



THE OHIO STATE UNIVERSITY

South Centers

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The Ohio State University
South Centers include:

- Piketon Research and Extension Center
- Endeavor Center for Business Incubation
- Enterprise Center
- Small Business Development Center (SBDC)
- Manufacturing & Technology SBDC
- Ohio Cooperative Development Center
- Ohio Center for Aquaculture Research & Development

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-Or-

Visit our web site at:

<http://southcenters.osu.edu>

Connection

A message from South Centers Director, Dr. Thomas Worley Twenty Years Commemorated at OSU South Centers

On September 15, over 300 people visited OSU South Centers to celebrate our first 20 years of providing Extension, research, and development in southern Ohio. We took this opportunity to recount past projects and recognize all the dedicated staff members and partners who have contributed to the South Centers' work over the years. We showcased our ongoing Extension and research projects with tours and exhibits, hosting those who have experienced our programs in the past, as well as visitors who came to see our facilities and programs for the very first time.

Our guests included legislators, OSU administrators, former staff members, supporters, friends and family. A luncheon was followed by a recognition program that was highlighted with remarks by former Ohio Senate President Doug White of Adams County and the former Directors at OSU South Centers, Bob Rades of Indiana and Don McFeeters of Vermont. Throughout the afternoon all buildings, research facilities, and field trials were open to the public for tours, educational activities and lots of fun along the way.

Our first 20 years have brought progress and success through our programs and activities focused on Aquaculture, Business Development, Fruit and Vegetable Crops, and Soil, Water and Energy Crops. All our programs benefit greatly from the strong administrative support base and collegial interactions with faculty and staff associated with the Ohio Agricultural Research and Development Center and OSU Extension.

These years have brought together an excellent team of experienced OSU South Centers staff members that are creative, entrepreneurial, and flexible as they strive to address agricultural, industry, and community needs in a constantly changing environment. Our staff have succeeded by understanding that above all else, the work at South Centers is people focused. Our mission centers upon assisting people in making informed decisions through research, education, and partnerships. Programs are focused on audiences within industry, communities, and groups at all levels, including local, regional, and statewide as well as multi-state and through international collaborations. Our vision is to conduct objective research and unbiased educational programs; develop leadership capacity both internally and within our audiences; to facilitate technology advancement, and to help people be the best that they can be while conveying respect, helpfulness, and responsiveness to all people.

As we look forward, we are all enthusiastic about finding additional ways to assist people with greater impact as well as by reaching new clientele. We expect to continue to be flexible and ever vigilant to new opportunities to engage our audiences with targeted programs as well as to serve new and expanded numbers of people. We are confident that through collaborative efforts and partnerships with many clientele, public agencies and development organizations, our shared goals can be accomplished.

Most of all, we look forward to continuing our work with each of you, the friends and colleagues that are at the center of what we do every day. As always, if there are ideas that you want to share with us or feedback on any of our programs, do not hesitate to contact me or any of our staff members.



Early 1990's



2011

FARMS, FORESTS & STREAMS**What's Up with Aquaponics?**

By: Dr. Laura Tiu, Aquaculture Specialist

I've got to admit, the idea of producing my own food appeals to me. With over 25 years working in the aquaculture industry, I'm still hoping to have my own fish farm someday. My husband has quite a prolific garden, so I feel like it's up to me to provide the protein. One way to raise fish and vegetables together is through aquaponics. Aquaponics is the merging of aquaculture and hydroponics. In this closed system, the fish produce waste that feed the plants and the plants clean the water, which is then returned to the fish habitat. Of course it's not quite as simple as that, but you get the idea. This method of food production is not new; however, we are seeing a renewed interest. I get at least 2 or 3 requests for information weekly.



Aquaponic Garden

Many see aquaponics as a way to eat locally, create sustainable communities and enhance food security. It can be done on a small scale and just may be part of the solution to the problem of fresh, healthy produce and protein, especially in urban areas. Aquaponics offers a system to grow fish and vegetables in a limited space, with minimal inputs. It can also serve as a way to conserve water while producing protein and veggies at a family scale, and it can be done in places where soil quality is poor and water is scarce.

