

Final Report

Title:	Aquaculture Boot Camp (ABC): Enhancing success of new and beginning aquaculture farmers through integrated production and business training		
Sponsoring Agency	NIFA	Project Status	COMPLETE
Funding Source	Non Formula	Reporting Frequency	Final
Accession No.	229297	Grants.gov No.	
		Award No.	2012-49400-19760
Project No.	OHO01091-SS	Proposal No.	2012-00748
Project Start Date	09/01/2012	Project End Date	08/31/2015
Reporting Period Start Date	09/01/2012	Reporting Period End Date	08/31/2015
Submitted By	Susan Dimit	Date Submitted to NIFA	01/29/2016

Program Code: BFRDP**Program Name:** Beginning Farmer and Rancher**Project Director**

Han Ping Wang
614-292-4900
wang.900@osu.edu

Recipient Organization

OHIO STATE UNIVERSITY, THE
1960 KENNY RD
COLUMBUS, OH 43210
DUNS No. 832127323

Performing Department

Animal Sciences

Co-Project Directors

Calala, Bob
Fox, Julie
Worley, Charles
Tiu, Laura

Departments

{NO DATA ENTERED}
OSUE-Enterprise Cntr Econ Dev
Agric, Evrnml and Dev Econ
Extension

Non-Technical Summary

Operators of small farms play an important role in agricultural production in Ohio and adjacent states. Many small farm owners and beginning farmers in traditional agriculture are seeking new enterprises and opportunities to increase revenues and maintain the family farm. Aquaculture presents a great opportunity for both rural and urban small and beginning farmers in Ohio. 79% of all Ohio aquaculture farms are considered new or beginning. They are in urgent need of training in production techniques and business management strategies to achieve farming success. The Aquaculture Boot Camp(ABC)will offer new and beginning farmers integrated training in aquaculture production and business management strategies with 3-I levels: Intensive, an in-depth level involving immersion in a year-long hands-on training and mentoring program; Intermediate, a mid-level involving participation in a variety of learning activities; and Introductory, a general level where sharing of information is the goal. The ABC project will serve the following Target Audience:1)Beginning and new aquaculture farmers with less than 10 years of any farming experience; 2) Other new farmers attempting to diversify their existing farming enterprise; 3) Potential future aquaculture farmers: students and those without a family farming history; 4)Educators and others who influence the farming decisions made by potential fish farmers. The ultimate goal of this program is to utilize a multi-faceted approach, including classroom and hands-on training paired with industry mentoring, to improve the success rate of new and beginning aquaculture farmers in Ohio and adjacent states. The ABC 3-I training and partnership model will be utilized to pursue the following Specific Goals:1)Provide tools for new and beginning farmers to enhance their aquaculture production success by developing and delivering production curriculum and hands-on practiceS; 2)Enhance the financial viability and business success of beginning aquaculture farmers by delivering business management and marketing strategies; 3) Strengthen success of new and beginning aquaculture farmers through the ABC mentorship and partnership with the industry via the Ohio Aquaculture Association and other partners. By the completion of the project, we expect to 1) Increase the number of new aquaculture farmers in Ohio by 50; 2) With the additional new and beginning aquaculture farmers, total aquaculture sales for Ohio are projected to increase by 200 percent, and 3) Increase the economic efficiency of new aquaculture farmers by 10 percent. Within a 10 year planning horizon, we expect to 1) Increase the number of new aquaculture farms in Ohio by 100; 2)

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Increase the value of aquaculture sales of beginning farmers by 200 percent; and 3) Increase the economic efficiency of aquaculture new farmers by 30 percent by improving farming and business skills and increasing availability of value-added products. Upon completion, the ABC model can be adapted to other regions and communities in the Midwest and USA. Additionally, ABC materials will be available from the website and eXtension for continued dissemination of information.

