

# Connections Newsletter

The Ohio State University South Centers, Piketon Ohio

Summer | 2016



Gary Gao explaining the benefits and potential of the container fruit production project for new and existing farmers in Ohio at our Super Berry Field Night. (Photo by Dong Qin)

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## Container fruit production may have good potential in Ohio

**By Gary Gao, PhD, Extension Specialist and Associate Professor; Ryan Slaughter, Research Assistant; and Michael Daniels, Former Student Intern, OSU South Centers**

Our container fruit production plot has finally been set up and ready for your viewing pleasure after several months of learning, planning, and hard work. Since we are not necessarily nursery production experts, we reached out to a few people before we decided on the specifics of our container fruit production plot. We toured Dr. Altland's research facilities in Wooster, Ohio. Both Dr. Altland and his assistant Dan Troyer welcomed us with open arms. We are very grateful for all of the excellent information from them. Our container production is on drip irrigation and is supported by a very strong trellis system.

*(continued on page 2)*





## Container fruit production may have good potential in Ohio *(continued)*

If you would like to bring a group to tour our research plots in Piketon, Ohio, please let Gary (Gao.2@osu.edu) or Ryan (Slaughter.71@osu.edu) know. Fridays are typically the best days for tours like this. Gary or Ryan can share what we have learned. We planted blackberries, blueberries and raspberries so far, and may add other fruit crops.

The main objectives of this study are to:

1. Explore the techniques and practices of container fruit production;
2. Explore an effective way to produce blueberries where soil acidification is not feasible;
3. Provide an effective method of winter protection for blackberries;
4. Extend the fruit harvest season by “forcing” early or later blooms and fruit ripening;
5. Help farmers diversify their farming operations.

There may be other benefits from this project. We use aged pine fines as our substrate for our container fruit production. Pine barks are the byproducts of paper industry. In southern Ohio, timber industry is a significant source of cash receipts for many landowners. Using byproducts of the timber industry can help everyone!

Since soils on many hilly areas are not ideally suited for fruit production, high density berry production in containers might be a good option. Stay tuned for more information. Pay us a visit, if you can't wait!

We showcased our berry container production plot at our 2016 Super Berry, Container Fruit Production and Wine Grape Field Night on July 7. With the weather turning out to be much better than we had anticipated, it was a good turnout for the field night.

We would like to extend our sincere appreciation to Dave Daniels, Director of Ohio Department of Agriculture, and Ms. Lori Panda, a senior program manager at Ohio Department of Agriculture for a specialty crop block grant. We also thank the USDA Agricultural Marketing Service for the Special Crop Block Grant Program.



Container fruit production plot at OSU South Centers in Piketon, Ohio. (Photos by Gary Gao)

# Ohio & West Virginia Food Hub Network learns from Central Ohio produce companies

**By Hannah Scott, OCDC Program Manager**

Participants in the Ohio and West Virginia Food Hub Network learned first-hand the ins and outs of aggregating, distributing and even processing fresh produce when they toured multiple central Ohio produce companies during their recent quarterly meeting. Food hub stakeholders and support organizations from across the region were welcomed at Sanfillipo Produce Co., DNO Produce, LLC and DNO, Inc. of Columbus, Ohio, which have roots in produce wholesale and distribution spanning 100 years.

The tours of operational facilities gave participants the chance to observe working facilities, learn from employees about how produce is sources from growers, protocols for aggregating and distributing products to restaurants, grocers, institutions and other customers, as well as the importance of high quality and safe produce throughout aggregation, processing and distribution.

The Ohio Cooperative Development Center (OCDC) at The Ohio State University South Centers leads the Ohio and West Virginia Food Hub Network. The program is a peer exchange network of representatives from new and emerging food hubs and incubator training farms as well as technical assistance providers from a various organizations. The regional effort began in early 2014 and participants now come together four times a year for programs that address the challenges of developing food hubs and training farms. Meetings also create a space for stakeholders to learn from one another. Past programs have focused on financial planning and finance resources, examining successful models, and quality and safety assurance. The network also incorporates other activities throughout the year, including educational webinars.

The U.S. Department of Agriculture defines regional food hubs as, “a business or organization that actively manages the aggregation, distribution, and marketing of source-identified food products primarily from local and regional producers to strengthen their ability to satisfy wholesale, retail, and institutional demand.”<sup>1</sup> Efforts to create food hubs in Ohio and West Virginia have gained a great deal of interest recently; the businesses can create a variety of community benefits, including market access for local and regional producers.

