

# *Fish Tales Newsletter*

West Virginia's Aquaculture Newsletter is produced to help inform, educate, and update those interested in producing quality aquatic products, in a sustainable manner, for the recreational and food fish markets.



## **Food Fest at Fish Forum**

Salmon omelets, bagels with cream cheese, grilled hybrid stripped bass, smoked trout dip on crackers, six types of wine, and as many famous trout cakes with chipotle sauce as you care to eat. That is just the beginning of what you missed at the 2005 West Virginia Aquaculture Forum, held January 15 at WVU Jackson's Mill. For a preregistration fee of only \$10, you could have experienced a mind-boggling wealth of information, a belt-widening mass of local fish products, and more than a dozen door prizes that ranged in value from \$5 to more than \$350.

A standing-room-only crowd of more than 100 people took advantage of the Aquaculture Forum, which dealt with "Raising Fish for Your Family." After the omelets were served, **Dr. Julie Delabbio** of Bluefield State College gave the annual report on changes in our state. **Dr. Ken Semmens** spoke about what to grow and how to grow it. After the two-hour lunch fest, **Guen Brown**, **Rodney Kiser**, and **Dan Miller** talked about eating more fish, transporting fish, production systems, and pond management.

As in past years, the food was prepared by **Teresa Halloran** (photo, on right) of WVDA, **Mary Beth Gwyer** of Canaan Valley Institute, and gourmet chef **Laurie Adase** (photo, center) of Wheeling Aquaculture LLC.

## **Aquaculture America 2005 – New Orleans**

In January 2005, the largest aquaculture gathering in North America took place in New Orleans. At least seven authors from West Virginia presented either posters or oral papers.

## **New Processing Plant Opens for Arctic char in Man, W.Va.**

The good news came first. Late last year, a new fish processing facility, located in the southern part of Logan County, was completed and began processing Arctic char. The success of the Rockhouse Springs production farm has resulted in the need to improve quality control, right through processing.

This was followed by not so good news from High Appalachian, LLC, that they would be closing their trout processing plant operations in Raleigh County. Pete Corteville said that the processing plant needed more product from local producers in order to make ends meet. The logistics of importing trout from North Carolina on a regular basis was too much for them to continue operations at the processing plant.

## Did YOU KNOW?

Yeast as a dietary supplement in aquaculture feeds has been increasing recently. Studies have shown that the cell walls in yeast provide immunostimulatory properties that improve production. The predominant viable yeast available to the aquaculture feed industry is “active dry yeast,” which has 95% dry matter. Yeast cake yields 30% solids and yeast cream has no more than 20% solids. A quality active dry yeast contains 15 billion to 25 billion live yeast cells per gram.



You may be tempted to increase your intake of omega 3 fatty acids by taking a fish oil supplement. Researchers believe that the omega 3 fatty acids in fish may interact with other nutrients to provide greater benefits than fish oil alone. Instead of taking a pill, support W.Va. fish farmers by purchasing their products, or grow some fish yourself.

Some benefits of fish consumption may be altered by preparation methods. Broiling, grilling, or baking the fish is preferable to frying, especially deep frying. Frying may alter the fat profile and produce trans-unsaturated fatty acids.

## Farmer Profile

For this edition of *Fish Tales Newsletter*, we are profiling another aquaculture entrepreneur in West Virginia. **Mike Nardella** is an active board member of the West Virginia Aquaculture Association. He is a successful associate publisher of *HOMES and LAND* magazine as well as the *RENTAL GUIDE*.

Mike is the owner of Rainbowhead Farm in Harrison County. The remote farm consists of nearly 500 wooded acres containing a 3/4-acre reservoir fed by an 80-acre watershed and a small spring. Below the reservoir, Mike built three ponds varying in size from 1/4 to 1/2 acres.

In 2002, Mike was the first person in West Virginia to grow and market the freshwater prawn (see *Fish Tales Newsletter No. 4*). He has successfully raised rainbow trout, yellow perch, and the Georgia Giant hybrid bluegill in his ponds.

In the picture below, Mike is checking on some bluegill fish that are being raised in a recirculating system that Mike has put together inside a large hatchery building, adjacent to the three ponds.

Recently Mike joined forces with another trout producer, John Fitzgerald, who is producing rainbow trout in Pocahontas County. Mike will help John market and deliver his production to the recreational and food markets on a regular basis.

### Mike Nardella in his hatchery at Rainbowhead Farm



## Ken's Corner

To paraphrase Leo Ray, an innovative and successful fish farmer in Idaho, "The aquaculture business is not about raising fish; it is about selling fish at a profit." In an effort to assist existing and potential producers, WVU will hold an Aquaculture Business Management Workshop. It is sponsored by the Northeast Regional Aquaculture Center and supported by USDA funds.



