CFAES SOUTH CENTERS FALL 2023

Connections

Congressional Assistants and special guests enjoyed getting an up-close look at ongoing research projects during a wagon tour of the Piketon campus.

Congressional Assistants Tour

Story and Photos by
BRADFORD SHERMAN

The Ohio State University South Centers welcomed staff members of Ohio's Congressional delegation, Governor's office, and members of the university's Government Affairs staff and Extension Advisory Committee to Piketon for a special visit in August.

It was an opportunity for South Centers to highlight its programming, facilities, and staff to influential individuals and show firsthand how federal funding helps the center enhance southern Ohio by assisting people with informed decision-making through responsive research, education, entrepreneurial application, and collaborative partnerships.

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From top and clockwise: Paul O'Bryant, Dr. Rafiq Islam, and Dr. Hanping Wang speak to visitors during the tour of South Centers. OSU South Centers Director Dr. Tom Worley and Ryan Mapes conduct a tour of the Endeavor Center. Stan Skocki, Associate Vice President of Governmental Affairs, at OSU checks out one of the outdoor tanks at the fish hatchery.

TOUR from Front

"Hosting the Staff Assistants to our U.S. Senators and several members of Congress at South Centers is a significant way to raise their awareness and understanding of how the work that they are doing at the national level gets implemented and demonstrates the impact here in Ohio and especially rural southern Ohio," explained South Centers Director Dr. Tom Worley.

"We were focused on identifying specific federal funding, including programs from USDA, Department of Commerce, and NOAA that support our research and Extension programs in Aquaculture, Specialty Crops, Soil and Water Resources, and Business Development. Each of our programs is dependent on resources that flows through programs funded by these agencies and others at the federal level."

Among those present included Wes King, Amy Myers, and Kaleb Knowlton representing Senator Sherrod Brown and Kelli Johnson representing Senator J.D. Vance; Anthony Spaetzel from Representative Brad Wenstrup's office; Nikki Pfadt from Representative Bill Johnson's office, and Karen Williams from Representative Max Miller's office; as well as Anna Perry representing Governor Mike DeWine.

Accompanying the assistants were OSU Government Affairs team members Adam Ward, Beau Ingle, and Stan Skocki; and Extension Advisory Committee/CARET delegates Dr. Jackie Wilkins, Tony Logan, Wally Burden, Jane Wright, Yolanda Owens, Daniel Balser, Tadd Nicholson, and Julie Fox.

Following brief introductions, guests began the morning by touring the Endeavor Center to learn more about South Centers Business Development Programs, including the Small Business Development Center, Manufacturing Extension Partnership, CFAES Center for Cooperatives, and Direct Food and Agricultural Marketing Program.

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From above then down: Congressional Assistants and special guests tour the fish hatchery, aquaponics project space, and the Endeavor Center as part of their trip to Piketon.

TOUR from Page 2

They heard from special invited guests who have benefitted from the programs at South Centers like Tamara Kissinger, who has utilized space in the Endeavor Center to open a 24-hour gym, and Anna Shields, an entrepreneur who opened Snowville Creamery with the help of the MEP. Teacher Luke Rhonemus, Agribusiness Management instructor at Ohio Valley Career & Technical Center, and his students Grant McClanahan and David Raines explained how the CFAES Center for Cooperatives helped the school launch a successful agricultural cooperative ran by the students. Vicki Wissler of Lavender Meadows shared about the help she received from the Direct Food and Agricultural Marketing team.

Following a lunch featuring presentations from staff of the Pike County OSU Extension office, honored guests then toured soil and aquaculture laboratories before boarding a wagon to tour the fish hatchery, and South Centers research plots to learn more about ongoing research on long cane raspberries, strawberries, tomatoes, hops, and more.

The group heard testimonials from Richard Haier, an Aquaculture Boot Camp graduate who has gone on to find success with his own fish farming operation; Jay Brandt of Brandt Farms and Ben Hofecker of Demeter, Inc., who spoke in support of the Soil, Water, and Bioenergy Resources program; and Rick Burke of B&D Berry Farms on behalf of the Specialty Crops Small Fruits team.

The trip to Piketon was part of a two-day visit of the OSU campuses for the Congressional Assistants. CFAES Dean Cathann Kress hosted the group for a tour of the Columbus campus the following day.