The Ohio and West Virginia Food Hub Network will continue the learning about successful aggregation and distribution models at their upcoming August meeting in Davis, West Virginia. If you are interested in learning more about the meeting or registering, please visit the following link <http://southcenters.osu.edu/cooperatives/ocdc-non-profit-local-foods-network-inc>

If you are interested in learning more about cooperative food hubs or the Ohio and West Virginia Food Hub Network, please contact Hannah Scott, [scott.1220@osu.edu](mailto:scott.1220@osu.edu) or 740-289-2071 x227.



**Jeff Givens of Sanfillipo Produce Co. talks with participants about the company's operations and their initiative to source Ohio grown produce. (Photo by Hannah Scott)**



**Participants in the Ohio & West Virginia Food Hub, including food hub stakeholders and technical assistance providers, visit Sanfillipo Produce Co. as a part of their spring meeting. (Photo by Kimberly Roush)**

<sup>1</sup> Barham, James, Debra Tropp, Kathleen Enterline, Jeff Farbman, John Fisk, and Stacia Kiraly. Regional Food Hub Resource Guide. U.S. Dept. of Agriculture, Agricultural Marketing Service. Washington, DC. April 2012. <http://dx.doi.org/10.9752/MS046.04-2012>



# Endeavor Center and Small Business Development Center

**By Ryan Mapes, Endeavor Center Manager**

The Endeavor Center continues to have a very successful year. We have been operating at a 100% occupancy rate for 2016. North Wind Construction Services LLC was the latest business to become an Endeavor Center partner. There has been much activity and many visitors through the doors this past quarter, hosting over 80 training or meeting events during the months of April, May and June. Below is a list of Endeavor Center Partners:



(Photo by Beth Rigsby)

- Adams Wealth Management
- Boston Government Services
- Alliant
- CRC Technologies
- EHI Consultants
- EC Government Services
- Hukari Ascendent
- InSolves
- InSolves Manufacturing
- Navarro Research
- North Wind Construction Services
- Probatum Technology
- Professional Project Services
- Steve McCain and Associates
- SAA Solutions
- Swift and Staley
- Visiting Angels Home Health
- Visiting Angels Home Health

The Small Business Development Center (SBDC) at the OSU South Centers was recently successful in obtaining Ohio Development Services Agency funding for another two-year period, 2017 and 2018. We will continue to provide business consulting to the existing and start-up small businesses in our coverage area. Through the first three quarters of fiscal year 2016, the SBDC at the OSU South Centers has assisted 245 clients and helped create 15 new businesses. Our clients have obtained \$6,247,395 of capital, increased sales by \$915,000, have created over 60 jobs, and have retained another 746.

Recently our SBDC has worked on a wide variety of projects. We received additional SBA funding to have detailed marketing projects completed for SBDC clients. This project was completed in partnership with the University of Rio Grande in which students from Dr. Wesley Theone's marketing class completed market research and developed comprehensive Marketing Plans for three different SBDC clients including a coffee wholesaler, a beef processing plant, and a co-packing facility.

Another project we are currently working with is the Agricultural Development and Young Farmer grant application through Southern Ohio Agricultural Development Foundation (SOACDF). This is a program where our SBDC counselors work closely with area farmers to develop business plans for projects that will be submitted to SOACDF for potential grant funding. You can see details and deadlines about the program at <http://www.soacdf.net/>.

The OSU-RIO Collaboration TV/RADIO broadcasts are multi-media (Radio, TV, YouTube and Live Internet Streaming) educational shows with a host of topics that promote Small Businesses, business support organizations, programs at The Ohio State University South Centers, and educational programs at the University of Rio Grande/ Rio Grande Community College. These shows air on Wednesday afternoons from the Radio and TV Studio at the University of Rio Grande. Guests include a variety of people representing educational, business development, community and organizational programs. The mission of these collaborative TV/RADIO broadcasts is twofold, first is to be an educational learning lab and second is to be a promotional tool for educational programs at the University of Rio Grande/ Rio Grande Community College and the business and agricultural programs of The Ohio State University South Centers. *(continued on page 5)*

## Endeavor Center and Small Business Development Center *(continued)*

In January 2012, the shows began simulcasting with the Rio Grande Educational Channel 17 TV station. This public access TV Program broadcasts under the Time Warner Cable System using one of their Public Educational Channels. Viewers from four southern Ohio counties can view broadcast shows live as well as listen on the Internet Blog-Talk Radio. All completed broadcast shows are also uploaded onto YouTube, with all shows archived on Blog-Talk radio and YouTube video channels for viewing and listening again. According to statistics of YouTube and Internet Radio, over 178 countries and over 55,000 people have listened or viewed to one of the archived shows.

With the success of the University of Rio Grande partnership, the SBDC had the opportunity to obtain grant funds to initiate a live streaming radio and TV broadcast international media channel to be located at the OSU South Centers. Emphasis is on small businesses, supportive small business organizations and agricultural programs. Training events covering a wide variety of business related topics also be recorded and archived on YouTube as well as the data recording platform used by the Ohio SBDC.

