

CHARLES H. BRONSON  
Commissioner of  
Agriculture

Florida Department of  
Agriculture and  
Consumer Services

# Florida Aquaculture

October 2003, Issue No. 27

Division of Aquaculture

## Highlights:

- Red tide is a rare occurrence in North Florida.
- Red tide driven shellfish closures are to protect human health.
- Severe winter temperatures expected.
- Unusual disease or pest occurrences must be reported.
- Nitrofurantoin drug statement available.

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## Red Tide Strikes Apalachicola Bay

Red tide appeared on September 19th in Apalachicola Bay at densities that exceeded 5,000 organisms per quart. These densities triggered implementation of Florida's Marine Biotoxin Contingency Plan. Four areas were closed to shellfish harvest (clam, oyster, scallop and mussel). However, red tide did not persist and harvesting was reopened on September 26th.

Red tide rarely occurs in the Panhandle. Over the last 15 years or so only seven red tides have been recorded in the Bay unlike Southwest Florida where red tide has almost become an annual event.

Filter-feeding shellfish concentrate toxins ingested with the red tide organisms. People that eat shellfish containing the toxins are subject to a temporary illness: Neurotoxic Shellfish Poisoning. Symptoms include nausea and diarrhea, dizziness, muscular aches, and tin-

gling and numbness of the tongue, lips, throat and extremities. High toxin concentrations have resulted in respiratory failure (patients are placed in a ventilator to survive).

When red tide organisms drop below approximately 5,000 per quart, shellfish usually purge the toxins from their systems in two to six weeks. The Division tests for toxicity during these periods and harvesting bans are lifted when test results verify that shellfish are safe to eat.

For additional information about red tide, shellfish harvesting closures or the Marine Biotoxin Contingency Plan, contact David Heil at 850-488-5471.

Photos courtesy Mote Marine Lab and Florida Marine Research Institute



Red tide induced fish



Florida's most common red tide organism:  
*Karenia brevis*

## Damaging Freezes Predicted this Winter

The Florida Climate Center is predicting that a damaging freeze is three times more likely to occur this winter.

Conditions in the Pacific Ocean indicate a neutral year for El Niño or La Niña. In neutral years the polar jet stream meanders over the continent. Due to this unstable pattern, the southern tier of the United

States is susceptible to the dramatic dips in the jet stream that push arctic air masses south from Canada. These severe arctic outbreaks may lead to prolonged freezing temperatures in the Florida's central and southern portions.

Florida's farmers should prepare for a cold winter. For further information contact the

Division for a copy of a freeze protection video prepared for tropical fish farmers.

Visit the Florida Climate Center website for winter maps displaying temperature probabilities at [http://www.coaps.fsu.edu/climate\\_center/freeze.html](http://www.coaps.fsu.edu/climate_center/freeze.html).

**A winter weather rule-of-thumb is: If a high pressure center dips south of Dallas Texas, there is a good chance Florida will see freezing temperatures.**

## Fish Viral Testing Update by Dr. Denise Petty, DACS

The Animal Disease Diagnostic Laboratory in Kissimmee, Florida, has added additional diagnostic testing for Koi Herpesvirus (KHV), Largemouth Bass Virus (LMBV), and Channel Catfish Virus (CCV).

KHV is an emerging viral disease that only affects koi, and can result in significant losses. There are two diagnostic tests for KHV; one is virus isolation through cell culture, and the other is via polymerase chain reaction (PCR). Earlier this year the Diagnostic Lab added the cell line necessary to

isolate KHV. However PCR for KHV is more sensitive and the results are obtained more quickly.

LMBV, an iridovirus, is a concern to both stock enhancement facilities and to anglers. Cell culture and PCR are two methods used to diagnose this virus. While LMBV grows easily in several cell lines, it takes a week or longer to get the end results. PCR for LMBV offers fast turnaround, and more sensitivity.

CCV, a herpesvirus, has

long been a problem for catfish producers. It primarily affects young-of-the-year catfish, especially when water temperatures are high. While CCV can be grown in several catfish based cell lines, the channel catfish ovary (CCO) cell line provides the best medium for isolation of CCV. The Diagnostic Lab has added the CCO cell line to its stock of fish cell lines.

For more information on advanced fish diagnostic testing, contact Dr. Denise Petty at 407-908-0562.

## Florida Bass Center Starts in 2004 by Scott Hardin, FWC

Construction on the Florida Bass Conservation Center (FBCC), at the Florida Fish and Wildlife Conservation Commission's (FWC) Richloam Fish Hatchery in Sumter County, will begin February 2004. The \$8 million dollar facility will serve a variety of management and conservation needs, with special attention on the Florida largemouth bass.

Promising research into artificial feed development for bass fingerlings will continue.

along with investigations into largemouth bass virus and other fish health issues. In conjunction with other FWC genetics laboratories, FBCC will produce certified Florida subspecies for stocking in public waters.

The initial facility consists of a 14,000-square foot, two-story, research and production building. There will be six 80-foot raceways, fourteen 30-foot fiberglass tanks, 6-foot catfish hatching troughs and

portable racks for 112 McDonald jars on a recirculation system. Heated and chilled water loops will facilitate out-of-season spawning. The research room has a capacity of sixteen 6-foot round tanks. A separate room will allow temperature and photoperiod manipulation.

The FBCC's research facilities will be available to non agency investigators. For additional information contact Scott Hardin at 850-488-4068.

## Aquaculture and Shellfish Shipments Must be Inspected

Shippers of live aquaculture and shellfish (clams, oysters, mussels and scallops) products must stop at the Department's Interdiction Stations when entering or leaving Florida.