Some see this form of food production and the associated businesses (processing, distribution, retail) as a great way to revitalize urban areas. There are some good examples of organizations that have used existing urban resources such as abandoned buildings to house these systems. Providing jobs and nutrition education are goals often integrated into these operations. Unfortunately, there is not a lot of research-based information on how to accomplish this. While we know that we can raise both fish and plants with this type of system, the question remains, can we do it profitably?

Of course, as with all new ideas, there are many people trying to capitalize on this growing sector of food production. There are people who sell the

systems and equipment, offer training, or sell the fish and plants. While the majority, I'm sure, are honest and good intentioned, I always recommend caution in any new endeavor and stress the importance of preparing a business plan for your operation. As Dr. James Rakocy wrote in a recent article in the [Aquaponics Journal](#), "This is a problem that is plaguing the emerging aquaponics industry today. Too many people are claiming to be experts with little or no training and little or no experience, which is resulting in a lot of system failures. Without sufficient training and experience, there is a lack of perspective and unintended consequences for decisions even if the intentions are good."

So, for those who are so inclined, I encourage you to embrace aquaponics! Do your homework and share your knowledge and experience with others. Remember, I'm always available for taste testing! I did eat a Hungarian wax pepper grown in an Ohio aquaponics system recently and it was delicious.

FARMS, FORESTS & STREAMS**On-Farm Testing of Genetically Improved Yellow Perch is Under Way**

By: Dr. Hanping Wang, Principal Scientist

The Ohio State University Aquaculture Research Center has developed the third generation of improved lines of yellow perch. On-farm testing of the genetically improved fish is under way. Four geographic locations at different latitudes were selected for the test: two research farms/stations at OSU Aquaculture Research Center in Piketon, OH (39°N), and the University of Wisconsin-Stevens Point Northern Aquaculture Demonstration Facility, Stevens Point, WI (46°N), and two commercial farms at Millcreek Perch Farms Marysville, OH (40.5°N), and Coolwater Farms, LLC Deerfield, WI (43°N). Selected sites are raising the fish side-by-side in replicated ponds with the same sized fingerlings of the species from their farm. We are conducting two types of tests: 1) rearing the improved fish and the control line of fish in separate ponds, each having two replicates; 2) raising improved fish and the control line of fish in two communal ponds to avoid environmental effects, and using molecular markers to assign improved and control fish to their family of origin for trait comparison. In fall of the first year, we will harvest all of the ponds and evaluate the key production parameters of fingerling production (e.g., survival, growth, feed conversion). In the second year, we will harvest all of the ponds and evaluate the key production parameters for raising the two groups of fish to market size (e.g., survival, growth, feed conversion for separate rearing). On-site demonstration evaluation will be held to disseminate testing results at harvest. At the completion of this project, we expect to distribute some of our improved strains to fish farmers in the North Central Region. This project is being funded by North Central Region Aquaculture Center.

**New Aquaculture Facility in Piketon**

By: Paul O'Bryant, Research Assistant

The Ohio State University Aquaculture Research Center has recently finished a construction of a new building and a broodfish tank system at the OSU South Centers in Piketon. The 5400- square foot agricultural pole-style building is housing sixty 6-foot tank systems for our genetically improved broodstocks. The new facility features two twenty-foot doors which allow for cross-ventilation, moisture control and temperature modification. The structure will now allow for photo period manipulation of individual tanks due to the elimination of outside elements. The new facility greatly enhances our research capacity and bio-security for breeding programs.



FARMS, FORESTS & STREAMS**Bait Bytes in Bowling Green Aquaculture Center**

By: Shawn McWhorter, Research Associate

Bowling Green Aquaculture Center (BGAC) received funding from a private foundation for the purpose of baitfish research development. Another great piece of news is from Reed Mariculture, one of the largest live feed companies in the U.S. The organization has seen such value and promise in the work being done at the BGAC, they have donated nearly \$45,000.00 worth of algal concentrates to be used in our live feed (rotifer) culture.

Great progress has been made in the culture of spot fin shiners (*Notropis spiloptera*) at the BGAC. The first significant stride forward was the discovery that this species requires a live first feed (being an altricial species like yellow perch) and the subsequent development of the culture systems and protocols needed to raise the rotifers to feed the shiners. The second significant step forward was that we could raise the salt water rotifer (*Brachionus plicatilis*) and to successfully nurse this species using the cultured rotifer.

