



Newsletter

December 2, 2005

President's Message

Tis the season - for - Michigan Aquaculture News.

If I recall, in the last newsletter I described my true life account of how negligent thought processes on the farm can affect your fish's feelings (that's almost the way it happened anyway). I keep looking for someone to top this story but no takers yet. Perhaps someone can tell us a good fish story at the upcoming Michigan Aquaculture 2006! Yes indeed if it's not on the calendar for February 9th and 10th, then let's "get er done"! The theme this year is "Sustainable Aquaculture", and we'll be hearing from experts on yellow perch, broodstock production, recirculating systems and their economics, value added products for aquaculture, and slew of other incredibly important discussions. Don't miss out and pass the word, February 9-10, Lansing MI.

On a more serious note, throughout this past quarter I have had life changes that I never thought would take place. Without going into this, I would just like to say I'm healthy as ever and ready to take on all other challenges heading my way. As I thought about writing this message, I realized that my experiences must be very similar to everyone else's in MAA. For instance we are all born, get schooled, we socialize, and have families. We live; we work like (most) everyone else, and we die. But the main difference between us and everyone else is that we raise, sell, and work with fish. In scripture, fishermen became fisher's of people. Please remember this when dealing with others. I wish truly that all of you will take inventory of everything around you, then ask yourself if you are doing all you can for your Family, God, and Country. Our jobs and livelihoods have special meaning - like planting roots. This is the commonality we share. This is why we are the Michigan Aquaculture Association.

I wish you all the very best the Holiday Season!!
Chris Weeks

P.S. I believe my term as President is up the year. Anyone interested?

State Capital News

Contact: Amanda Price 517-373-3447
October 27, 2005

"Protecting our Waters" plan introduced in Senate

LANSING - Michigan's groundwater will be protected under legislation introduced in the Senate today. The legislation will see committee action in the next two weeks, announced Sen. Patty Birkholz, R-Saugatuck Township.

"We are introducing a sound water use protection plan to carefully conserve and manage one of Michigan's most important natural resources and economic assets," said Birkholz, chair of the Senate Natural Resources and Environmental Affairs Committee. "This legislation was crafted with support from a wide range of water users in the state, including the Michigan United Conservation Club, Michigan Manufacturers Association, and Farm Bureau. We anticipate sending this to the governor before the end of the year."

The legislative package includes bills that will:

- Implement an immediate regulation of all new water withdrawals in excess of 2 million gallons a day.
 - Prohibit diversions of our water through pipeline, barge, rail or other methods of bulk water shipment. This legislation will be introduced in the House in the next week.
- Focus on new and expanding high capacity water uses on surface water, natural resources and nearby existing wells.
- Create a more consistent and accurate water use reporting system.
 - Continue the authorization of the Groundwater Conservation Advisory Council to provide ongoing recommendations for improvements to this program.

"This is comprehensive legislation to study, report and implement a plan that will take carefully constructed measures to protect our natural resources and preserve reasonable use of our waters," said Birkholz. "The citizens of this state should be acknowledged for their participation in our hearings and I also want to specifically acknowledge Steven Chester, director of the Department of Environmental Quality, for his work on this legislation. We all have a stake in putting in place a plan that will benefit our state for generations to come."

(Senate Bills 850, 851 and 852 are tied-bar for passage of SB850)

Web Link:

<http://www.legislature.mi.gov/mileg.asp?page=getObject&objName=2005-SB-0850>

Fishing Health Testing - Salmonids

During the weeks of the 5th and 12th of December, on farm sample collections are being taken with the cooperation of Michigan Dept of Agriculture & MSU - Aquatic Animal Health Laboratory. All participants should have already been contacted by Bob Baldwin or Dr. Peggy Roth in making arrangements for testing dates. If we should have somehow missed your farm, please immediately contact Bob at 231/796-2284.

MAA Annual Meeting

The 2006 Michigan Aquaculture Association Annual Meeting will be **February 9th & 10th, 2006** held at the **Clarion Hotel - Lansing**. Further information will follow in the January's Newsletter and Information will be posted on the Web shortly.

<http://www.michiganaquaculture.com>

Election of MAA Officers

Both the office of President and at large Director are open. If you would like to run for either of these posts, please contact any of the current board members to submit your name.

Wisconsin Aquaculture Association

Annual Meeting will be held at the Holi-Dome Conference Center in Fond-du-lac - March 17th & 18th, 2006. Additional information can be found at:

www.wisconsinaquaculture.com

Editor Note: I just got my copy of Northern Aquaculture and found this article that I thought the members would find worth reading and would give you a different perspective of how logic and science is not always followed by agencies whether in the US or Canada.

