

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.

Fish Farm Biosecurity Takes Planning

Last year, the outbreak of Viral Hemorrhagic Septicemia (VHS) in the Great Lakes region caused repercussions that will impact the fish farming industry for a long time. The controversial actions taken by government officials were intended to control the spread of a deadly disease. Although West Virginia is not in the Great Lakes Basin, the issue of disease control should be a part of every fish farmer's management plan. Here are a few inexpensive steps any farmer can implement to reduce the chance of disease.

The principles of biosecurity are the same on every farm, but because every farm is unique, the biosecurity plan needs to be site-specific. A list of the focus areas will help anyone unfamiliar with biosecurity to be able to develop an effective plan for their fish farm.

Employee Awareness / Training

As with most businesses, employees are the key to success. Training all employees and volunteers to understand the risk sources, and how implementing the procedures will protect the business from spreading disease, is one of the most important steps a manager can take in addressing biosecurity on the farm.

Written Procedures

A farm map is useful for identifying the location of external (disinfection) and internal (vaccinations) barriers to the spread of disease. The protocol for transporting and receiving eggs or fish needs to be reviewed and understood by everyone who works on the farm. A detailed description for disease prevention and control is essential.

Good Maintenance of Tanks

Regular tank cleaning and removal of dead fish is an obvious step. Disinfection of nets between uses and keeping foot baths and net dips maintained are simple procedures that need to be implemented.

Disinfection

This includes transport tanks as well as boots, nets, and other items that come in contact with the water. Chlorine has been replaced with less caustic chemicals like Virkon® S or Chloramine-T that disinfect just as well.

Mountaineer Trout Co. builds new concrete raceways at old Lillybrook trout farm mine site



Ted Miller and his partner **Sonny Thompson**, owners of **Mountaineer Trout Farm**, have been changing the production methods at the old Lillybrook trout farm by building concrete raceways (shown above). The round tanks in the background, which were previously used for production, remain empty. As mentioned in the Spring 2007 *Fish Tales Newsletter*, Mountaineer Trout Farm has signed a long-term lease with Jobs Institute Trust, the owner of the facility and its mine water source.

Although concrete is still being poured, fingerling trout have been stocked in the upper portion of the new tanks. A previous employee at the old farm and two local boys are now working at the new farm. Once the new operations are running smoothly, the smaller McAlpin farm will be similarly modified to grow trout using the concrete raceway model.

Making Mountaineer Lemonade Out of Lemons

Biosecurity - from page 1

How can something as serious and deadly as Viral Hemorrhagic Septicemia (VHS) benefit W.Va. fish farmers? The answer to this question starts with geography. All eight states that border the Great Lakes are under federally mandated transportation restrictions that apply to more than 30 species of fish. Because their farms are located on the borders of the five Great Lakes, these unfortunate fish farmers now **MUST** become certified disease-free for VHS before they can ship live fish into another state.

This situation has opened an opportunity for fish farmers outside the restricted area to fill existing market demand until fish can be certified free of specific pathogens. Consider the baitfish industry. A West Virginia fish farmer with the capacity to convert ponds into baitfish production could find himself having access to existing markets if growers in the restricted region cannot ship into them. No additional regulations have been imposed on fish originating from West Virginia as a result of the VHS outbreak in the Great Lakes. With strict biosecurity procedures in place, perhaps the Mountain State can keep it that way.

Another way to make something good from a bad situation is seen in the increased interest in natural springs or mine water discharges, a biosecure source of water with constant temperatures. Growers in states adjacent to West Virginia may wish to expand production where biosecure water sources are available. This will enable them to maintain existing markets and expand their customer base with reduced risk of disease.

Purchase Certified Fish and Eggs

If you buy fish or eggs and bring them to your production facility, get them from a place that can certify them to be free of specific pathogens. Consider offering the same service to your customers.

Disease Treatment

Know where you will send fish for diagnosis and be prepared to do so. If there is some sign of disease, have the fish tested. Once you have a diagnosis, most diseases can be controlled with proper treatments. In the worst case, depopulation may be the only way to control the disease. In the best case, a short salt bath, improved hygiene, or thinning the fish may do the trick. Either way it is useful to keep good records.

Separated Quarantine Area

This option is not common on farms because of the regular harvesting and stocking of a variety of fish. Separating the water supply for a hatchery is considered a step in the right direction. Physical separation of quarantine area is important.