Accomplishments

Major goals of the project

Specific Goals: Provide tools for new and beginning farmers to enhance their aquaculture production success by developing and delivering production curriculum and hands-on practices. Enhance the financial viability and business success of beginning aquaculture farmers by delivering business management and marketing strategies. Strengthen success of new and beginning aquaculture farmers through the ABC mentorship and partnership with the industry via the Ohio Aquaculture Association (OAA) and other partners. Expected Outputs: Twelve new curriculum modules and one accompanying manual in both aquaculture production and business and marketing strategies will be developed and delivered to the target audience. Fifty new and beginning farmers (25 per yr) will gain aquaculture production, business and marketing awareness and understanding, gain new perspectives, learn and practice skills, and aspire to be more successful after completing ABC Intensive. One hundred new and beginning farmers will gain knowledge of aquaculture production, business and marketing strategies and learn new skills by participating ABC Intermediate classes. Two hundred new and beginning farmers (100 per yr) will gain knowledge of aquaculture production and new technologies by participating in ABC Intermediate workshops and bus tours. One thousand participants will gain new knowledge by accessing ABC Introductory and coordinating ABC website tools and information. Eighteen participants or potential new farmers (up to six per year) who are interested in aquaculture training experience will receive ABC and OAA internships and mentoring. An ABC website will be created to sustainably support the target audience. Podcasts of ABC Intensive training classes and practices will be developed, and posted on the ABC website permanently and distributed to new aquaculture farmers. A mentoring guide for new and existing aquaculture farmers will be developed. Twelve new farmer newsletters will be published and delivered to new farmers. Three annual conferences geared toward mostly new fish farmers will be organized. ABC network will be developed to broaden and sustain support services to new and beginning fish farmers.

What was accomplished under these goals?

The ABC program offered an integrated training in aquaculture production and business management strategies with "3-I" levels: Intensive, an in-depth level involving immersion in a year-long hands-on training and mentoring program; Intermediate, a mid-level involving participation in a variety of learning activities; and Introductory, a general level where sharing of information is the goal. **For the ABC Intensive**, a classroom/online-based course was developed based on the Aquaculture DACUM in 2013; Twelve monthly informative educational modules and materials in aquaculture production, and twelve monthly educational modules and materials in business and marketing were designed/developed and delivered in 2013. These modules were modified/replicated and delivered in 2014 based on the needs of the new participants. The ABC intensive level met the original goal by recruiting and training 50 new and beginning aquaculture farmers in Ohio. Each graduate student prepared a PowerPoint presentation describing who they are, why they joined ABC, what they learned and what they plan to do upon the course completion. A total of thirty-nine participants from both classes fulfilled their training program. As a result, they were awarded with certificates of completion. After participation in two ABC intensive classes in 2013 and 2014, students, on a scale of 1 being strongly disagree and 4 being strongly agree, reported an average of 3.5 when asked if the program met their expectations, and they would recommend this program to their business partners or relatives, and that they were clear on how to apply what they learned on the job or in their businesses. In addition, ABC intensive students self-assessed their knowledge prior to and after the monthly content was delivered. On a scale with 1 being low and 5 being high, the overall pre-test mean in 2013 was 2.48 and 1.88 in 2014. The post-test mean in 2013 was 3.97 and 3.80 in 2014. These results indicate that ABC students significantly increased their level of knowledge of the content addressed in the program. By the end of the ABC 1 project, twenty-four new businesses/farms were created by 2013 and 2014 year-class ABC Intensive graduates. Nine Aquaculture workshops were offered for both the **Intensive** and **Intermediate** ABC students in 2013, 2014, and 2015, and two Aquaculture Bus Tours were offered for **Introductory**, **Intermediate** and **Intensive** ABC students each year in 2013, and 2014. An ABC website was created to sustainably support the target audience. Podcasts of ABC Intensive training classes and practices were developed, and posted on the ABC website and distributed to new aquaculture farmers. Several brochures/pamphlets, fact sheets and worksheets were designed as part of the learning materials from 10/2012 to 8/2015. Three annual conferences geared toward mostly new fish farmers were organized. Twenty-three newsletters and three magazines were published and delivered to new and beginning farmers. As a result, the ABC Intermediate program surpassed the projected number of participants by 186.87%, and the Introductory program surpassed the participation goal by 557.10%. That means that 287 new and beginning farmers gained knowledge of aquaculture production and new technologies by participating in ABC Intermediate workshops and bus tours, and more than 5,000 participants gained new knowledge by accessing ABC Introductory, ABC website tools and information, ABC/OAA