The Department operates 22 Interdiction Stations located on all the paved highways crossing the natural boundary of the Suwannee and St. Mary's rivers. Agricultural vehicle inspections are conducted at each location around the clock,

365 days a year, by 175 law enforcement personnel.

These officers support and supplement all of the Department's regulatory and law enforcement programs by conducting vehicle shipment inspections of agricultural, horticultural, aquacultural and livestock commodities.

Agricultural product inspections are to ensure compliance with Federal-State Marketing agreements as well as laws,

rules and regulations enacted to make certain the public receives quality food products. Continuous inspection also prevents, controls, and eradicates specific animal and plant pests and diseases that could economically devastate segments of Florida's agricultural industry.

A new Interdiction Station opens during November 2004. The new station will be located west of Pensacola on I-10.



## Clam Washing at Certified Aquaculture Facilities

The timely washing and cooling of newly harvested hard clams is important to maintain product quality. When large number of clams are landed at the same time delays in washing can occur at certified shellfish processing plants.

To resolve these delays, the Division investigated appropriate practices that a farmer can implement to wash the product before going to the processor. After washing, clams must be delivered immediately to a certified shellfish dealer to

meet shellfish sanitation requirements (i.e., the time/temperature matrix to cool the product).

In order to participate in this program, all facility operators must possess a valid Aquaculture Certificate of Registration, comply with Chapter 5L-3, Florida Administrative Code, and apply the appropriate best management practices included in the Aquaculture Best Management Practices Manual, for example Section XIII. Marine Bivalves. Facility certification is

also contingent upon a pre-inspection of the physical facility by the Division of Aquaculture and submittal of a routine water quality analysis.

For a full description of the clam washing practices and a facility pre-inspection, contact Neil Aymond at 850-488-4033 or Dan Cavins at 352-351-0678.



## Disease or Pest Reporting is Required

Aquaculture Certificate of Registration holders are required to contact the Division in the event of any unusual or abnormal occurrences of disease or pests as a Best Management Practice requirement. When contacted, the Division will work closely with the producer to ensure that all health options are explored. Coordination of health options will expedite diagnosis, treatment and mitigate potential losses.

Good aquatic animal health practices are necessary for the success of any aquaculture production facility. A sound management and sanitation program will greatly minimize pathogens and disease at your facility. Knowing the health status of aquatic animals, followed by early diagnosis or prevention of disease is critical to successful production.

For additional BMP information contact Kal Knickerbocker at 850-488-4033.

Disease, pest and diagnostic information is available from Dr. Denise Petty at 863-519-8663, Dr. Roy Yanong at 813-671-5230 extension 104, or Dr. Ruth Francis-Floyd, 352-392-9617 ext, 229.

**Contact the  
Division of  
Aquaculture in  
the event of any  
unusual or  
abnormal  
disease or pests  
occurrences.**

## Canada Checks for Nitrofurantoin Drugs

The Canadian Food Inspection Agency is randomly checking imported foods for the presence of nitrofurantoin drugs. Nitrofurantoin are a family of drugs banned in the United States. Residuals from these compounds are carcinogenic.

Unfortunately food shipments may contain products from many different nations. As a result, U.S. originated foods cannot automatically be cleared for entry.

The Commissioner of Agriculture has developed a Nitrofurantoin Drug Statement for Florida grown or wild harvested shellfish and aquaculture products.

If your Florida food product has been stopped at the Canadian border because of questions related to the use of nitrofurantoin drugs, contact any of the Division's offices to obtain the Commissioner's statement that nitrofurantoin are banned in

the United States and Florida. Phone numbers for the Division's offices can be found on page four of this newsletter.

Visit the Canadian Food Inspection Agency website for information about nitrofurantoin and their inspection effort, [http://www.inspection.gc.ca/english/animal/fispoi/commun/com04\\_07\\_03e.shtml](http://www.inspection.gc.ca/english/animal/fispoi/commun/com04_07_03e.shtml).



Charles H. Bronson  
Commissioner of Agriculture

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We're on the Web!  
[www.FloridaAquaculture.com](http://www.FloridaAquaculture.com)

Comments, Questions or  
Hot Fish Gossip?

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## Emerging Diseases of Koi Florida Producer Information Workshops



**Koi, common carp and goldfish producers have been impacted by Spring viremia of carp (SVC) and Koi Herpes Virus (KHV). Disease information, diagnostics and federal/state regulations will be discussed. Space is limited. Call to make reservations and additional information.**

Date	Location	Time	RSVP/Info
Tuesday October 21	Tropical Aquaculture Laboratory 1408 24 <sup>th</sup> Street SE Ruskin, FL 33570	7 - 8:30 pm	Dr. Roy Yanong 813-671-5230 x 104
Wednesday October 22	Leon County Agriculture Center 615 Paul Russell Road Tallahassee, FL 32301	6 - 7:30 pm	Dr. Allen Riggs 352-392-9617 x 229 or 352-392-4700 x 5686
Monday October 27	Dade County Extension Office 18710 SW 288 <sup>th</sup> Street Homestead, FL 33030	6 - 7:30 pm	Dr. Ruth Francis-Floyd 352-392-9617 x 229
Tuesday October 28	Indian River Research and Education Center 2199 South Rock Road Ft. Pierce, FL 34953	2 - 3:30 pm	Dr. Denise Petty 407-908-0562
Thursday October 30	Dept. of Fisheries and Aquatic Sciences 7922 NW 71 <sup>st</sup> Street Gainesville, FL 32653	6 - 7:30 pm	Dr. Allen Riggs 352-392-9617 x 229 or 352-392-4700 x 5686

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