The workshop will be held on the Evansdale campus of West Virginia University in Morgantown on May 21 in room 101 of the National Research Center for Coal and Energy. The program is scheduled to begin at 10 a.m. and end at 4 p.m. It is offered at no charge. The goal of the workshop is to provide instruction for estimating costs of production and developing a budget for specific aquaculture enterprises. Production of trout in flowing water systems will be featured as an example. Instructors and participants will also discuss development of a business plan. For registration, please contact Ken Semmens at 293-6131, ext. 4211, [Ken.Semmens@mail.wvu.edu](mailto:Ken.Semmens@mail.wvu.edu) or Dan Miller at [dmille31@wvu.edu](mailto:dmille31@wvu.edu) or call 304-293-4832, ext. 4465.

## Using Basic Tools

For the past century, trout farmers have used genetic selection as a means of improving production. Until recently, the selection process usually required only a trained eye to pick out the fish that adapted to tank conditions better than others, or choosing the faster growing fish.

Domestication is often the first trait selected for because it results in healthier fish. A domesticated trout will tolerate human intervention better and generally have less stress, which usually results in better growth.

The improved capacity of computers to store and analyze data has brought a new ability for genetic selection to occur. The combination of computers with genetically tagging individual fish and improved experimental designs has led to the recent reevaluation in genetic engineering.

Now that certain genetic characteristics can be identified, tagged, and moved from one species to another, huge improvements in growth and survival are possible.

**Dr. Jeffrey Silverstein** and his crew at the USDA's National Center for Cool and Cold Water Aquaculture in Kearneysville, W.Va., are on the cutting edge of technology being used to improve the genetic selection of trout. Their work will soon provide new genetically selected strains of trout that will grow faster, convert better, and ultimately be less costly to produce.

## Greener and Cleaner Aquaculture

The first global conference on organic aquaculture was held in Ho Chi Minh, Vietnam last year. In affirmation of the worldwide interest, there were some 250 delegates from 33 countries at the three-day event.

*International AQUA FEED* dedicated Volume 7, Issue 5, 2004 to organic aquaculture information. In an article by Debora Brister, the momentum of organic aquaculture in the United States is discussed. The general message is that a number of organizations are focused on forming national standards for aquatic species. The National Organic Standards Board formed an Aquatic Species Task Force that includes two advisory work groups, one for capture fisheries and one for aquaculture.

Aquaculture producers in the United States have formed the National Organic Aquaculture Work Group. The USDA's National Organic Program is cooperating with these other organizations in a concerted effort to develop national standards that will allow aquatic products to be labeled **Organic** once the production requirements are agreed upon. Certification standards are required for the marketing of aquatic organic products to be accepted by the consumer. European and Asian countries are way ahead of the United States in this regard. U.S. aquaculture producers may soon have the opportunity to certify and market their products as Organic. As soon as U.S. standards are finalized, foreign imports will also have to meet the same criteria.

### **Food for Thought on Organic Foods**

**Taken from an article in *Science*, “The Organic Myth,” by John J. Miller**

Somewhere in the cornfields of Britain, a hungry insect settled on a tall green stalk and decided to have a feast. It chewed into a single kernel of corn, filled its little belly, and buzzed off, leaving behind a tiny hole that was big enough to invite a slow decay. The agent of the decomposition was a fungus known to biologists as *Fusarium*. Farmers have a much simpler name for it: corn ear rot. As the mold spread inside the corn, it left behind a cancer-causing residue called fumonisin. This sequence repeated itself thousands and thousands of times until the infested corn was harvested and sold last year as Fresh and Wild Organic Maize Meal, Infinity Foods Organic Maize Meal, and several other products. Consuming trace amounts of fumonisin is harmless, but large doses can be deadly. Last fall, the United Kingdom's Food Standards Agency detected alarming concentrations of the toxin in all six brands of organic corn meal subjected to testing, for a failure rate of 100 percent. The average level of contamination was almost 20 times higher than the safety threshold Europeans have set for fumonisin. The tainted products were immediately recalled from the food chain. In contrast, inspectors determined that 20 of the 24 non-organic corn meal products they examined were unquestionably safe to eat.

We are encouraging contributions to Fishtales newsletter by W.Va. residents. If interested in contributing, please contact Dan Miller at [dmille31@wvu.edu](mailto:dmille31@wvu.edu) or call 304-293-4832, ext. 4465. The deadline for the next issue of Fishtales is June 15, 2005.

This publication is available in a printable format, on the web at:  
<http://www.wvu.edu/~agexten/aquaculture/newsletter.htm>