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Newsletter and magazines. In addition, some participants or potential new farmers who are interested in aquaculture training experience received ABC and OAA internships and mentoring. A mentoring guide for new and existing aquaculture farmers and ABC network were developed to broaden and sustain support services to new and beginning fish farmers.

What opportunities for training and professional development has the project provided?

The ABC program offered an integrated training in aquaculture production and business management strategies to new and beginning framers with "3-I" levels: **Intensive**, an in-depth level involving immersion in a year-long hands-on training and mentoring program; **Intermediate**, a mid-level involving participation in a variety of learning activities; and **Introductory**, a general level where sharing of information is the goal.

How have the results been disseminated to communities of interest?

Twelve monthly informative educational modules and materials in aquaculture production, and twelve monthly educational modules and materials in business and marketing were developed and delivered to new and beginning farmers through ABC-Intensive classroom and hands-on training. **ABC ntermediate** and **Introductory** materials and information were delivered to new and beginning farmers through workshops. bus tour, annual conferences, and mentoring program.

What do you plan to do during the next reporting period to accomplish the goals?

{Nothing to report}

Participants**Actual FTE's for this Reporting Period**

Role	Non-Students or faculty	Students with Staffing Roles			Computed Total by Role
		Undergraduate	Graduate	Post-Doctorate	
Scientist	0.1	0	0	0	0.1
Professional	1.6	0	0.1	0	1.7000000000000002
Technical	0.5	0	0	0	0.5
Administrative	0.5	0	0	0	0.5
Other	0.2	0	0	0	0.2
Computed Total	2.9	0	0.1	0	3.0000000000000002

Student Count by Classification of Instructional Programs (CIP) Code

Undergraduate	Graduate	Post-Doctorate	CIP Code
0	1	0	01.03 Agricultural Production Operations.

Target Audience

The target audiences of the Aquaculture Boot Camp program (ABC) were 1) Beginning and new aquaculture farmers with less than 10 years of farming experience (about half of them have less than 5 years); 2) Other new farmers attempting to diversify their existing farming enterprise; 3) Potential future aquaculture farmers: students and those without a family farming history; and 4) Educators and others who influence the farming decisions made by potential fish farmers.

The ABC program offered an integrated training in aquaculture production and business management strategies with "3-I" levels: Intensive, an in-depth level involving immersion in a year-long hands-on training and mentoring program; Intermediate, a mid-level involving participation in a variety of learning activities; and Introductory, a general level where sharing of information is the goal.

The ABC intensive level met the original goal by recruiting and training 50 new and beginning aquaculture farmers in Ohio. The ABC intermediate level program surpassed the projected number of participants by 186.87%, and the introductory level program surpassed the participation goal by 557.10%.

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Products

Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2015	YES

Citation

Estefania James and Laura Tiu. 2015. Aquaculture boot camp: qualitative evaluation of a new and beginning farmer training program. Proceedings of World Aquaculture Conference. New Orleans, Louisiana.
<https://www.was.org/meetingabstracts/ShowAbstract.aspx?Id=34591>

Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2015	YES

Citation

Laura Tiu and Estefania James. 2015. Aquaculture Boot Camp: Quantitative evaluation of OUTPUTS OF a new and beginning Farmer training program. Proceedings of World Aquaculture Conference. New Orleans, Louisiana.
<https://www.was.org/meetingabstracts/ShowAbstract.aspx?Id=34590>

Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2014	YES

Citation

Estefania James and Laura Tiu. 2014. Aquaculture boot camp: overview of a new and beginning farmer training program. Seattle, Washington. <https://www.was.org/meetingabstracts/ShowAbstract.aspx?Id=31817>

Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2014	YES

Citation

Laura Tiu and Estefania James. 2014. Aquaculture Boot Camp: evaluation of a new and beginning Farmer training program. Proceedings of World Aquaculture Conference. Seattle, Washington.
<https://www.was.org/meetingabstracts/ShowAbstract.aspx?Id=31816>

Type	Status	Year Published	NIFA Support Acknowledged
Websites	Published	2013	YES

Citation

<http://southcenters.osu.edu/aquaculture/aquaculture-extension/boot-camp#intensive>

Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2013	YES

Citation

<http://southcenters.osu.edu/sites/southc/files/site-library/site-documents/aquaext/OSUUpdateLauraTiu.pdf>

Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2014	YES

Citation

<http://southcenters.osu.edu/sites/southc/files/site-library/site-documents/abc/feb2014/AquacultureIndustryOverviewLauraTiu.pdf>

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Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2014	YES

Citation

<http://southcenters.osu.edu/sites/southc/files/site-library/site-documents/abc/feb2014/SelectingSystemToGrowFishDeanRapp.pdf>

Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2014	YES

Citation

<http://southcenters.osu.edu/sites/southc/files/site-library/site-documents/abc/feb2014/WhatSpeciesCanIRaisePaulOBryant.pdf>

Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2014	YES

Citation

<http://southcenters.osu.edu/sites/southc/files/site-library/site-documents/abc/feb2014/WorkingWithSBDC.pdf>

Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2014	YES

Citation

<http://southcenters.osu.edu/sites/southc/files/site-library/site-documents/abc/feb2014/FreshwaterPrawnCultureInMidwestLauraTiu.pdf>

Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2013	YES

Citation

<http://southcenters.osu.edu/sites/southc/files/site-library/site-documents/aquaext/SystemSelectionEstefaniaJames.pdf>

Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2013	YES

Citation

<http://southcenters.osu.edu/sites/southc/files/site-library/site-documents/aquaext/SpeciesSelectionLauraTiu.pdf>

Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2013	YES

Citation

<http://southcenters.osu.edu/sites/southc/files/site-library/site-documents/aquaext/BusinessPlanningChrisSmalley.pdf>

Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2013	YES

Citation

<http://southcenters.osu.edu/sites/southc/files/site-library/site-documents/aquaext/FingerlingProcurementLauraTiu.pdf>

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Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2013	YES

Citation

<http://southcenters.osu.edu/sites/southc/files/site-library/site-images/marketreadyabc.pdf>

Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2015	YES

Citation

<http://southcenters.osu.edu/sites/southc/files/site-library/site-documents/abc/MarketProcessPresentations/The%20four%20Ps%20in%20Marketing.pdf>

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2014	YES

Citation

<https://www.youtube.com/watch?v=CfRIG7JnXEE&feature=youtu.be>

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2014	YES

Citation

<https://www.youtube.com/watch?v=DkYcaf7BQHI&feature=youtu.be>

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2014	YES

Citation

<https://www.youtube.com/watch?v=hWEwWavuMEU&feature=youtu.be>

Type	Status	Year Published	NIFA Support Acknowledged
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Citation

<https://www.youtube.com/watch?v=MO9wILDnYv4&feature=youtu.be>

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2014	YES

Citation

<https://www.youtube.com/watch?v=J6Ay4eLKtKw&feature=youtu.be>

Type	Status	Year Published	NIFA Support Acknowledged
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Citation

<https://www.youtube.com/watch?v=NQ7NvZCFLA0&feature=youtu.be>

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Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2013	YES

Citation

<https://www.youtube.com/watch?v=9tDJ5haEJbM&feature=youtu.be>

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2013	YES

Citation

<http://southcenters.osu.edu/aquaculture/extension/education/advice-from-the-experts>