Be sure to visit our weekly Blog and stay up-to-date with the OSU South Centers business development network at <https://u.osu.edu/osubusinessdevelopmentnetwork/>.

## Sustainable management of food waste composting for nutrient recycling

*By Dr. Rafiq Islam, Soil, Water and Bioenergy Specialist*

The Soil, Water & Bioenergy Resources Program of the Ohio State University South Centers, in conjunction with Pike County Soil and Water Conservation District and Pike County Solid Waste District, organized a "Food Waste Composting for Home Gardening" workshop in Piketon on May 19, 2016. The workshop was well attended by the presence of small farmers, organic producers, home gardeners, compost producers and dealers, and home owners.

The main speaker at the workshop was Dr. Frederick C. Michel, Jr., from the Department of Food, Agricultural and Biological Engineering, and member of the Compost Research Center at OARDC, Wooster. He presented information on improving the collection, characterization, and processing of agricultural and industrial organic byproducts. Specific topics include collection, mixing and processing of food wastes, microbial communities in composts and amended soils, efficient conversion of dairy and hog production wastes into composts, and characterizing the effects of composting and other waste management processes on microorganisms, antibiotics and human and animal pathogen persistence. He also covered topics such as how to increase soil organic matter levels by using food waste composts and nutrient recycling to improve soil health for small-scale organic production and home gardening.



One of several winners of the composter door prize at the workshop. (Photo by Mary Sibole, Pike Soil and Water Conservation District)



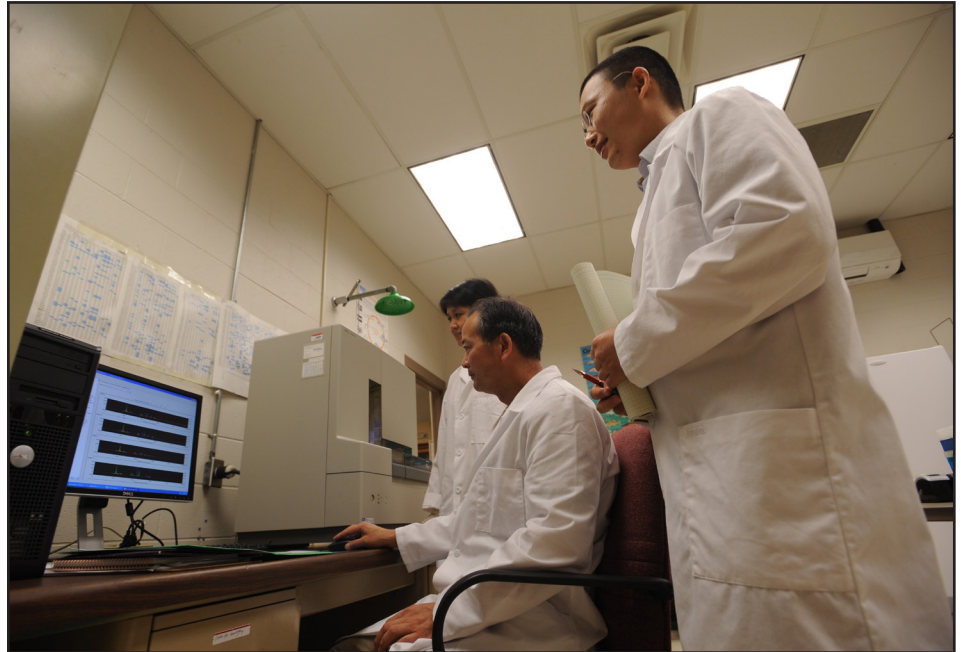
Food waste composting workshop participants learn about nutrient recycling. (Photo by Mary Sibole, Pike Soil and Water Conservation District)

# Big genomic data for fast-growing aquaculture

**By Hanping Wang, Senior Research Scientist**

OSU South Centers Aquaculture research team has completed whole genome sequencing of yellow perch and bluegill. These are the first Percidae and Centrarchidae (sunfish) that have been fully sequenced.

Yellow perch belong to the family Percidae, including about 200 species in 10 genera. The perch, darter, and their relatives are in this family and well-known species of great economic value include the three species of perch, walleye, sauger and ruffe.



(Photo by Ken Chamberlain)

The bluegill is a member of the sunfish family Centrarchidae. The family has 37 species including many well-known species such as largemouth bass, bluegill, pumpkinseed, rock bass and crappies. All are native to North America only.

Both yellow perch and bluegill are very important aquacultural and recreational fish species. Bluegill display high levels of both intraspecific and intersexual reproductive competition, with males growing significantly faster and bigger than females. Yellow perch display a distinct pattern of sexual size dimorphism versus bluegill, with yellow perch females growing much bigger and faster than males. Monosex culture of these two species has a great advantage for the aquaculture industry. However, their gender regulation and sexual size dimorphism mechanism is unclear. It has great scientific and economic value to identify the sex determining genes and discover sex differentiation and sex determination, and sexual size dimorphism mechanisms.

