



Newsletter

August 1, 2005

President's Message

Greetings to you all, this very hot summer!

I sincerely hope that all of you are having a stellar, productive season.

The other day I was working on a RAS (recirculation aquaculture system) here in the lab at MSU. The Jacuzzi pump I'm intending to use really kicks out a spark when plugged in. No problem! I easily eliminated the spark by using a circuit breaker as an on/off switch to the pump. Looking at the description for the outlet breaker, I saw it was designated as "Lights", and therefore thought it would work well for my improvised fix. I became even more encouraged when, trying the breaker, was standing appreciatively in the same level of light as before. After 3 diligent working hours I left for the night, turned off the breaker, and went home, feeling rather good with myself I might add.

The next morning I entered the lab, which was eerily quiet. It didn't take long to find out what that breaker switch actually controlled – one line must have gone to the light bulb in my brain; the other line went to the supply to the well pump that feeds the lab's flow-through systems. As for as how did the fish handle this debacle? There are some things you just don't ask a fish farmer (like what SSS stands for). My take home message here is this: don't automatically suppress sparks you come across, even small ones can have tremendous outcomes.

Speaking of sparks, I'm looking to take your information with me to the next MAA board and MAAC meetings. Topics for Michigan Aquaculture 2006, legal woes, areas of concerns, areas of jubilation, ..., write em up, email, or give me a call. Remember, as president of MAA, my goal is to represent your interests to the best of my ability.

Best Regards!
Chris Weeks

Go Michigan Aquaculture

State Capital News

MAA Represented at the Capitol

Russ and Chris handed out heaps of shrimp at the capitol on Taste of Michigan day on May 24th as representatives of the Michigan Aquaculture Association. This was a great opportunity to talk with our State Legislators, aides, and fellow Michigan Agriculture Industry representatives. Thanks to Russ we pulled allot of interest to our table.

MSU Extension Budget

MSUE appropriations are in the fate of House Bill 4831, which has passed the House and Senate. MAA encourages support of full funding for the Experiment Station and Extension Services for MSU. Tell your Governor!

New Exotic Species Law

Bill Numbers (House) 4714, 4715, and 4716 (Senate) 211, 212, 213, 215, and 507 have been signed into law by Governor Granholm. The bills as signed on July 19, 2005 are available on the Michigan legislature's Web site at <http://www.legislature.mi.gov/>. These bills essentially make it a crime (misdemeanor to felony) to intentionally introduce or have in possession, prohibited or restricted aquatic plant and animal species as listed. Pertinent sections of these laws are described below. Special Thanks to Rob Anderson and Dan Vogler who lobbied for MAA interests during the developmental process.

"Restricted aquatic plant species" means any of the following or fragments or seeds thereof: Curly leaf pondweed, Eurasian watermilfoil, Flowering rush, Phragmites or common reed, Purple loosestrife (*Lythrum salicaria*) or a hybrid or genetically engineered variant thereof.

“Prohibited aquatic plant species” means any of the following or fragments or seeds thereof:

African oxygen weed, Brazilian elodea, European frogbit, Giant hogweed, Giant salvinia, Hydrilla, Japanese knotweed, Parrot's feather, Water chestnut, Yellow flag iris, Yellow floating heart (*Nymphoides peltata*) or a hybrid or genetically engineered variant thereof.

"Prohibited fish species" means any of the following or the eggs thereof:

Bighead carp, Bitterling, Black carp, Grass carp, Ide, Japanese weatherfish, Rudd, Silver carp, a fish of the snakehead family (family Channidae), Tench, or a hybrid or genetically engineered variant thereof.

"Prohibited insect species" means any of the following or the eggs thereof:

Asian longhorned beetle, Emerald ash borer, or a hybrid or genetically engineered variant thereof.

“Introduce”, with reference to an organism, means to knowingly and willfully stock, place, plant, release, or allow the release of the organism in this state at any specific location where the organism is not already naturalized

Possession is further described by:

(a) A person is not considered to possess a live organism simply because the organism is present on land or in waters owned by that person unless the person has knowingly introduced that live organism on that land or in those waters.

(b) A person is not considered to possess a live organism if the organism was obtained from the environment and the person only possesses the organism at the specific location at which it was obtained from the environment.

