University of Florida Cooperative Extension Service

THE BIVALVE BULLETIN

May 2006
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INSIDE THIS ISSUE:

USDA Programs: Not just for land farmers and ranchers anymore

In 1862, when President Abraham Lincoln founded the U.S. Department of Agriculture, he called it the "people's Department." In Lincoln's day, 58% of the people were farmers who needed good seeds and information to grow their crops. Today, USDA continues Lincoln's legacy by serving all Americans as well as remaining committed to helping the nation's farmers and ranchers. This federal mandate also extends to aquatic farmers.

Most clam farmers are well acquainted with several of USDA's agencies. Working relationships have been developed with staff at local Farm Service Agency (FSA) offices who administer disaster assistance and farm loan programs. FSA just announced the sign-up date for hurricane assistance programs to aid growers affected by the 2005 season (see page 5 of this newsletter). In selected Florida counties, clam growers have participated in a pilot crop insurance program since 2000—the first of its kind for aquaculturists. Administered through USDA's Risk Management Agency, the pilot program is currently under review (see page 5 of this newsletter for more information). Listening sessions will be conducted during June in each eligible county to gather input from growers. Page 6 provides details on locations, dates and times for these sessions.

Yet, there are 16 other agencies within USDA that provide various programs and services in support of the nation's agriculture industries. The first national census of aquaculture prepared by USDA's National Agricultural Statistics Service in 1998, recognized the economic importance—nearly $1 billion in farm gate sales—of this industry sector. The census statistics have been used by Congress in developing, evaluating, and changing farm programs. As aquaculture crops receive more and more federal recognition, opportunities for aquatic farmers to work with these agencies has increased. This newsletter issue highlights programs recently implemented by several USDA agencies—Rural Development, Natural Resources Conservation Service, and Resource Conservation and Development Council—that are offering assistance to shellfish growers.

USDA's national aquaculture production outlook for 2006: Growth and expansion forecasted

USDA's principle social science research agency is the Economic Research Service, or ERS. Each year, ERS communicates research results and socioeconomic indicators via market analysis updates, major reports and briefings. The Aquaculture Outlook is prepared twice per year and examines changes in domestic production and prices, and provides forecasts of production for the coming year. The report also examines changes in imports and exports of aquaculture products. The article below is excerpted from the March 2006 edition of Outlook. The entire report can be downloaded at this web site: http://usda.mannlib.cornell.edu/reports/.

The combination of a somewhat stronger domestic economy—in terms of gross domestic product and disposable income—and a US dollar that is weaker against a number of foreign currencies, is expected to increase demand for seafood in general, and domestic seafood and aquaculture products in particular, throughout the year ahead. Of particular importance to domestic aquatic farmers, the weaker dollar means many imported aquaculture products are expected to be more expensive and their imports will grow at a slower rate.

Still more imports Even with these changes, imports of aquaculture products are expected to continue to grow as a percentage of total domestic seafood supply. Lower domestic commercial landings of a number of species in the Gulf Coast region heavily impacted by last year's hurricanes are likely to result in a continued demand for imports to fill marker needs. With the exception of crawfish and oysters, most domestic aquaculture operations were not severely impacted by storms.

Factors for growth The overall picture of anticipated growth in the domestic aquaculture and seafood industries during 2006 is based on four major factors. First, strong domestic economic growth this year is expected to improve restaurant sales, which are a chief outlet for seafood sales. Second, a weaker dollar is expected to make imports of many competing seafood products relatively more expensive, and make US exports more competitive. Third, as demand for poultry products lessens in many parts of the world,

Outlook continued on page 2

USDA agencies apply programs to assist shellfish growers

Rural Development funds parking lot in Cedar Key for clam growers

Committed to the future of rural communities, the role of Rural Development, or RD, is to increase rural residents' economic opportunities and improve their quality of life. Through RD partnerships, projects are funded that bring housing, community facilities, utilities and other services. RD also provides assistance and financial backing for rural businesses and cooperatives to create jobs in rural areas. One of RD's grant programs, the Rural Business Enterprise (RBE) Program, provides funding to private nonprofit corporations to assist small and emerging private businesses located in areas with populations less than 50,000.