Islam wins Commercialization Award

By Bradford Sherman
CFAES/South Centers

Dr. Khandakar "Rafiq" Islam, a soil scientist at The Ohio State University, has received his university's Commercialization Achievement Award in recognition of a 2021 licensing agreement for the rapid and low-cost soil health test he spent over a decade developing and perfecting.

Islam, who leads the Soil, Water, and Bioenergy Resources program in Piketon, began development of the soil test over 15 years ago with the goal of creating something that was affordable, and so convenient and simple to use that any landowner could use it to make informed decisions concerning soil health and the potential for agricultural productivity.

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Below: Jay Brandt, son of the late soil pioneer David Brandt, explains how beneficial the partnership with the South Centers Soil, Water, and Bioenergy Resources program has been for his family's farm and their soil health research.

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South Centers was included as part of a two-day tour of The Ohio State University campus for assistants of Ohio's Congressional Delegation. See Pages 1-3 for story and photos.

Stories

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"Farmers would come to me and say, 'Rafiq, can you make something that we can use in the field and 10-to-15 minutes later, we can know the quality of the soil?'" Islam recalled, when asked about his inspiration for developing the test kit. Fast forward to today and now an estimated thousands of kits have been sold and utilized by farmers, scientists, and scholars all around the world.

"Discovery is at the core of our academic mission at Ohio State and we have a deep appreciation for the meaningful work you do to drive innovation and better society," Kevin Taylor, Senior Associate Vice President of Technology Commercialization within OSU's Office of Innovation and Economic Development, penned in a letter congratulating Islam. "Ohio State's research solves real-world problems – improving people's lives across the globe and creating new opportunities for the citizens of our state."

The licensing agreement reached with Soil1, the company that now sells the kits, has helped lead to domestic and international success and utilization. The kits are available to purchase starting at $45 for the basic kit, and $95 for the professional version at soil1.com.

The signature feature of this soil test kit is convenience. Unlike many other methods, it can be used in the field and data can be had in as little as 15 minutes. The results are also color-coded for ease of interpreting the results.

"It is non-toxic as well, it only uses one chemical," explained Islam. "It is reliable and convenient to use in the field; and very fast, in 15 minutes you are done."

This one-step basic field test kit contains enough reagent and testing supplies for approximately 15 field soil tests. The kit consists of a heavy-duty case containing 30 ml of reagent, water resistant instruction sheet and color chart, glass-mixing bottle, 5-gram measuring scoop, four black plastic soil trays, a stainless steel spatula, and 2 ml backup dropper.

A professional version of the kit is also available and is designed to be more heavy duty with an upgraded case and upgraded pipettor system for quicker and more precise reagent dispensing. It also contains enough reagent and testing supplies for approximately 45 tests.

Islam was presented with a plaque in recognition of this award. "We are honored you entrust your innovations with us and look forward to future collaboration," added Taylor.

Minter named Field Specialist, Specialty Crops Production

Logan Minter talks about hop trials with a group of visitors to South Centers. Minter will be leading the Specialty Crops Production program at South Centers as a Field Specialist. (Photo/Bradford Sherman)

By Cheryl Buck
OSU Extension Commnications Manager

Minter named as Field Specialist, Specialty Crops Production Systems at Ohio State

Logan Minter has been hired as field specialist, specialty crops production systems, for Ohio State University Extension in The Ohio State University College of Food, Agricultural, and Environmental Sciences (CFAES).

Minter, who previously worked as an associate professor of biology at Shawnee State University, began his new position August 1, said Jacqueline Kirby Wilkins, associate dean and director, OSU Extension. OSU Extension is the outreach arm of CFAES.

"In this new role, Logan will provide overall leadership for a comprehensive outreach, applied research, and teaching agenda for Extension's statewide agriculture and natural resources program," Wilkins said. "Logan's work with specialty crops will be relevant to Extension professionals, growers, industry contacts, and other Extension clientele throughout Ohio."

Specialty crops as defined by the United States Department of Agriculture include fruits, vegetables, nuts, nursery crops, flowers, and other horticultural crops. Minter will address several priority production issues such as pest control, disease management, production methods, organization systems, and breeding and varietal trials of new cultivars.