Northern Aquaculture (November/December 2005)
Commentary by Brad Hicks

Malachite Green - The good, the bad and the ridiculous

We all love a bandwagon and the latest one is malachite green. Malachite green was invented as a dye more than a century ago. Since that time it has found many uses, in pulp mills, fabric dyes, printers ink, aquifer tracer, to dye for picking up latent fingerprints. Along the way it was also found to be excellent for the control of fungus, including fungus in fish.

After about 100 years of use there was a suspicion that malachite green may be carcinogenic, not because of any clinical evidence, but because some other dyes which had chemistry similar to malachite green, were proving to have carcinogenic properties - guilt by association.

During the last 20 years several studies on carcinogen potential were performed on malachite green and the results were either negative or equivocal. At the high levels malachite green was able to produce a variety of pathological changes but not much in the way of cancers. Then, in February, 2005, in a paper published by the national toxicology program in the US it was concluded that "tumors of the thyroid gland, liver, or mammary gland in female rats might have been caused by malachite green chloride, but that malachite green chloride did not cause cancer in female mice. We conclude that leucomalachite green might have caused cancers of the thyroid gland in male and female rats, and of the testes in male rats and liver in female rats. Leucomalachite green caused an increase in cancer of the liver in female mice."

If you have the energy to read this 312 page report you will find that these conclusions are based on *equivocal results* (the authors term not mine) and that the equivocal carcinogenic effects were only present in studies using very high concentrations of malachite green and that the test animals fed the higher levels of malachite green actually lived significantly longer than the animals which were not fed any malachite green. It is difficult to interpret why animals fed high levels of malachite green lived longer, but it appears to be because the malachite green was very effective at preventing these animals from developing mononuclear cell leukemia - blood cancer.

The layman's conclusion would be that with a daily dose of malachite green you live longer, but that when you die you have a couple of extra bumps on your liver.

Malachite green itself is not particularly toxic. Most of the interest is with the metabolite of malachite green - leucomalachite green. Leucomalachite green is also persistent in the environment. It is the reduced form of malachite green and common bacteria present in the environment is capable of reducing malachite green to leucomalachite green. Therefore it is not surprising that leucomalachite green has been found in wild fish in BC (pulp mills are other potential sources of leucomalachite green). In addition to wild salmon, leucomalachite green has also been found in rockfish near pulp mills. At this time the sources of the malachite green in wild and farmed fish in BC remain unknown.

Malachite green was used for many years in federal hatcheries for the treatment of wild fish in both the US and Canada, but its use was to have stopped

several years ago. Is it possible that during the last five years some malachite green was still being used in some hatcheries, public and/or private? Yes. Is it therefore possible that some of the wild fish may be positive because of the misuse of malachite green - yes?

In the meantime there appears to be no need to panic. Malachite green and leucomalachite green at the current levels found in wild and farmed fish are far below toxic levels. A person would have to eat the equivalent of about 100,000 to 4,000,000 kilograms per day of wild or farmed fish before they could get enough malachite green to produce either beneficial or detrimental effects from the amount of malachite green in the fish.

Malachite green has been in use for over a century. People are exposed to it from many sources - green leather, green paper, green ink, medicines, wild fish, and from environmental sources of all kinds. So why has farmed fish been picked on?

Are farmed fish an easy target? They are more controllable and more identifiable than wild fish. It is my understanding that the government officials who initiated the investigation and who set the tolerance of zero for malachite green in fish were of the opinion that the only source of malachite green in fish was from the application of malachite green to farmed fish and because malachite green is not an approved substance the presence of any malachite green in farmed fish meant that such fish could not be sold for food. There was no consideration of the possibility that malachite green could simply be an environmental contaminant.

So why is there so much interest in such low levels in wild and farmed fish. The levels being reported are in the order of 0.3 to 1 part per billion and it takes more than 400,000 times this concentration to have any effect - beneficial or detrimental.

I think the rationale is simple, but not flattering. In its conclusion the NTP report states, "We conclude ... Leucomalachite green caused an increase in cancer of the liver in female mice." This is enough for government officials to react; they do not have to read the report in detail; they do not have to rationalize their actions any further. The NTP concludes that leucomalachite green is carcinogenic - that is enough. At the same time they are only aware of malachite green being used in fish for the control of fungus and they seem completely oblivious to the fact that malachite green is very widely used in industrial applications and is also likely an environmental contaminant. It was easy for them to focus on farmed fish. It was also a mistake.

If they had read the entire report in detail they would have found that at the levels found in fish there was absolutely no evidence of carcinogenicity. That the only evidence of carcinogenicity was in mice fed very high levels of leucomalachite green and then only if both the benign and malignant tumors were summed together.