Last year, the Cedar Key Aquaculture Association, an incorporated clam growers organization, submitted a RBE application for consideration of funding. The Association had been managing the use of a boat ramp in Cedar Key that allowed members access to lease areas. To accommodate parking of trucks and boat trailers, the Association was temporarily renting private property located near the ramp. The Association was awarded $300,000 by RD to purchase property for designated parking and make site improvements. To facilitate this, the City of Cedar Key passed an ordinance allowing parking for aquacultural purposes in residential areas located within 1000' of a boat ramp through a special use permit. The City also purchased an adjacent lot to serve as a buffer. This is a good example of a public/private partnership in which resources required to resolve infrastructural needs for the clam industry were collaboratively sought. Another potential application of RBE funds under discussion is to assist Pine Island clam growers in developing a community land-based nursery. To learn more about Rural Development, visit their web site: http://www.nrcs.usda.gov.

Resource Conservation and Development Council funds removal of "derelict" clam bags

Resource Conservation and Development, or RC&D, Councils are locally driven, non-profit corporations, led by residents to provide practical solutions for land and water management, community development, and environmental enhancement. RC&D council areas are designated by the Secretary of Agriculture to receive technical and financial assistance, and council projects are funded through USDA's Natural Resources Conservation Service (see following article). For example, the Suwannee Valley RC&D Council has been working with the agriculture community in north central Florida through their mobile irrigation lab, which assists row crop farmers in irrigating their fields efficiently as well as becoming better stewards of the water. Cedar Key clam growers are initiating a project with the Suwannee River RC&D Council that will provide assistance in recovering damaged clam farming equipment (bags, clam shell, live oysters) from their leases and reusing the derelict bags for oyster restoration and shoreline stabilization. The demonstration project will be conducted this summer. See page 6 to learn more about how to get involved.

Natural Resources Conservation Service funds gear clean-up for MA oyster growers

Originally called the Soil Conservation Service, this agency works with private landowners to help them conserve, maintain and improve their natural resources. Programs through the Natural Resources Conservation Service, or NRCS, assist in helping reduce soil erosion, enhance water supplies, improve water quality, increase wildlife habitat, and reduce damages caused by natural disasters. Efforts emphasize voluntary conservation, partnerships, incentive-based initiatives, and problem solving at the community level. Whereas NRCS has been working with traditional segments of the agricultural community for over 70 years, their efforts in aquaculture, in particular shellfish culture, have been more recent.

In 2005, NRCS began a pilot program with Cape Cod, Massachusetts shellfishermen to assist them in recovering culture equipment dislodged by winter gales. NRCS's Environmental Quality Incentives Program had been helping area cranberry growers and other land farmers for years by subsidizing their efforts to be more efficient and ecological. For oyster and clam growers, incentives were offered for conservation measures to minimize waste, protect aquatic endangered species, and reduce petrochemical pollution. Program participants received 50 cents per pound for waste materials with over 30 tons of cover netting and gear recovered. The program was expanded this year with $330,000 in funding. Growers sign contracts with NRCS to underwrite their efforts in various tasks, such as retrieving lost netting, upgrading outboard motors, carrying a fuel spill prevention kit onboard, maintaining wildlife corridors around their shellfish beds, and keeping environmental records. The program's involvement with shellfish aquaculture has been so successful in its Massachusetts debut that the agency is looking at duplicating it on a national level. To learn more about NRCS, visit their web site: http://www.nrcs.usda.gov.

2006 Aquaculture Outlook, continued from page 1

(over avian flu concerns), demand for alternative protein products may place some upward pressure on seafood prices. Fourth, relatively strong farm-gate prices for a number of aquaculture products in 2005 are expected to provide an incentive for US fish farmers to increase production.

Competition Offsetting these positive factors for the domestic aquaculture industry is expected strong competition for the year ahead from US livestock producers. Production of both beef and pork is expected to be up this year, with average prices expected to be somewhat lower than in 2005.

Changes to Clam Bag Fabric Suppliers 2006 List:

Add: Summit Textiles, Inc.
118-B Cedar Springs Rd, Spartanburg, SC 29302
Contact: Tom Howell Phone: 800-446-9611

Delete: Bayeux-Cortina Fabrics, Inc.

RESEARCH UPDATE: Report from the 98th Annual Meeting of the National Shellfisheries Association, Monterey, California, March 26-30, 2006

Founded in 1908, the National Shellfisheries Association, or NSA, is an international organization of scientists, management officials and industry members, all concerned with the biology, production, economics and management of shellfish resources—clams, oysters, mussels, scallops, and other commercially important species. Each year the Association sponsors a meeting. This year, their 98th, was held in Monterey, California during March. Several sessions were organized to address common industry issues and needs. Those sessions, which may be of interest to Florida's clam culture industry, are summarized below.