(c) A person is not considered to possess a live organism if the possession is for the purpose of promptly destroying the organism.

Bill 4716 Sec. 41309 (13) This part does not apply to activities authorized under the Michigan aquaculture development act, 1996 PA 199, MCL 286.871 to 286.884.

From the Federal Government

The Bush Administration, in conjunction with the National Oceanic and Atmospheric Administration (NOAA), has released to Congress its plan for the future of aquaculture in the United States. Industry groups have offered their support, but at least one major environmental group has expressed concern.

The National Offshore Aquaculture Act of 2005 was released to Congress earlier in the month. The bill would grant the Secretary of Commerce the authority to issue permits for offshore aquaculture in federal ocean waters (known as the United States Exclusive Economic Zone), an expansion of power that has some groups nervous over possible food safety ramifications.

News from Michigan DNR

The DNR is beginning to request information on health certifications for public stocking of cool/warm water species affected by heterosporis (a microsporidian parasite). It seems to more closely resemble fungi than a fish parasite, as it releases spores. An infected fish will develop a sudden and severe infection of spores. It has been seen where 90% of the fish fillet is made up of the parasite spores rather than muscle.

At this time the DNR is mainly focusing on imports from states where heterosporis has shown to be a problem (Wisconsin, Minnesota and Ontario). In the future, these requests may likely expand towards all imports, with the potential to be included in all public stocking requests.

As a reminder, imports to a registered facility fall under the jurisdiction of MDA (Animal Industry Act). Imports to non-registered private owners, and public stocking permits are regulated by the DNR. As a precautionary action, anyone intending to import species such as walleye and yellow perch would be wise to obtain them from dealers certified against heterosporis (IF THEY ARE ANY). Also, I suggest you talk to your suppliers about this to let them know what's on the horizon.

Info on this parasite can be found at <http://www.dnr.state.wi.us/org/water/fhp/fish/health/disease.htm>.

Marketing info

A new white paper on marketing needs in the NCR has been published and available at: <http://ag.ansc.purdue.edu/aquanic/ncrac/wpapers/AquacultureMktg.pdf>. The authors' take home message is that NCR producers could become much more consumer responsive in their marketing strategies and compete on the high level of consumer benefits that they deliver.

Posting Notice

USDA Wildlife Services
Tony Duffiney, Wildlife Biologist
2803 Jolly Rd., Suite 100 Okemos, MI 48864
(517) 336-1928

The fees for USFWS depredation permits have increased from \$25 to \$100 for renewals and new permits and any amendments to a current permit will cost \$50. Under the old fee system, there was no charge for amendments. Just thought I would pass this along to avoid confusion during the winter renewal season.

Information and News

Seafood and Food Safety Issues Related to Aquaculture

Ronald E. Kinnunen
Michigan Sea Grant Extension

In December 1997 the U.S. Food and Drug Administration (FDA) began to enforce regulations to increase the safety of the U.S. food supply by requiring fish processors to use preventive controls to keep unsafe products from reaching consumers. These new FDA regulations represent a new way food is protected. The regulations are based on principles of a system called Hazard Analysis Critical

Control Point (HACCP) and focus on a process of preventative rather than reactive measures. Under these new procedures fish processors will take greater responsibility in preparing safe fishery products, and government and industry will work more closely together to protect the consumer. The mandatory regulation is based on the belief that every fish processor through proper training or experience can understand the food safety hazards of their products and take reasonable steps to keep them from happening. HACCP training is achieved through course materials or job experience that provides knowledge equivalent to a standard curriculum course recognized as adequate by the FDA. The processors may either obtain training for one or more of their own employees or they may hire trained independent contractors to perform the HACCP functions.

The key HACCP components are identification of biological, chemical, and physical hazards that could make fishery products unsafe; establishment and monitoring of targeted control points to minimize such hazards; corrective actions to be taken if a hazard is identified; and keeping records of the results. Under the FDA regulations, fish processors will have to identify hazards that, without preventive controls, are reasonably likely to affect the safety of the product. If at least one hazard is identified, the firm will be required to adopt and implement an appropriate HACCP plan. Fish processors using the HACCP system will continue to be monitored under FDA surveillance and inspection programs. The HACCP records kept by the fish processor will enable FDA regulators to monitor product safety more closely and on a more continuous basis than through spot checks. In addition, fish processors must address sanitation control procedures at their facility. Although not required by law, each processor should have and implement a written sanitation standard operating procedure (SSOP) or similar document that is specific to each location where fish and fishery products are produced. The SSOP should specify how the processor would meet those sanitation conditions and practices that are to be monitored. However, the law does require each processor to monitor the conditions and practices during processing with sufficient frequency to ensure, at a minimum, conformance with those conditions and