Another issue that plagued the facility (as well as other operations hatching spot fins) was the fungus issues we were having with the eggs. Using standard anti-fungal treatments proved fruitless and hatch rates were extremely low. Almost by accident it was discovered, through observation of eggs removed from the egg transfer devices, there is at least one species of macro invertebrate that eats the fungus off the eggs! We immediately stopped disinfecting the eggs when they are brought into the barn, and our survival rates rose from approximately 15 percent to that approaching 40 percent!

The work being pursued now is the development of "First Feed Protocols." This project will focus on:

- ◆ the number of rotifers needed per fish
- ◆ the daily increase in the number of rotifers needed per fish
- ◆ the length of time the fish need to be fed live feeds
- ◆ the weaning time required to move the fish from live feeds to a prepared diet
- ◆ the length of time this weaning process will be needed

All-in-all, the bottle necks I have encountered in the culture of these fish have been discovered, evaluated, and overcome at an ever-increasing rate. We believe that this species has a very bright future in Ohio aquaculture, and the Bowling Green facility will continue to seek new techniques and information and pass this onto the culturists raising them and those interested in starting to culture this species.



Rotifer system at Bowling Green Aquaculture Center (BGAC)

FARMS, FORESTS & STREAMS**Small Fruit Program Updates**

By: Dr. Gary Gao, Extension Specialist and Associate Professor

Wine Grape Harvest

Our Vidal Blanc grapes were harvested during the second week of September. This is the second year of the grape harvest from our wine grape trial plot. The Vidal grapes looked quite good. Hibernial grapes were also harvested. However, the fruit yield and quality from Hibernial were quite poor this year. Chambourcin looks very good so far. Yield should be quite high. We have been taking samples from Chambourcin on a weekly basis. Since the titratable acidity is still high, we may need to wait till the first or second week of October to harvest Chambourcin.



Chambourcin grape, a red wine grape.

Southern Ohio Summer Wine Grape Workshop

OSU South Centers hosted nineteen new and existing grape growers from several Ohio counties at the Southern Ohio Summer Wine Grape Workshop. This event held on August 19 focused on management practices and marketing programs for growing wine grapes. OSU Extension state specialists, Mike Ellis, Dan Fickle, Gary Gao, and Dave Scurlock, provided growers with current information on how to produce quality wine grapes. Christy Eckstein, Executive Director of the Ohio Grape Industries Committee (OGIC), provided an overview of OGIC and its marketing programs. Participants also took a wagon tour of the research vineyard at OSU South Centers. Thom Harker, a research assistant at OSU South Centers, showcased our NetterGetter, sprayer and the hilling machine.

The classroom portion of the program addressed the following topics: disease management (Ellis), insect identification and management (Fickle), improving fruit quality of wine grapes (Gao and Scurlock), and OGIC and its marketing programs (Eckstein). Based on the post-program evaluations, all topics were well-received by attendees. The meeting attendees indicated that they were planning on planting approximately 26-36 acres of grapes.

Farm Science Review

Gary Gao gave a one-hour presentation on commercial winegrape production at the Small Farm Center at Farm Science Review on September 21, 2011. There were 29 attendees in the audience even though it was a rainy day. Gary covered many important aspects of the winegrape production. Gary was also interviewed by Stan Ernst for the "Question the Authorities" series. He talked about the wine grape industry and how to get started in a vineyard business. Both programs were well received.

Midwest Fruit Workers Conference

Gary Gao attended the Midwest Fruit Workers Conference in October in Indianapolis, Indiana. This conference is an annual gathering of extension and researchers who work on grapes, small fruits and tree fruits. Gary and a group of Extension specialists are planning to work on a regional blueberry production project together. Stay tuned.

FARMS, FORESTS & STREAMS

Angus "Cattlemen's Boot-Camp" Program Held at OSU

By: John F. Grimes, OSU Extension Beef Coordinator

Cattle producers from Ohio, Indiana, and West Virginia gathered at The Ohio State University on October 7 and 8 to participate in the Cattlemen's Boot Camp program. This program was a joint effort of the American Angus Association, Ohio State University Extension, and The Ohio State University Animal Science Department. Thirty-six registrants participated in the event.