Information of the whole genome in these two species makes it possible to see how genes interact with each other, and examine the exact gene that governs economically important traits such as fast-growing and disease resistance. In domesticated animals, such as cattle, pig, chickens, and other major aquaculture species (e.g., catfish, salmon, trout, and tilapia), their genomes are being used to improve breeding programs and production. The completion of the genome of yellow perch and bluegill allows the same to be done with these two species. The perch and sunfish genome sequence data provide useful genetic resources and lay an important foundation for discovering the molecular mechanism of growth, sex determination and sex control, reproduction related to aquaculture, and conservation of wild stocks for over 100 economically and environmentally important percid sunfish species.



# Overview of Aquaculture Extension's last five months

**By Matthew A. Smith, Aquaculture Extension Specialist**

As mentioned in the last Connections Newsletter, Matthew Smith (myself), recently joined Ohio State University as an Aquaculture Program Specialist. After only a few days in my office, I headed off to Milwaukee, Wisconsin for the North Central Regional Aquaculture Center's (NCRAC) conference and the Wisconsin Aquaculture Association's annual conference. Since starting with Ohio State, I have had the opportunity to join many committees, advisory councils, panels, and groups which all influence aquaculture production in Ohio. I look forward to representing Ohio State University at these meetings.

One of my favorite successes so far has been the development of Buckeye Aquafarming, a newsletter developed to inform fish farmers, Extension Educators, recreational pond owners, administrators, and legislators about timely aquaculture matters that pertain to Ohio. The first issue featured sustainable aquaponics, aquaculture marketing, and water quality, to name a few. The winter newsletter will include multiple agencies and universities to give Ohio a view of big-picture U.S. aquaculture!

Water quality management is one of the most important concepts to understand as a fish farmer and that is why on August 6th, 2016 the South Centers will be hosting a water quality workshop to teach those interested. The day will be long but worth it. Topics are diverse and include pond, aquaponic, and recirculating aquaculture system considerations. Limiting stress and fish losses to poor water quality helps put farmers in a better financial position through successful culture to the market date.

Understanding all aspects of an agriculture business is crucial to success, and that's why I will be discussing a few topics at Farm Science Review this year. Topics include "Sustainable Aquaponics for the Hobbyist" at the Gwynn Conservation Center, "Aquaponics: The Good, The Bad, and The Ugly" at the Small Farm Center Tent, and "Aquaculture Opportunities for Ohio" at the Small Farm Center Building. for aquaponics education, we will also have a hobby-scale aquaponics display available throughout the Farm Science Review. With aquaponics being a "buzzword" it's imperative to get out non-biased information to those interested in starting this type of venture.

Education and outreach both to potential and current farmers, as well as the general public has already been successful. Education during tours to administrators, 4-H members, Boy Scouts, middle schools, high schools, and other organizations is proving highly beneficial for the success of our program. Starting in September, the South Centers will be offering free tours of the aquaponics greenhouse and Ohio Center for Aquaculture and Research Development on the last Friday of every month. Interested parties can sign up on our website at <http://southcenters.osu.edu/aquaculture/extension>.



**Aquaculture Extension Specialist, Matthew Smith giving a tour of our aquaculture facility to a group of students from a local school.  
(Photo by Sarah Strausbaugh)**

# Co-op Spotlight: Preston County Growers Co-op

By Hannah Scott, OCDC Program Manager

A group of farmers in Preston County, West Virginia is working together to get local food into local schools. The Preston County Growers Co-op recently incorporated as a cooperative business with five member-farms that produce a variety of foods from lettuce to potatoes to eggs and beyond.

Some of the co-op's growers have been working together for a few years to supply local schools with produce, but recently decided to formalize as a cooperative that is owned and controlled by their farmer-members. Within the cooperative model, members coordinate their production and marketing, selling to schools and other institutions as a single business and sharing profits with members.

The process of formalizing the co-op was supported by a number of organizations, including West Virginia University Extension, the Value Chain Cluster Initiative, West Virginia Farm to School, and the Ohio Cooperative Development Center. The Ohio Cooperative Development Center (OCDC) worked with the growers to help them learn more about the co-op model, including the benefits of the business model, how money can move through a co-op, and the process of forming a co-op in West Virginia. OCDC also assisted the group with reviews of their foundational documents, including bylaws, membership applications, and membership agreements.

Learn more about the Preston Growers Co-op in this [article](#) in *The Preston County News & Journal*.



**THE OHIO STATE UNIVERSITY**

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