Vaccination

Vaccination of fish is one way to *reduce* the level of a single pathogen in a fish population. It does not prevent the introduction of the specific pathogen. Vaccination can be accomplished by different methods, including a short “bath” for fry or small fingerlings and individual injections for larger fish.

Practice and Modify

Avoiding and controlling disease is the goal in biosecurity. The type of water used for aquaculture cannot always be chosen. If you are stuck with a source of water that is a source of pathogens, it is very important that you train your people and practice what should be done and when. Annual reviews may result in modifying procedures or policies to make them more effective. Be sure to listen to your employees for feedback as they are your foot soldiers in the never-ending battle for healthy fish.

Fee Fishing Operations

One simple and inexpensive way for private fee fishing operations to reduce the risk of introduced diseases is to verbally inform all of your clients that outside baitfish are prohibited and to post that information. It is impossible to determine where baitfish originate. With so much of the baitfish production coming from New York, Minnesota, and Wisconsin – all of which are in the VHS-infected Great Lakes area – it is best to take precautions now rather than after it is too late. ***Note to self: raise baitfish!!***

Trout School Set for Sept. 17 and 18

Don't miss this great opportunity to learn how to farm trout. The two educational days are designed for current and future trout farmers, agriculture instructors, students, and any organization or individual interested in culturing trout in a sustainable manner.

Presented by WVU Extension and the Davis College of Agriculture, Forestry, and Consumer Sciences, the Trout School will be a hands-on experience including how to grade, handle, feed, release, and move trout with minimum stress. One of the state's most experienced filleters (Rodney "El Zoro" Kiser) will be on hand for trout processing demonstrations.

The design, management, and economics of flowing water systems will be covered in detail. Advantages of raising rainbow, brook and brown trout will be discussed, as well as marketing each of these species. Get a firsthand look at West Virginia University's trout research facilities, located at the Reymann Memorial Farm in Hardy County, by registering for this two-day event.

Registration and lodging information is available at the link listed below. The \$30 registration fee does not include lodging. Please contact Ken Semmens, 304-293-2631, ext. 4211, or ksemmens@wvu.edu if you are interested in attending. As details become available, they will be distributed and posted on our Web site www.wvu.edu/~agexten/aquaculture/



Farmer Relates Success Story with Barley Straw for Algae Control

A farmer in Monongalia County wanted to buy some barley straw for treating filamentous algae in his two ponds. Unable to find any, he decided to grow some on his farm and put it in the pond. He appears to have had success with his efforts. Below is what **Del Yoder** wrote to say about his experience this summer.

At Owl Creek Farm, we have two ponds, a small one near our house and a 1-acre pond we use for irrigation. Both ponds have had algae problems, with the smaller one covered with algae by midsummer. Several past attempts at chemical control have not been successful. I had heard reports that barley straw was an effective control for some algae situations. As I was unable to locate any barley straw, I decided to plant some this year. The following is my experience to date.

On June 26, a few days after baling the straw, I took two bales and tied a concrete block and a float to each. I put them into the smaller pond, which is 8 feet deep. We were gone for 10 days, and I could not believe how much the pond had improved. Now a month after putting in the straw, the pond is almost completely clear of algae. I have since learned that the decomposition of the straw must occur in the presence of oxygen, and rather than using whole bales, the straw should be loosely packed in bags and placed no deeper than 6 feet to obtain the best results. The amount of straw is based on the pond surface area rather than volume. Three square bales should treat a 1-acre pond.

I was so impressed by my first attempt that I treated our larger pond about 10 days ago. The algae is already breaking up, and I am optimistic that barley straw is an effective treatment for our algae problem. I have straw if anyone has an algae problem and would like to see if it works in your location. Contact me at

Del Yoder, 640 Goshen Rd., Morgantown WV 26508
Phone: 304-291-0409

Editor's Note:

The recommended application procedure is to use from 125 to 225 pounds of barley straw per surface acre or 1 pound per 2,000 gallons of water. Submerge it in the pond, using a mesh bag or some container that allows circulation of water through the straw. Barley straw remains effective for many months. Results occur faster with higher temperatures.

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We encourage story 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 November 1, 2007.

This publication is available, in a printable format, on the Web at:

www.wvu.edu/~agexten/aquaculture/newsletter.htm

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