

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.



West Virginia University Students with Bragging Rights

Many of us have heard fish stories from a braggert who has traveled to Patagonia or the south island of New Zealand for prime trout fishing. Would you believe that huge rainbow trout can be caught within a 30-minute drive from the WVU Morgantown campus? It is true. The Aquaculture Management class (ARE 493B), offered in the Fall semester by WVU's Morgantown campus, gives students the opportunity to learn about the global and local aspects of the aquaculture industry. In the photo above, two students from the class show off their catch during one of the class field trips to an acid mine drainage (AMD) treatment plant just outside of Morgantown.

Students were allowed to catch and release trout weighing 3 to 8 pounds! Before the fun began, the class learned how pyrite (FeS_2) in the coal seam causes acid to form in the water. The acid conditions dissolve metals that are lethal to most aquatic life. When the water is treated with limestone to raise the pH, the metals precipitate out of solution. The polishing pond, where the trout were caught, is proof that treated water is suitable for trout production. There are numerous large AMD treatment plants in the Morgantown area.

Poly-chlorinated biphenyls (PCBs) and Mercury in Fish

Nearly 30 years ago, researchers at the University of Wisconsin studied the contamination of fish in the Great Lakes region and how the risk to consumers might be reduced.

The researchers found that by trimming off the fatty tissue around the belly of the fish and along the spine, reduced levels of PCBs resulted. The most interesting part of the research was how cooking methods could reduce the levels of PCBs in fish.

Up to 80% of the PCBs in certain types of fish could be eliminated by smoking the fish. **Other cooking methods where the fat is allowed to drop away from the meat of the fish proved successful in reducing the levels of PCBs.**

If you are concerned about the PCB content of the fish you are cooking, consider reducing the levels of these compounds by trimming out the fatty tissue. If PCBs are present, they will be concentrated in this fatty tissue. Mercury, on the other hand, is found in the muscle tissue of fish and is much more difficult to remove.

The W.Va. Department of Health and Human Resources presents fish consumption advisories on its Web site. Check it out at www.wvdhhr.org/fish/

2006 Aquaculture Forum will be Jan. 21

The annual W.Va. Aquaculture Forum will be held Jan. 21 at WVU Jackson's Mill again this year. One area of focus will include water garden management and growing aquatic plants. Both producers and consumers have found this event to be informative. Because of the abundance of food at this event, everyone attending becomes a consumer and a little heavier!

The Forum will start at 9:30 a.m. and finish about 4:30 p.m. The industry update will include information about the expanding production of Arctic char from **Rockhouse Springs** in Man, W.Va. The presentation of food products will be similar to the feasts of the previous years. Come and enjoy the food, the educational presentations, and the networking that occurs every year.

A local naturalist, **Fred Hays**, will speak about setting up a water garden. An aquaculture specialist from Maryland, **Andy Lazur**, will discuss using aquatic systems to grow plants. Our own **Ken Semmens** will coordinate the meeting and share some tips about pond management.

Preregistration will cost only \$10 until Jan. 14; after that, the cost will be \$20. All members of the West Virginia Aquaculture Association who have paid their 2006 dues will be admitted free. For registration information, check the Web site at www.wvu.edu/~agexten/aquaculture/index.htm. You also may contact WVU Extension (Becky Casteel) at 304-293-6131, ext. 4231.

Help Has Arrived

The U.S. Food and Drug Administration has approved Aquaflor®, an antibiotic, for the control of mortality due to enteric septicemia of catfish. Enteric septicemia, a bacterial disease, is one of the most serious diseases of farm-raised catfish in the United States. This will provide relief to catfish farmers everywhere.

Arctic Char Update

WV Aqua recently hired a full-time marketing specialist, **James LeFew**, to sell the high-quality char produced and processed in Mingo County. The three arctic char products are head-on, gutted; fillet; and smoked. During November 2005, the farm harvest averaged 6,000 pounds weekly to meet the demand. Sales of arctic char are now limited by production. Mr. LeFew will speak at the upcoming Aquaculture Forum on Jan. 21. In previous years, arctic char was on the menu for this event. Isis Arctic Char is available fresh year-round. Every order is quick-chilled, processed, packaged, and shipped within 24 hours – freshness guaranteed. For more information or on-line ordering, visit the Web site: www.isisarcticchar.com

Did YOU KNOW?