Biofouling: Evaluating environmentally-friendly controls

This session addressed the universal problems associated with fouling of shellfish crops and gear. Fouling organisms, such as tunicates (sea squirts), barnacles, bryozoans, and sponges not only obstruct the use of the culture gear, but may also attach themselves directly to the shell. This may either mechanically challenge the shellfish or have an adverse direct effect, as is the case with boring organisms. Direct interference may be more detrimental to shellfish production and marketability than the unfavorable environment that fouling creates. Indirect problems include restriction of water movement as well as reduction of oxygen, food availability and dispersal of inorganic matter. Some organisms can eventually form smothering mats which affect survival. Other production-related implications of biofouling include reduced growth rate, harvest size, and yields. Preservation and efficiency of the culture system is also an ever present industry problem. Thus, environmentally-friendly control methods are being sought to minimize biofouling problems.

Some of the studies presented focused on the fouling organisms themselves, assuming an understanding of their lifecycle would lead to effective means of control. For example, determining the mode of infection by the boring sponge is helping to reduce shell degradation in the Canadian oyster industry. To assist the Mexican oyster industry, biofouling management options are being developed based on sea squirt recruitment patterns. Other presentations reported on novel, non-toxic and low-cost ways to reduce biofouling. In the Pacific Northwest, where oysters and manila clams are farmed on vast tidal flats, use of farm equipment and machinery is an option. One grower reported on the successful use of street sweepers which brush away fouling organisms from bottom cover netting. In Louisiana, weekly aerial drying of oyster bags on long lines was one of the more efficient control methods when compared to brine dips and daily exposure due to low tide. The use of biological control organisms in suspended culture of scallops was evaluated by United Kingdom researchers. Sea urchins and hermit crabs appeared more efficient than other invertebrates at removing fouling from pearl nets. Canadian researchers reported on the effects of acetic acid treatments (30-second and 2-minute vinegar dips) to get rid of sea squirts on socked mussels. Exposure dosages were critical as some mortality of juvenile mussels did occur. In Australia, early stage commercial technologies include heavy metal-free, water-based coatings with organic biocides for use on salmon cages, and rapid dry coatings for direct application to pearl and edible oysters. Under development are coatings using deterrent surface properties, and "living" paints encapsulating marine bacteria. The session ended with a report from PPG (Pittsburg Paint Glass) Industries, a global coating company, who has been testing marine plant-derived synthetic coatings for the Chilean scallop industry. Promising results have lead PPG to explore other marine markets. After the NSA meeting, a PPG representative visited Florida and met with clam growers. This summer, a demonstration project with the University of Florida will be initiated. Clam bags dipped with coatings at several dosages, will be planted and followed for a year...so more to come on fouling control.

Clam bags with sea squirt fouling

Biofouling: Assessing costs through a nationwide survey

Work begun on a biofouling-related project, funded through a national Sea Grant initiative, was presented by collaborators from the Universities of Connecticut and Florida. Initially, the study is determining the effects of fouling organisms on growth and mortality of oyster and mussel culture in the Northeast. This includes looking at utilizing biological control methods and chemical treatments to control fouling organisms. The study also examines the economics associated with biofouling. This information will help determine if the benefits associated with proposed control methods offset the costs of implementation. Findings should be useful to shellfish growers in all regions of the country, including Florida. A survey has been fielded with growers in the NE region that solicited information on these key issues: 1) Determine degree to which biofouling is a problem, 2) Figure out what costs are driven up by fouling, 3) Describe the costs/benefits associated with methods, and 4) Determine if the benefits of control outweigh the costs.

The survey was sent to over 380 shellfish growers from Maine to New Jersey. To date, there have been about 150 responses indicating a high level of interest. The survey asked how many years the respondent had been growing shellfish (average of 16 years), species cultured (mostly oysters and hard clams), production method utilized (mostly metal/plastic bottom cages, ADPI bags, racks, FLUPSY's, and no-gear-on-bottom). Only 10% of the respondents indicated fouling was not a problem, while 40% said it was a major and constant problem. The major production problems identified included overcrowding, reduced survival, reduced growth rates, and increased size

RESEARCH UPDATE: Report from National Shellfisheries Association Meeting (continued)

distribution of harvested shellfish. All methods identified by respondents for dealing with fouling, including power washing, brine dips, freshwater rinsing, gear rotation, and hand removal, are labor intensive and costly. Almost 90% indicated biofouling increases their operational costs of labor, repair/maintenance, and fuel. Respondents indicated 20% of their operating costs were associated with tryng to control fouling and an average amount spent was around $14,000.