They would also have learned that more of the rats and mice fed malachite green lived to 48 months than the control animals which died sooner. If they then took the time to look at the potential source of malachite green in the environment they would have realized that wild fish and shellfish could also be affected. Instead, they investigated only farmed fish and then stopped the sale of farmed fish with absolutely minute quantities of leucomalachite green.

When it was brought to their attention that malachite green was present in wild fish their response was to test wild fish as far away from industrial basins as possible and away from any hatchery systems so they could find some negative wild fish. They have yet to investigate fish from industrial basins on either coast or the Great Lakes.

Internationally, malachite green has been given a very different treatment. In Europe the effective action level (preventing sale of product) is 2 parts per billion. This is about 10 times the level being allowed in Canada, and the Japanese are at 5 parts per billion. The United States is apparently at zero but is not testing.

Where do we go from here? Malachite green and its metabolite leucomalachite green have been around for a long time and regardless of what happens in fish culture they will stay around for a long time to come because of their persistent nature.

So far they have been found in wild and farmed fish at very low levels. There does not seem to have been much of an investigation of other foods, so only time will tell whether other sources of food contain minute quantities of Malachite Green. There was a case in Britain where fish became contaminated from being handled with a green paper towel which had been dyed with malachite green.

I am not proposing that we abandon regulation of malachite green in our food supply. I am advocating that we rationalize its regulation. We need a limit that reflects both the reality of malachite green as an environmental contaminant and the apparently very weak carcinogenicity of this compound. A good start would be to adapt the European standard of 2 parts per billion as an interim measure.

Reprinted from Northern Aquaculture

2005 CENSUS OF AQUACULTURE IS READY TO COUNT

WASHINGTON, Nov. 15, 2005 – The United States Department of Agriculture's National Agricultural Statistics Service (NASS) is gearing up to count aquaculture species produced in the United States through the 2005 Census of Aquaculture. The census will also

collect detailed data relating to water area, production and sales, point of first sales outlets, farm labor and aquaculture distributed for restoration or conservation purposes.

Census of Aquaculture report forms will be mailed to producers Dec. 15. Recipients are asked to complete and return their report forms within two weeks of receipt, providing data for the 2005 calendar year.

“Only aquaculture producers themselves can supply the answers needed to produce a useful and accurate picture of our nation's aquaculture at the national and state levels,” said NASS Administrator R. Ronald Bosecker. “The information that results from the census benefits producers, and the entire aquaculture industry, in many ways.”

For instance, Census of Aquaculture data are used by:

- producer organizations to evaluate and propose aquaculture policies and programs;
- businesses to develop marketing strategies and determine facility locations;
- public and private analysts to make projections and forecasts regarding the industry;
- colleges and universities to develop new and improved methods to increase aquaculture production;
- state departments of agriculture for aquaculture promotion and research activities;
- federal government policymakers to draft legislation to help resolve aquacultural issues; and
- state and local governments to plan rural development, aquaculture research and extension programs.

“Many of the questions will be similar to those asked in the last aquaculture census, conducted in 1998. In addition, some new questions have been added to capture information such as farm employment data for aquaculture operations” Bosecker explained.

Information provided by producers is strictly confidential by law (Title 7, U.S. Code). No data on any individual operation will be disclosed. Statistical results will be summarized and made available in printed and electronic form. Title 7 also states that response to the 2005 Census of Aquaculture is mandatory. Those who receive a census form are required to return it whether or not they had an active aquaculture operation in 2005.

For the purpose of the Census of Aquaculture, an aquaculture farm is defined as any commercial or noncommercial place from which \$1,000 or more of aquacultural products were raised and sold, or raised for restoration, conservation or recreational purposes during

the census year.

Final results from the census will be published by NASS in the fall of 2006 in a report entitled 2005 Census of Aquaculture . It will be available on the NASS Web site at www.nass.usda.gov .

Join the MAA email discussion listing

If you're hooked up to the internet and not a part of the MAA discussion group your missing out on great discussions and important legislative update information. To register, go to the following site:

<http://groups.yahoo.com/group/michaqua/>

Aquaculture Interest Column

In every newsletter we would like to add at least one article written by a member of MAA. This could be something about your farm, experiences, concerns you may have, a study you might have done, or just about anything you feel would be worth passing on (aquaculture related please). If you have something you would like to contribute, send a copy to either Bob Baldwin or Chris Weeks.

Current Officers

President: Chris Weeks 517/353-5453
Vice President: Bob Baldwin 231/796-2284
Sec/Treas: Steve Ouwinga 231/834-7720
Director: Russ Allen 517/347-5537
Director: Rick Weidenhammer 231/548-5323

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www.michiganaquaculture.com

HAPPY HOLIDAYS!