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"We are very pleased to welcome Logan to a leadership role within our specialty crops team of professionals at Piketon and OSU Extension across the state, as well as with other departments within CFAES and colleges at Ohio State," said Tom Worley, director at OSU South Centers, where Minter will be based. "Logan is widely experienced with specialty crops, both from a farming and research perspective. He will collaborate with peers, stakeholder clientele, and industry leaders to address specialty crop needs statewide via research, field trials, and securing resources to assist growers and others."

Minter said he looks forward to partnering with Ohio farmers and producers who grow and manage specialty horticultural crops, conducting research in best practices, innovating new ways to deliver educational programs to this unique audience, providing resources, and collaborating with colleagues.

"My primary focus will be working with growers and other stakeholder groups to develop and disseminate sustainable practices to diversity and strengthen the agricultural community of Ohio," said Minter. "I most look forward to exploring new opportunities to efficiently manage natural resources and meet new challenges as they emerge."

Prior to joining OSU Extension, Minter most recently worked as an associate professor of biology at Shawnee State University. He also worked as an instructor and adjunct faculty in several roles, as well as a program director, research assistant, laboratory technician, and naturalist.

Minter joins other OSU Extension field specialists, who each have a particular subject matter focus and provide overall leadership for a comprehensive teaching and applied research program to address statewide issues. Field specialists work to expand existing partnerships, develop new relationships, and foster collaborations across the state, including with university researchers, to complement local Extension educators' efforts.

Other topics addressed by Extension field specialists include beef cattle; community economics; agronomic systems; farm management; food, nutrition, and wellness; energy development; manure nutrient management systems; agricultural and resource law; food safety; youth nutrition and wellness; family wellness; ecosystems services; organizational and community leadership development; and dairy management and precision livestock.

"Please join OSU Extension in welcoming Logan Minter to this new field specialist role, which will be vital to the success of Ohio's specialty crop industry. HIs research, outreach, and advocacy on behalf of specialty crop producers will be key to addressing the needs of this large, but often very unique industry," Wilkins said.

Kindness in our community

South Centers staff clean out homeless shelter building

South Centers staff members and student assistants spent the morning of August 11 at the Bridgehaven Homeless Shelter in Waverly, helping clean years worth of clutter out of a building, so that it can be repurposed into something more beneficial for residents.

South Centers staff members who pitched in to help this community service project included Bridget Robertson, Dean Rapp, Beth Rigsby, Paul O'Bryant, Wayne Lewis, Logan Minter, and Bradford Sherman, and student assistants Hayley Ayers, Alyssa Marhoover, Taylor Wagner, and Isaac Knipp.

Bridgehaven, a mission of the Pike Outreach Council of Churches, is a multi-bed family shelter that offers comprehensive case management to each resident to assist with securing not only housing, but also education, employment, medical care, and life skills. Bridgehaven staff are dedicated to preparing each resident for independent living while also working to restore their faith.

What *ARE* they teaching kids these days?

At the OVCTC, a lot

By Christie Welch
Direct Marketing Specalist

What *ARE* schools teaching our young people? It is a commonly heard sentiment, for sure. At the Ohio Valley Career and Technical Center's Agribusiness Management Program in Adams County, however, the answer is a lot.

Under the leadership of Mr. Luke Rhonemus, the students of the agriculture program are learning all aspects of cooperatively managing their 300-acre diversified school farm. While you might immediately think of production, the students are learning so much more.

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Above, Direct Marketing Specialist Christie Welch shows off some of the marketing materials her team helped develop for students of the OVCTC Agribusiness Management Program. Also shown is the cover of the marketing plan, a banner, and table that is set up at various events to promote the co-op.

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While they do perform the farm work of raising and selling hay, livestock, and managing beehives, they are learning more than production. Through collaboration with the College of Food, Agricultural, and Environmental Sciences Center for Cooperatives at The Ohio State University, supported by USDA Sustainable Agriculture Research and Education Program, students have learned;

- What a cooperative business is
- The roles and responsibilities of the board of directors
- Determining the profitability of the farm
- The importance of marketing and branding for the farm

The OSU South Centers Direct Food and Agricultural Marketing Program taught the students the basics of marketing, helped them understand branding, and assisted them with the development of a marketing plan for the farm. As a result, the students had the opportunity to work with a consultant to develop and implement a brand strategy. This included a refresh of the farm logo, development of their brand colors, fonts, and a tag line. In addition, they were able to select and purchase items to assist in the marketing of their farm and its products.