The intent now is to expand the survey to include shellfish growers in the Pacific Northwest, mid-Atlantic, and Gulf regions. So you may see a copy of this survey in your mailbox this summer. Participation by the industry nationwide will help develop a more complete picture on the biofouling problem and help direct additional funding to develop more effective control methods. If you have any questions about the study or survey, contact Chuck Adams with UF at (352) 392-1826, ext. 223, or cmadams@ufl.edu.

Bivalve Genetics: Improvements in NW oyster production

Presentations on genetic research programs in the Northwest highlighted improved survivorship and growth characteristics of the Pacific oyster. In one study, genotypic differences in larval survival and post-starvation growth recovery were observed and compared. Some larval families were capable of surviving for over six weeks without food and grew upon feeding at rates comparable to sibling larval fed at day two, implying important genetic interactions regarding use of egg energy reserves. Oregon State University's Molluscan Broodstock Program (MBP) reported on the success of its selective breeding program. After two generations of selection, the average yield (survival + growth) of oyster families from selected MPB broodstock was 29% greater than that from "wild" broodstock and 34% greater than industry broodstock. Further, the five top-performing MBP families recommended for commercial hatcheries had a 77% greater yield than industry stocks. Studies on inbreeding effects on growth and survival in natural populations of Pacific oysters revealed significant relationships between estimators of genetic similarity and fitness. As expected, more related parents produced offspring with lower survival. But, surprisingly, surviving offspring had higher growth than less related parental pairs. Implications for selective breeding were discussed.

Shellfish Industry Forum: Research Needs and Report

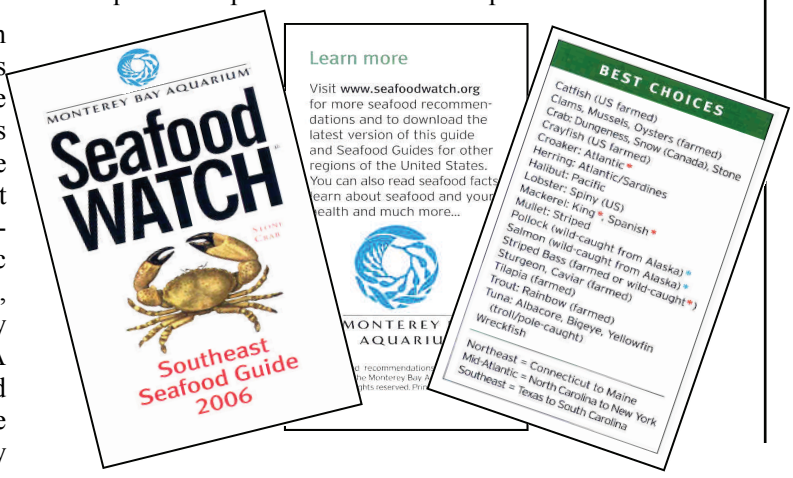
In a session which started off with a leading shellfish researcher answering the question "So who needs scientists anyway?," current research needs in shellfish culture were presented from different parts of the country. Florida's topics, compiled by the Statewide Clam Industry Taskforce in January, were included in a report from the East Coast Shellfish Growers Association. Common topics among shellfish-growing states included environmental issues, genetic selection, overall crop survival, growout mechanization, biofouling, marketing and pricing. A new service for industry was also introduced. A listing of titles presented at NSA meetings with an "applied" focus to them will be selected and posted on NSA's website, www.shellfisheries.org. These items will be listed with the authors' addresses so industry members may contact them for more information.

Monterey Bay Aquarium

Monterey Bay is home to one of the finest aquariums in the country. Close to 2 million people pass through it doors annually and, since its opening in 1984, the Monterey Bay Aquarium has grown to become one of the leaders in seafood consumer awareness. A popular exhibit is their "Real Cost Café." However, placing your order at the interactive, computerized countertop won't get you any food, but it will give you insight and knowledge as to how sustainable your favorite entree may be. Customers are asked to place their order and what they get in return is a response telling them how eco-friendly their choice of meal was. For instance, a decision to purchase swordfish may get you a lesson in the exploitation of that fishery. On the other hand, a choice of clams may tell you about the growing "farm-raised" industry and all the benefits that industry entails.