Charles Town, West Virginia, is headquarters to four national aquaculture associations. Which ones? They are the **National Aquaculture Association (NAA)**, the **United States Trout Farmers Association (USTFA)**, the **Striped Bass Growers Association (SBGA)**, and the **American Tilapia Association (ATA)**. For more information on any of these organizations, you may contact them at: 111 W. Washington, Suite 1, Charles Town, W.Va. 25414.



From the WVDNR Web site: The most recent statewide survey looked for mercury and PCBs in fish tissue. Except in a few special cases given on the advisory list, mercury and PCBs are responsible for the advisories issued for West Virginia Sport Fish.



Nearly 80% of West Virginia's surface waters flow into the Mississippi drainage system. Only eight counties in the Eastern Panhandle flow into the Chesapeake Bay drainage area. They are Grant, Pendleton, Hardy, Mineral, Hampshire, Morgan, Berkeley, and Jefferson. The 24 named watersheds in those counties can be seen at the following Web site: http://www.wvnet.org/downloads/posted%20sept102004/Potomac%20Watersheds_hq.pdf

Ken's Corner

Fresh fish are good to eat and a healthy part of the human diet. We would be better off to eat more fish. FDA and various professional organizations tell us to eat fish twice a week. On the other hand, we see articles about contaminants in fish and hear about advisories warning about consuming certain fish no more than a once a week. It is confusing to know what to do. My choice is to trust farm-raised fish. For many years, I have grown fish and know what goes into the process. We control what goes into the fish's environment and carefully select the feeds that are converted into fish flesh. I know that producer organizations, feed companies, university researchers, state agriculture departments, and individual businesses have been testing for contaminants in the flesh of farm-raised fish, the water they are grown in, and the feed they are fed. They are being proactive.

I have seen some of the reports and have never found good reason to restrict consumption of farm-raised fish. Consider that farm-raised fish are not subject to the same environment and food supply as wild fish, which may swim in and out of polluted waters. Now, there is a study with the following headline "Study Finds Government Advisories on Fish Consumption and Mercury May Do More Harm than Good." You may check out the article for yourself at this Web site: www.hsph.harvard.edu/press/releases/press10192005.html
Eat more farm-raised fish – it's good for you!

Using Viruses to Kill Bacteria in Aquaculture

Fish farmers know that most aquatic diseases are caused by bacteria. Outside the United States, the lack of regulations or enforcement of laws that restrict antibiotic use gives aquaculturists many options to manage bacterial disease. However, only two antibiotics have been approved in the United States for aquacultured products that are grown for human consumption. The problem is that bacteria become resistant to antibiotics with time, and this is true with Terramycin[®] and Romet-30[®], the two approved antibiotics in U.S. aquaculture.

Earlier this year, a three-year project began looking into the idea of using naturally occurring viruses to infect and kill pathogenic bacteria in aquaculture. The U.S. Department of Commerce provided grant money to Kent SeaTech of San Diego, the largest producer of farmed hybrid striped bass in the world. Three universities are involved in the innovative project that uses "phages," naturally occurring viruses, and the enzymes produced by phages, to destroy the bacterial cell wall. This approach may reduce the ability of bacteria to resist treatment.


Little is known about the biological mechanism phages use to kill bacteria, which can be intracellular as well as extracellular. Another goal of this project is to identify and isolate the best phages to treat aquatic diseases. The researchers at Kent SeaTech have advanced the technology used in culture systems beyond the traditional tank. They have developed half-million gallon recirculating circular raceways that are capable of producing a half-million pounds of hybrid striped bass each year. Imagine that!

For more information on hybrid striped bass, contact Striped Bass Growers Association, 111 W. Washington, Suite 1, Charles Town, WV 25414; (304) 728-2167; e-mail: sbga@frontiernet.net

2005 National Census of Aquaculture

In December 2005, the U.S. Department of Agriculture will mail a questionnaire to all fish farmers in the nation. This is a good opportunity for farmers to provide confidential data (that cannot be shared with the IRS) to provide justification for research and outreach programs designed to help farmers become more profitable. Farmers can use this data to determine what species to grow or which production method to use. By filling out the form when it arrives, you will allow Uncle Sam to help fish farmers.

The results from this survey will be available from the National Agricultural Statistics Service at www.nass.usda.gov. A printed copy may be obtained by calling (800)-999-6779. Do your part.

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We are encouraging contributions to Fishtales newsletter by W.Va. residents. If you are interested in contributing, please contact Dan Miller at dmille31@wvu.edu or call 304-293-4832, ext. 4465. The deadline for the next issue of Fishtales is March 15, 2006.

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

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