So, what are these students learning? They are learning not only to manage the school farm, but to also make critical decisions, to always keep profitability in mind, and how to ensure they are reaching their target customers to whom they sell their products.

This project has been led by the Center for Cooperatives and the Ohio Valley Career & Technical Center's Agribusiness Management program. If you would like to learn more about the project or youth cooperatives, please contact the Center by visiting go.osu.edu/cooperatives or email osucooperatives@osu.edu.

If you would like to learn more about the OSU South Centers Direct Food and Agricultural Marketing Program please contact Christie Welch via email at welch.183@osu.edu or visit directmarketing.osu.edu.

Learn more about SARE at northcentral.sare.org. This material is based upon work that is supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under agreement number 2019-38640-29879 through the North Central Region SARE program under project number LNC19-428. USDA is an equal opportunity employer and service provider. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture.

Luke Rhonemus, Grant McClanahan, and David Raines speak about the OVCTC agricultural cooperative during the recent Congressional Assistant's visit to South Centers.

McClanahan, Rains, and Rhonemus pose for a photo with Community Outreach Program Manager Yolanda Owens, third from right, and CFAES Center for Cooperatives Program Manager Hannah Scott.

ENTOMOPATHOGENIC NEMATODES AS A BIOLOGICAL CONTROL OF SWD

By Dr. Gary Gao
Professor and Small Fruits Extension Specialist

Steinernema feltiae (SF) is an entomopathogenic nematode that has been shown to significantly reduce adult Spotted Wing Drosophila (SWD) emergence at the pupal and infested fruit life stage through a poster presentation entitled "Can Nematodes Aid in Spotted Wing Drosophila (Drosophila Suzukii) Control?" by Emilie Cole, Jacqueline Perkins, Rufus Isaacs, and Marisol Quintanilla. Steinernema feltiae (SF)-treated pupae had significantly less adult emergence compared to the control.

As a part of the USDA-NIFA funded project, South Centers Small Fruits program leader Dr. Gary Gao and his research assistant Ryan Slaughter conducted an on-farm EPN study at the largest blueberry farm in Lexington. Researchers sprayed Steinernema feltiae on the ground beneath the blueberry bushes weekly at the rate of 1 billion per acre on July 14, 21, and 28. Three bushes of the control and treated blocks were netted with insect netting to prevent cross containments from neighboring plots. There were three replications. The number of SWD larvae in fruits using saltwater test and the number of SWD adults in SWD traps baited with apple cider vinegar and a drop of unscented dish soap were counted and recorded weekly on July 21, 28 and August 3. Steinernema feltiae products come in pouches of 250 million. Four pouches (1 billion) are needed per acre. The results are still being summarized.

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Research Assistant Ryan Slaughter mixing Steinernema feltiae (SF) with water. *Photo by Gary Gao*

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The team is still working to figure out the optimal timing, method, and rate of application. SWD are difficult to control due to their short lifespan and multiple generations per year. In blueberry plantings, insecticidal sprays are very difficult to apply without knocking a lot of fruits off. Soil drench or spray with Steinernema feltiae may be one of the tools in the toolbox.

“We are hoping that a ground based robotic sprayer or drip irrigation can be viable methods of EPN application,” commented Gao.

The project is titled Restocking the IPM Toolbox to meet Insect Management Challenges in Highbush Blueberry and is funded by the National Institute of Food and Agriculture CPPM program.

ABOVE: Spraying Steinernema feltiae (SF) onto the ground beneath the blueberry canopies. RIGHT: SWD traps baited with apple cider vinegar and a drop of unscented soap.

Adults, larva and pupa of Drosophila suzuki - commonly called the spotted wing drosophila or SWD. It is a fruit fly a major pest species of many kind of fruits in America and Europe.

Piketon High School students are shown at various stops along a tour of OSU South Centers.

Piketon vo-ag students visit OSU South Centers

Story and Photos by
Bradford Sherman
South Centers/CFAES

Piketon High School vocational agricultural students paid a spring visit to The Ohio State University South Centers to learn more about facility's various program areas and some of its signature research projects.