Though this environmentally-conscious thinking is not new, it does symbolize the growing concern of the public for improved ocean resource management. The Aquarium's Seafood Watch Program publishes cookbooks, newsletters and guides that signify the correct choices to make in the seafood selection process. "Pocket" guides specific to regions of the US (Northwest, Northeast, Southeast, Central and Hawaii) are mass distributed. These guides indicate whether the choice of seafood is the "best," a "good alternative," or ones to "avoid." This action-orientated program has spurred similar efforts, such as SeaWeb's Seafood Choices Alliance, Smithsonian Institution's *Sustainable Seafood Cookbook*, and National Audubon Society's Living Oceans Program (see the July 2004 issue of the *Bivalve Bulletin*).

Even Wal-Mart, retailer for 1/6 of American's groceries in 2004, has taken steps to join this movement with a promise to only sell seafood that comes from a viable fishery. Within the next 3-5 years, the retailer hopes to have all of its available seafood come from Marine Stewardship Council-approved fisheries. If Wal-Mart uses its buying power to impose standards on the way seafood is raised and caught, then major suppliers will want to comply. In a competitive business environment, the next step would be other major retailers following suit to keep up with these changes—a sign of the growing need and acceptance of sustainable seafood and aquaculture products in the market place.



USDA RMA Pilot Clam Crop Insurance Program under Review: Listening Sessions Set for June

The role of the USDA Risk Management Agency, or RMA, is to promote, support, and regulate sound risk management solutions to preserve and strengthen the economic stability of America's agricultural producers. As part of this mission, RMA operates and manages the Federal Crop Insurance Corporation. RMA is estimated to have managed $44 billion worth of insurance liabilities for over 100 agriculture crops.

In 2000, RMA began administering the first federally subsidized insurance program for aquaculture. The pilot program for cultured clams has been under evaluation for seven years in selected counties in 4 states. During this time, 60 to 75% of the policies sold have been to Florida growers with clam crop values insured (liabilities) reaching $26 million in 2002. Since 2002, number of policies and value insured have been trending downward, especially after monumental changes to the policy were implemented in 2004. Loss ratio, calculated by dividing the loss payments (indemnity) by the total premiums, is one method by which RMA measures the financial soundness of an insurance program. Florida's loss ratio was 2.03 over the 2000-5 period. In contrast, RMA prefers loss ratios for agriculture crops to average around 1.0 to 1.1. The pilot program will continue through crop year 2007, allowing for 3 years of program data to be collected beyond the 2004 hurricane year.

Florida Clam Crop Insurance Program Statistics, 2000-6

Crop Year	2000	2001	2002	2003	2004	2005	2006
Policies Sold	239	299	416	393	287	249	209
Liabilities, $M	17.6	18.3	26.4	20.4	5.3	4.6	4.9
Indemnity, $M	1.9	2.5	3.9	1.9	0.9	0.2	—
Loss Ratio	2.67	2.74	2.78	1.66	1.75	0.58	—

Recently, RMA contracted a private research firm, the Research Triangle Institute (RTI) out of North Carolina, to provide an external review of the program and develop recommendations to RMA on the future of the program. During March and April, RTI held "listening sessions" for clam growers in Massachusetts and Virginia. Sessions for Florida growers are now scheduled in June in each of the counties eligible for the pilot program. The goal of these sessions is to gather feedback on the program, particularly any problems, issues, concerns, or recommendations on ways to deal with those issues. Questions asked by RTI as part of these listening sessions include the following:

- Why clam growers elected or did not elect to use the program to meet their risk management needs?
- Do clam growers have knowledge of the pilot program?
- What effect did the program or program requirements have on markets and marketing practices, buyer purchasing methods, or claim settlement practices?
- Are there any issues, policy limitations, or other factors that have inferred or required growers to change their production practices to meet insurability requirements?
- Understanding of the policy terms or conditions, loss notification timelines and indemnity calculations, clam pricing methodology, rate calculations, calculations to determine the amounts of insurance, use of survival factors, clam inventory value and revising inventory methodology, and waste, fraud, or abuse?
- Understanding of the insurance agent's responsibilities?
- Does your agent provide you with adequate service?
- Understanding of forms and reporting timelines?
- Is this an appropriate risk management plan of insurance for clams? If not, what would be?
- Have your expectations of the program been met?