practices that are both appropriate to the plant and the food being processed. Each processor shall maintain sanitation control records that, at a minimum, document the monitoring and corrections. The processor shall correct in a timely manner, those conditions and practices that are not met. Sanitation controls may be included in the HACCP plan, however if the controls are adequately monitored and adequate records kept they need not be included in the HACCP plan.

Aquaculturists who process their own fish will be directly affected by the HACCP regulation. Those that sell their fish to a processor will be indirectly affected by the HACCP regulation. Processors of domestic as well as imported fishery products will take greater responsibility for incoming materials that will directly affect aquaculture producers. If the supplier, such as an aquaculture producer, does not provide satisfactory information about how the fish were handled, the HACCP plan will strengthen the processor's position in refusing to accept the shipment. The aquaculture producer will thus be responsible for providing specific information to fish processors who purchase their fish or allow these fish processors or their representative to visit their sites to collect information on their aquaculture practices. This information may include proper use of approved aquaculture drugs and prevention of product contamination with environmental chemical contaminants and agricultural chemicals. Aquaculturists can expect to bear increased responsibility for documenting compliance with the HACCP regulations as it seems doubtful that the FDA will permit the direct sale of aquaculture products to end users without HACCP controls, even when fish production and harvesting, trucking, and retail appear to be excluded in the regulation.

Aquaculturists who sell their fish to a fish processor will be expected to work out some type of arrangement that will help ensure the safety of their product. The fish processor or one of his representatives may visit the fish farm one or more times per year to observe proper use of aquaculture drugs and agricultural and industrial practices near the fish ponds. At this time fish samples may be collected for drug residue, environmental chemical contaminant, and pesticide analysis. The aquaculturist may also perform these same duties and

provide a certificate to the fish processor with each lot of fish sold verifying that these specific areas were monitored. A third party certificate is also allowable if the aquaculturist operates under a Quality Assurance Program that covers aquaculture drug usage, environmental chemical contaminants, and pesticides.

There are practices that are exempt from the FDA federal HACCP regulations but the aquaculture producer will still need to comply with specific state and/or local regulations where applicable. For instance, an aquaculture producer would not be subject to the FDA HACCP regulations when he harvests and boxes his fish whole on ice for immediate transportation to a wholesaler or retailer within the state or outside the state. The aquaculture producer would not be subject to the HACCP regulation whether he sold his boxed, whole, fish to a wholesaler at the farm site and the wholesaler transported the fish off the farm and to a retail market or if the producer did the transportation. But, if the aquaculture producer holds the product after harvesting and prior to distribution for 24 hours or more, that operation would be subject to the regulations. Holding is deemed processing as defined in the HACCP regulation. If the aquaculture producer performs any other activities as defined in the regulations such as heading, eviscerating and freezing, he would be subject to the regulations.

Other practices that are exempt from the FDA federal HACCP regulations include live fish hauling to various market outlets, custom processing the fish directly for the consumer who does not resell it, and fee fishing operations. Fish may be taken to some location in the same state or may be taken to another state for consumption.

Aquaculture producers who do not process their own fish may not be directly affected by the FDA HACCP regulations but may in many ways be affected indirectly. It is important that all aquaculture producers take it upon themselves to become aware of the HACCP regulations to circumvent any surprises when it comes time to market their fish.

From the Other Side of the Pond

UK News

FISH OIL DIET FEEDS BRAINS OF TODDLERS

Study shows Omega-3 improves pre-school learning skills

Amelia Hill, education correspondent

Sunday July 17, 2005

The Observer (<http://observer.guardian.co.uk>)

The behaviour of pre-school children improves dramatically when given a daily dose of fish oils, according to the first study made into dietary supplements for young people under the age of three.

After just six weeks of daily doses of Omega-3, parents reported a transformation in the behaviour and learning abilities of children as young as 20 months old.