The program agenda focused on a variety of topics including nutrition, industry communications, reproduction, genetics, animal handling, selection tools, and the end product. These topics were covered through lecture presentations and hands-on demonstrations. Attendees heard speakers from The Ohio State University Animal Science Department, Ohio State University Extension, The Ohio Cattlemen's Association, and the American Angus Association.



Dr. Henry Zerby, Professor in The Ohio State University Animal Sciences Department, discusses beef carcass evaluation at the recent Cattlemen's Boot Camp program.



Dr. Steve Boyles, OSU Extension Beef Cattle Specialist discusses beef cattle handling techniques at the recent Cattlemen's Boot Camp program.

Participants in the Cattlemen's Boot Camp program evaluated the program very positively. These participants represented a cross-section of the beef industry including seedstock producers, commercial cow-calf producers, feedlot operators, and allied industry. Survey respondents demonstrated their satisfaction with their ratings (on a 10 point scale) to the following statements: *Information received was worth the value paid: 9.7; *I would recommend this program to others: 9.3; *Overall value of program: 9.4.

BUSINESS & ECONOMIC DEVELOPMENT NETWORK

Save the Date!

Ohio's third annual statewide conference for farmers' market managers and vendors will be held March 9 and 10, 2012. The conference will offer information and education relevant to farmers' market managers and vendors/producers in Ohio. In addition to the informative presentations, there will be ample opportunity for networking with farmers' market managers and vendors throughout the state with experience with both large and small markets. "As with programs we have offered in the past, one of the greatest benefits is networking with others who are passionate about farmers' markets and local foods," said Christie Welch, Farmers' Market Specialist with the Ohio State University South Centers. Comments received from past participants on conference evaluations include:

- ♦ "Great conference! I particularly enjoyed being able to talk and share ideas with other market managers."
- ♦ "This was a terrific, info-filled conference ...even for someone doing a market for a while. Thank you!"
- ♦ "Can't wait for next year!"

The conference is being offered by The Ohio State University South Centers, part of The Ohio State University College of Food, Agriculture, and Environmental Sciences, and will take place at the Nationwide and Ohio Farm Bureau 4-H Center on OSU's main campus. This two-day conference will be packed with practical information to assist Ohio producers and market managers to better their businesses. For more information, contact Melissa Carter via e-mail to carter.1094@osu.edu, via telephone 740-289-2071 ext. 222 or check our website for updates in the coming months <http://ohiofarmersmarkets.osu.edu>.

Save the Date

Ohio Farmers' Market Conference

March 9-10, 2012

Nationwide and Ohio Farm Bureau 4-H Center

Columbus, OH

Conference is open to farmers' market managers,
vendors, and community leaders.

For more information, log on to
<http://ohiofarmersmarkets.osu.edu>

March 9-10, 2011

Our Mission

We enhance Southern Ohio by assisting people with informed decision-making through responsive research, education, entrepreneurial application and collaborative partnerships. We are a leading, respected contributor to the land grant mission of The Ohio State University.

Our Vision

We create an environment where our research based educational resources unite to inspire confident decision-making by:

- Fostering objectivity in research and programming
- Interacting with the public and responding respectfully to their needs and opportunities
- Utilizing a holistic approach to problem solving and program delivery to strengthen youth, individuals, families and communities
- Facilitating technology advancement
- Demonstrating and developing leadership
- Educating volunteers for community service

OSU South Centers 2010 Supporter of the Year



John Hemmings, Executive Director OVRDC and Tom Worley, Director OSU South Centers

John Hemmings, Executive Director of Ohio Valley Regional Development Commission (OVRDC) was recently recognized as the OSU South Centers 2010 Supporter of the Year.



Thank you John for your continued support!

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The Ohio Agricultural Research Development Center (OARDC) and Ohio State University Extension embraces human diversity and are committed to ensuring that all research and related educational programs are available to clientele on a nondiscriminatory basis without regard to race, color, religion, sex, age, national origin, sexual orientation, gender identity or expression, disability, or veteran status. This statement is in accordance with United States Civil Rights Laws and the USDA.

Keith L. Smith, Ph.D., Associate Vice President for Agricultural Administration and Director, Ohio State University Extension; Steve Slack, Ph.D., Associate Vice President for Agricultural Administration and Director, OARDC

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