Plan to attend one of the listening sessions so you can provide answers to these questions and help define the program's future. See page 6 for session dates and locations.

USDA Farm Service Agency announces SIGN-UP for Hurricane Assistance Programs

Agriculture Secretary Mike Johanns announced this month that **sign-up begins May 17, 2006** for crop assistance programs providing aid to growers affected by the 2005 hurricane season. To be eligible for assistance, a grower's loss must have occurred in one of the 36 Florida counties that received a disaster designation. All of FL's clam-producing counties, with the exception of the northeast coast, qualify. One of the programs—the **Hurricane Indemnity Program, or HIP**—will provide payments to aquaculturists, including clam growers, who suffered losses and received either a crop insurance payment or a Noninsured Crop Disaster Assistance Program (NAP) payment in 2005-6. The crop loss must have been due to either excessive rain, wind, flooding, tornado, hurricane, storm surge, or salt water intrusion. HIP benefits will equal 30% of either the crop insurance or NAP payments. Additional disaster assistance through Farm Service Agency includes emergency low-interest loans available to help farmers rebuild their operations. In some cases, FSA can provide producers with both EM and operating loans. Funds for oyster producers will be made available in the near future when FSA develops the program rules. To sign-up or to determine if you are eligible for the HIP program or emergency loans, contact your local Farm Service Agency office and FSA's web site at: http://disaster.fas.usda.gov.

USDA is also providing funding for an **Aquaculture Grant Program, or AGP,** to six state governments including Florida, which will receive $3.7 million. The funds are to provide assistance to growers raising aquaculture species in a controlled environment and who suffered a loss resulting from a hurricane. Governors or their designees are to determine sign-up procedures for the assistance and will distribute AGP funds to eligible growers. As of this newsletter writing, Governor Bush's office has not yet released information pertaining to this program.

Upcoming Meetings and Events

Schedule for Pilot Clam Crop Insurance Program Listening Sessions in Florida

During June, listening sessions will be conducted by the Research Triangle Institute in each Florida county in which the pilot clam crop insurance program is being evaluated. The purpose of these sessions is to obtain input from clam growers on the effectiveness of the pilot insurance program, identify program vulnerabilities and weaknesses, and assist in making recommendations for the future of this program.

Tuesday, June 13, 3:00-5:00 PM
UF/IFAS Agriculture Center
3695 Lake Drive, Cocoa

Tuesday, June 13, 7:00-9:00 PM
City Hall, Old Council Chambers
1225 Main Street, Sebastian

Wednesday, June 14, 7:00-9:00 PM
Dixie County Courthouse, Commission Room
214 NE Hwy 351, Cross City

Thursday, June 15, 7:00-9:00 PM
Lion's Club, 809 6th Street, Cedar Key

For more information on the review of the pilot clam crop insurance program, see page 5 of this newsletter. Additional information on meeting locations can be obtained by contacting the Shellfish Extension Office at (352) 543-5057.

Clam Information Fair

Thursday, June 15, 3:00-7:00 PM
Lion's Club, 809 6th Street, Cedar Key

Need to talk "face-to-face" with staff from state or federal agencies about issues pertaining to your clam farming business? Then come by the Clam Information Fair and meet individually with representatives from the DACS Division of Aquaculture, DACS Division of Ag Law Enforcement, DACS Bureau of Seafood and Aquaculture Marketing, USDA Farm Service Agency and others. Also meet "one-on-one" with Research Triangle Institute staff to advise them on the pilot crop insurance program. It is also an opportunity to renew your annual membership or Anchor Hole agreement with the Cedar Key Aquaculture Association, as well as sign-up for the "derelict" clam bag removal program. The Association will serve hamburgers and hot dogs between 5:30 and 7:00 PM for clam farmers and their families. See you there!

3rd Annual CLAMERICA Celebration

Tuesday, 4th of July, 10 AM-6PM
City Park, Cedar Key

The Cedar Key Aquaculture Association will celebrate the nation's birthday by hosting a "clammy" 4th of July festival and serving farm-raised clams in a variety of ways. The free CLAMANIA events are geared towards family-fun and seek to educate the public about the clam farming industry.

Sign-up for USDA Farm Service Agency's hurricane assistance programs began May 17th. See page 5 for details.

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May 2006
This newsletter is published through the University of Florida Cooperative Extension Service. For more information, contact

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