The study has gained the attention of Professor Robert Winston from the Institute of Reproductive & Developmental Biology at Imperial College London who revealed in last year's BBC series, *Child Of Our Time*, how fish oils can calm disruptive children aged six and upwards.

'The data has been extremely impressive,' said Winston, who will discuss the study tomorrow at a debate on the potential impact of Omega-3 on childhood development. 'The evidence is getting ever stronger that children who have diets poor in Omega-3 are not achieving their natural potential.'

Omega-3, polyunsaturated fats found in significant amounts only in oily fish and offal, make up a quarter of the grey matter of the brain and are vital to brain and eye development.

Research into the effect of fish oil supplements on older children, pregnant women and young offenders have all identified powerful benefits, but this is the first time the impact has been tested on pre-school children.

The Observer has seen interim results for the Durham-based study of 60 children aged between 20

months and three years, which was launched three months ago and is due to run for a year.

The results reveal dramatic improvements in the performance of underachieving toddlers, many of whom had been disruptive and unable to concentrate.

Children were assessed for their motor skills, IQ, reading, spelling and behaviour, and the study identified a huge reduction in symptoms of the sort associated with attention deficit and hyperactivity disorder.

The biggest improvements, however, were observed in the children's concentration and behaviour. 'The performance of almost 60 per cent of the children involved has improved dramatically,' said Dr Madeleine Portwood, educational psychologist for Durham local education authority and lead investigator at the Durham Sure Start trial. 'We saw children whose learning skills went from being six months below their chronological age to absolutely normal in just three months.'

'Some two-year-olds went from having a vocabulary of 25 single words to being able to use whole sentences, while others were able to sit down and concentrate for the first time in their lives.'

Portwood, who is also speaking at the debate, believes it is vital to focus on helping children to reach their full potential before they get to school.

'If we help them when they are three years old, they will not have had a chance to fail,' she said. 'But if we wait until they are older, they will have suffered years of alienation and possibly irreparable damage to their self-esteem.'

The trial is part of a broader, Child Progress Profile research project being held by the Peterlee Sure Start scheme using fish oil supplements called Eye Q, made by the company Equazen.

'A spin-off of the children's improvement was a vastly improved bonding between parent and child which led to a significant increase in their learning,' said Portwood.

Lisa Darrell, mother of 20 month-old Lottie, has found her daughter's concentration has improved noticeably since joining the study three months ago.

'She now watches people and tries to imitate them, instead of rushing around not taking any notice,' said Darrell. 'Lottie has always had a very balanced diet so I was sceptical that a daily supplement would make any difference, but the changes have been unmistakable.'

MDA News Release

July 13, 2005

Mitch Irwin Appointed Director of Agriculture

The Michigan Commission of Agriculture today appointed Mitch Irwin as Director of the Michigan Department of Agriculture (MDA) by a unanimous decision. Irwin replaces Dan Wyant who announced his resignation effective July 29, 2005.

Irwin, of East Lansing, is currently the Director of the Michigan Department of Management and Budget (DMB). Prior to joining DMB, Irwin held positions with the Michigan State Senate where he served the Upper Peninsula and northern Michigan from 1979 to 1990; the Economic Development Corporation of Chippewa County; and the Eastern U.P. Regional Planning and Development Commission.

“We are pleased to have a person of Mitch Irwin’s background to lead the department, working with the diverse food and agriculture industry on behalf of the citizens of Michigan,” said Jim Byrum, Commission Chair. “All of the candidates were very committed to improving the state’s agriculture industry, but Mitch is an outstanding choice to take on the challenges and opportunities facing agriculture today.”

The other candidates who interviewed were former State Representative Gene DeRossett of Saline; James Lloyd of Okemos, currently the assistant to the dean of the College of Veterinary Medicine at Michigan State University; and Michael Schrom of Bangor, currently in a management position at Honee Bear Canning. All five commissioners voted in favor

of offering the job to Irwin after deliberations following the interviews.

Irwin commended Dan Wyant for the leadership he has provided in his role as MDA Director for the past nine years. “Director Wyant has developed strong partnerships with the multitude of public and private organizations that serve this vital industry. It is my goal to build on the administration’s priorities of both protecting Michigan’s consumers by ensuring a safe and healthy food and crop supply, and of protecting and growing Michigan’s agriculture industry.”

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.

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