Students viewed a short film on how the center's aquaponics system was constructed before getting to see it in person and speak with Research Associate Thom Harker, who serves as the primary caretaker of the system. Aquaponics is a food production system that pairs aquaculture with hydroponics whereby the nutrient-rich aquaculture water is fed to hydroponically grown plants.

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Farm Manager Wayne Lewis then led a wagon tour of the South Centers research plots, making stops along the way and explaining more about current projects including long cane raspberry production, tabletop-grown and high tunnel strawberries, hops, and more.

Easily the most popular attraction for the students, however, was the fish hatchery, where Research Assistant Paul O'Bryant educated students about the genetic research projects involving yellow perch and bluegill and allowed students to get an up-close view of the various fish species present in the hatchery and ponds.

"I loved seeing the lake sturgeons and the catfish ponds, I really learned a lot while we were here," said sophomore Bodie Armstrong. "I even learned that you can use fish poop to grow lettuce in water!"

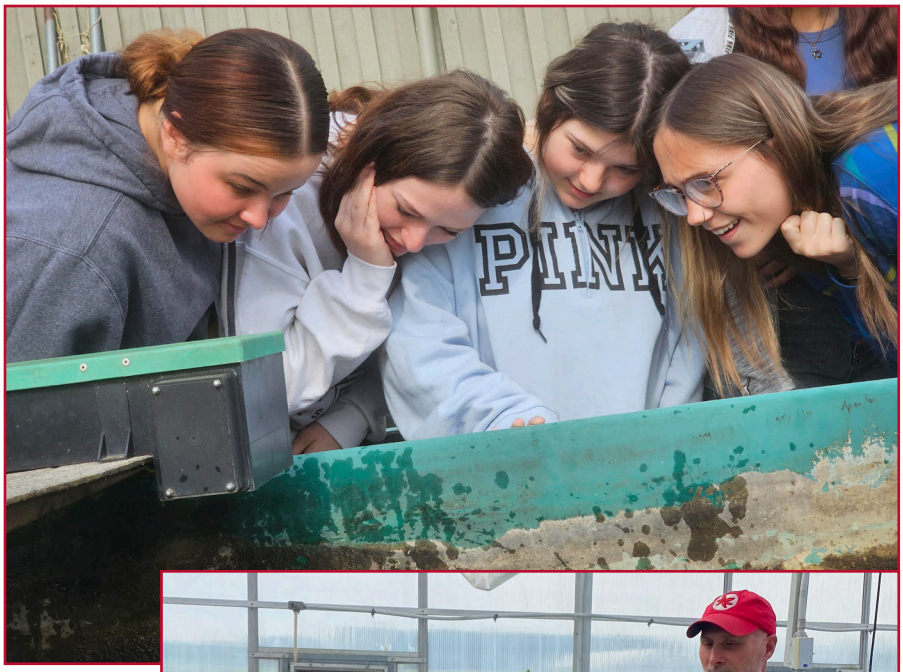
"It was great to see the enthusiasm on the faces of the students, as they learned more about the research that goes on here," said South Centers Senior Event Coordinator Bridget Robertson. "We are making an effort to bring groups like this one onto our campus."

Vocational Agriculture teacher Kristen Campbell called the experience "a fun filled, educational trip that the students will definitely remember" and even learned a thing or two herself.

"I found it amazing that the staff were harvesting strawberries in late March into early April. Some of the strawberries were grown in gutter systems in coconut hair," she said. We also got an up close look at some sturgeons that are around 30 years old, and learned that they can live to be 100 years old!"

"I would like to thank the South Centers staff for allowing my students to tour the facility and learn about the research that they do at the facility."

Any school or community groups interested in touring the South Centers should contact Robertson at 614-247-9757 or by email at robertson.731@osu.edu.



Research Associate Thom Harker, above, and Farm Manager Wayne Lewis, left, shared their expertise with students at their respective stops on the South Centers tour.

MEP sponsors events throughout the region

Ohio Minority Business Assistance presented the 2023 Appalachian We Mean Business Conference at Rio Grande in conjunction with Gallia County and Ross County Chamber of Commerce. This event highlighted resources and funding opportunities for businesses in our region. The OSU South Centers MEP was on the committee to bring it all together and present about what the program can provide for manufacturers. There were a few legislative representatives present to hear what business needs are and offer resource assistance. Pictured from left are Growth Advisors Ival Shields and Dawn Coleman, and Program Manager Mick Whitt.

