio. Each team chose a snack food and learned how it moves from farm to plate, and then built LEGO-based models with moving parts based on what they learned.

“We want kids to be interested in STEM—science, technology, engineering, and math—and to us, it makes sense to start early,” said Sally McClaskey, 4-H Youth Development program coordinator. “It's specifically to get kids excited about the STEM fields in that very experiential, hands-on way that we do so well in 4-H.”

Imbody said the concept works: “The kids were enthralled. The thought processes they used—they just amazed me.”

More: <http://go.osu.edu/cloverbuds>

The Essentials

- Ohio 4-H **Cloverbuds** is a **noncompetitive 4-H program designed to build the confidence of youths** ages five through eight **and foster teambuilding** through fun, hands-on, short-term activities. **In 2011, more than 7,600 youths participated** in Cloverbuds.
- A **\$50,000 grant from J.C. Penney Co. funded the Ohio 4-H Cloverbot Challenge** and nine high school teams who took part in a national robotics competition. Both programs are part of FIRST (For Inspiration and Recognition of Science and Technology), a national nonprofit organization.
- **The 4-H Cloverbot Challenge introduces basic engineering, design, and research skills** to 4-H Cloverbud members. “If we start with young children and have them work their way up, by the time they get to high school, they'll be in a STEM mode,” said McClaskey.



OSU Extension's **Mission:**

Engaging people to strengthen their lives and communities through research-based educational programming



Preparing Youth for Success

OSU Extension's 4-H Youth Development program delivers skills in leadership, communications, math, science, and research to more than 250,000 young Ohioans. 4-H extends its reach through special in-school, after-school, and summer programs.



We connect with people in all stages of life, from young children to older adults. We work with families and children, farmers and business owners, community leaders and elected officials to build better lives, better businesses, and better communities to make Ohio great. OSU Extension delivers targeted, relevant, research-backed information and programs to meet the needs of Ohioans at a local level and address emerging issues.

Strengthening the Economy

In an independent study, Battelle found that OSU Extension is "purposely designed to produce positive economic and social impacts for the State of Ohio" and that it is a "generator of positive economic impacts."

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“Quality assurance teaches you about safe animal handling, nutrition, body condition scoring, and health. Expanding to include companion animals is a great idea. It’s all about basic animal care and making sure your animal is happy and healthy.”

—Maria Burger, Delaware County 4-H member



Quality Care for All Animals



Maria Burger is excited that the animal care information taught to young people who show food animals at fairs will also be taught to those who show companion and performance animals.

Maria Burger believes all animal owners should understand how to keep livestock and pets happy and healthy. The homeschooled senior has been in 4-H since she was six, and has shown everything from market lambs to pygmy goats at the county fair. As such, Maria has participated in the state-mandated Youth Food Animal Quality Assurance Program to learn how to best care for livestock destined for the food chain.

Now, a new Ohio State University Extension signature program called Assuring Quality Care for Animals is expanding that learning opportunity to all 4-H members who take animal projects—reaching beyond food animals to include companion and performance animals.

Paul Kuber, professor, is leading the program: “With the Ohio Livestock Care Standards Board in place and other legislation regarding animals under consideration, the public wants to know that our animals are raised humanely. Teaching those principles to young people is the best place to start.”

More: <http://go.osu.edu/anicare>

The Essentials

- **Assuring Quality Care for Animals expands the curriculum** of the current Youth Food Animal Quality Assurance Program **to address food safety, animal handling, and animal welfare.**
- **Animals are involved in 35 percent of Ohio 4-H projects.**
- **Annually in 4-H, nearly 58,000 food animal projects are taken in Ohio, and nearly 32,000 companion and performance animal projects are taken.**



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