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2013	YES

Citation

<https://www.youtube.com/watch?v=4WmTmbdbODs&feature=youtu.be>

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2013	YES

Citation

<https://www.youtube.com/watch?v=PzFrrncs8s0&feature=youtu.be>

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2013	YES

Citation

<https://www.youtube.com/watch?v=MaWezgYX8SE&feature=youtu.be>

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2013	YES

Citation

<https://www.youtube.com/watch?v=KoEYwFPCx8&feature=youtu.be>

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2013	YES

Citation

<https://www.youtube.com/watch?v=ZrKDmXmjw1M&feature=youtu.be>

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2013	YES

Citation

<https://www.youtube.com/watch?v=HWH2xeJqgwA&feature=youtu.be>

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Citation

<https://www.youtube.com/watch?v=wqELuyFHWRw&feature=youtu.be>

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2013	YES

Citation

<https://www.youtube.com/watch?v=Xwtx6n06-fQ&feature=youtu.be>

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2013	YES

Citation

<https://www.youtube.com/watch?v=1k8sjJtrvYA&feature=youtu.be>

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2013	YES

Citation

Ohio Aquaculture Newsletter, Spring 2013

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2013	YES

Citation

Ohio Aquaculture Newsletter, Summer 2013

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2013	YES

Citation

Ohio Aquaculture E-Newsletter, November 2013

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2013	YES

Citation

Ohio Aquaculture Newsletter, Winter 2013

Type	Status	Year Published	NIFA Support Acknowledged
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Citation

Ohio Aquaculture E-Newsletter, January 2014

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Citation

Ohio Aquaculture E-Newsletter, February 2014

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2014	YES

Citation

Ohio Aquaculture E-Newsletter, March 2014

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2014	YES

Citation

Ohio Aquaculture News, Spring 2014

Ohio Aquaculture E-Newsletter, May 2014

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2014	YES

Citation

Ohio Aquaculture Newsletter, Summer 2014

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2014	YES

Citation

Ohio Aquaculture E-Newsletter, July 2014

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2014	YES

Citation

Ohio Aquaculture E-Newsletter, August 2014

Type	Status	Year Published	NIFA Support Acknowledged
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Citation

Ohio Aquaculture Newsletter, Fall 2014

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Other	Other	2014	YES

Citation

Ohio Aquaculture E-Newsletter, October 2014

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2014	YES

Citation

Ohio Aquaculture E-Newsletter, November 2014

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2014	YES

Citation

Ohio Aquaculture Newsletter, Winter 2014

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2015	YES

Citation

Ohio Aquaculture E-Newsletter, January 2015

Type	Status	Year Published	NIFA Support Acknowledged
Other	Other	2015	YES

Citation

Ohio Aquaculture E-Newsletter, February 2015

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2015	YES

Citation

Ohio Aquaculture Newsletter, Spring 2015

Type	Status	Year Published	NIFA Support Acknowledged
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Citation

Ohio Aquaculture E-Newsletter, April 2015

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Other	Published	2015	YES

Citation

Ohio Aquaculture E-Newsletter, July 2015

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2015	YES

Citation

Ohio Aquaculture E-Newsletter, August 2015

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2013	YES

Citation

2013 Ohio Aquaculture Magazine

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2014	YES

Citation

2014 Ohio Aquaculture Magazine

Type	Status	Year Published	NIFA Support Acknowledged
Other	Published	2015	YES

Citation

2015 Ohio Aquaculture Magazine

Other Products

Product Type

Educational Aids or Curricula

Description

? Twelve monthly informative educational modules and materials were designed in 2013. These modules were replicated in 2014, however; each module was adjusted based on the needs of the new participants

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Product Type

Audio or Video

Description

6 Training videos for ABC were launched and distributed through the ABC website in 2013.

Product Type

Educational Aids or Curricula

Description

Several brochures/pamphlets, fact sheets and worksheets were designed as part of the learning materials from 10/2012 to 8/2015.

Product Type

Evaluation Instruments

Description

12 monthly evaluation surveys, a half program and final evaluation surveys were conducted in 2013 and 2014.

Changes/Problems

{Nothing to report}