OSU South Centers MEP attended the ribbon cutting for the new AOMC MSC in Marietta. This facility will allow local schools and manufacturers to learn how to use specialized equipment without the expense of purchasing. Instructors are readily available and eager to help our workforce in SE Ohio.

Fifty West in Chillicothe hosted a Ross-Chillicothe Chamber of Commerce "Business After Business" sponsored by the OSU South Centers MEP. One hundred people attended to network and talk about business related issues while enjoying a great meal. The photo booth and live DJ was a huge hit and graciously sponsored by a friend of OSU SC MEP.

The Ross-Chillicothe Chamber of Commerce holds an annual awards banquet to recognize outstanding businesses and people in the community. The OSU SC MEP is a sponsor to highlight some of our manufacturers in Ross County. In attendance with OSU MEP was Bee Guy Supplies and Woodpecker Farms. Bee Guy donated honey to add to the table OSU MEP sponsored and decorated.

Director Dr. Tom Worley welcomes Piketon STEAM students to South Centers.

Piketon STEAM students enjoy a day at South Centers

Story and Photos by
Bradford Sherman
South Centers/CFAES

Fourth grade STEAM students from the Scioto Valley Local School District visited The Ohio State University South Centers in May to learn more about facility's various program areas and some of its signature research projects.

STEAM is an acronym for science, technology, engineering, arts, and mathematics education. Related closely to the more commonly known STEM, STEAM focuses on sparking imagination and creativity through the arts in ways that naturally align with STEM learning.

It was an exciting day for the students as they interacted with South Centers staff to learn more about aquaponics, aquaculture, and specialty crops. It was also an emotional one for K-4 Educational Technology teacher Jennifer Buckler in one of her final activities leading the STEAM program.

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"Observing my 4th grade students during the tours at OSU South Centers was the best exit ticket an educator could ask for," Buckler said. "This field trip left me emotional. The way my students interacted with the OSU Research staff, their use of proper terms and vocabulary, the relationships they made to prior knowledge, and engagement through questioning was exemplary."

Students visited with Research Associate Thom Harker to learn about how crops like lettuce can grow on top of the water in an aquaponics system. He explained that aquaponics is a food production system that pairs aquaculture with hydroponics whereby the nutrient-rich aquaculture water is fed to hydroponically grown plants.

"The aquaponics greenhouse setup really captured their interest with a much larger setup than we were able to have in class, but same overall concept. They really showed off for their homeroom teachers by answering the questions proudly and making connections to their own projects at school," added Buckler.

Farm Manager Wayne Lewis then led a wagon tour of the South Centers research plots, making stops along the way and explaining more about current projects including long cane raspberry production, tabletop-grown and high tunnel strawberries, hops, and more.

One of the most popular attractions for the youngsters, as it commonly is, was the fish hatchery. Research Assistant Dean Rapp spoke about the genetic research projects involving yellow perch and bluegill and allowed students to get an up-close view of the various fish species present in the hatchery and ponds, including the massive sturgeons that have lived on the campus for decades.

South Centers Senior Event Coordinator Bridget Robertson says that South Centers is proud to help support STEAM education by welcoming groups like these to our campus.

"It is a point of pride for us to be able to play a role in educating young people. Seeing their eagerness to learn, the intelligent questions they asked, and how they participated in the activities during their time here was a real treat for me and our entire staff. Maybe they even saw a career path they are interested in during their visit here," said Robertson.

Buckler praised the benefits of STEAM education, including the skills it teaches, and how participation in it can set students on a path for future success.

"STEAM learning and inquiry-based instruction encourages active, often hands-on, experiences that support building understanding and vocabulary, critical thinking, problem solving, communication, reflection and makes connections to real world occupations," she said.

The STEAM students had a great time visiting the fish hatchry and ponds, while learning from Aquaculture Research Assistant Dean Rapp.

"Schools that give students an introduction to STEAM are providing a way for their students to escape poverty. Research supports that STEAM education allows students to gain access to a world of higher-paying jobs and improves their odds of succeeding in any profession."

Any school or community groups interested in touring the South Centers should contact Robertson at 614-247-9757 or by email at robertson.731@osu.edu.

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