



Aquaculture Association of
Southern Africa

NEWSLETTER

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**AQUACULTURE ASSOCIATION OF SOUTHERN AFRICA &
AQUACULTURE INSTITUTE OF SOUTH AFRICA**



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Aquaculture Association of Southern Africa

Tel: +27 12 807 6720

Fax: +27 12 807 4946

E-mail: [info\[AT\]jaasa-aqua.co.za](mailto:info[AT]jaasa-aqua.co.za)

Aquaculture Institute of South Africa

Tel: +27 21 483 9106

Fax: +27 21 483 9100

E-mail: [lbotes\[AT\]jai-sa.org.za](mailto:lbotes[AT]jai-sa.org.za)

A Word from the AASA Chairman and the CEO of AISA

Etienne Hinrichsen chairman@aasa-aqua.co.za

Conference!!

With only days to go to the biannual AASA conference, the AASA office is spinning with arrangements. Banners, catering, transport, maps, agendas, coordinators, speakers – you name it. May I say however, that I am looking forward to a great event, all of which has been made possible by very willing sponsors. It is particularly the Government sponsors that have come through strongly with the Departments of Water Affairs, Science and Technology and Agriculture that have contributed significantly. This positive attitude from Government towards aquaculture is encouraging to say the least.

Although I am sure that all of you are familiar with the conference program by now, I would like to take this opportunity to highlight some of the events. Firstly, for those attending, please make use of the meet / greet / registration function on Monday evening 22 October in the Two Oceans Aquarium. Also in the Aquarium we will be having the AASA AGM on Tuesday evening. This AGM is of great importance as AASA moves into the realm of a true industry representative in a fast growing sector. The direction and future activities for AASA will be broadly discussed at the AGM. Even for those of you that have not been active in AASA, I encourage you to contribute at this meeting.

The conference banquet will be held at the Krugmann's Grill – a great restaurant in the heart of the Waterfront. The menu looks fantastic and, from looking at the numbers of attendees, I am sure this will be a great social event. We trust that the attending students will (as ever) set the stage. From my side, I will try my best to keep the speeches short and concise.

For those of you who may not have registered for the conference yet, there is still time. Contact the Association Secretary, Natasha Marshall, as soon as possible.

Dr. Lizeth Botes lbotes@ai-sa.org.za

The Portfolio Committee on Environmental Affairs and Tourism recently contacted AISA to arrange a day trip (1 August) in the Western Cape in order to gather more information about AISA and the Aquaculture Sector. The interest from the Committee members in AISA and the sector was very encouraging. After the morning presentation by AISA, we visited the Lourensford Trout farm in Somerset West after which we visited the Abagold Abalone farm in Hermanus. Even though the day was long and the members only arrived back in Cape Town around 7pm, the members maintained their enthusiasm and indicated that they have learnt a lot and were very impressed with the willingness of the sector to share their knowledge.

AISA is also proud to announce that in an effort to work toward establishing a Skills Development and Training Programme for the marine and the freshwater sub-sectors in the Western Cape, the first joint short course training session between AISA and the University of Stellenbosch took place on 8 September 2007 with 48 attendees. The one day training session was on Business Principles, Harvesting procedures and Product Quality, and we are confident that from next year onward we will be able to extend an invite to both the fresh water and marine sub-sectors.

The Editor's choice

Adrian Piers newsletter@aasa-aqua.co.za

The World Bank on Aquaculture. September 11, 2007

The World Bank has published a report on aquaculture that provides a balanced and thoughtful perspective on the big picture.

The report asserts that "Aquaculture lies at a crossroads. One direction points toward the giant strides in productivity, intensification and integration, industry concentration, and diversification in products, species, and culture systems. Another direction points toward the risks of environmental degradation and marginalized smallholders. Yet another direction invites aquaculture to champion the poor and provide vital environmental services to stressed aquatic environments."

The report goes on to cite key challenges for aquaculture in terms of "sustainable economic growth, environmental stewardship, and equitable distribution of benefits" and posits that "an effective response to these challenges requires a coherent interplay of private investment and stewardship of public goods." It continues, stating that "Private sector investment has dwarfed public investment in aquaculture. A proactive public sector ideally will be a servant of aquaculture and, in addition to being a steward and guardian, will create an enabling environment that recognizes the role of the private sector as the engine of growth, innovation, and change."

http://siteresources.worldbank.org/INTARD/Resources/Aquaculture_ESW_vGDP.pdf

Letters to the Editor

Western Cape Trout Producers Association meeting

We aim to hold our next WCTA general meeting on the 25th of October at the AASA conference being held at the CICC. Could all interested parties please confirm if this date is acceptable.

Time and venue will follow after confirmation of date. Please forward me any items for the agenda.

Gerhard Compion

Review of sub Saharan Aquaculture

Attached is copy of a review of sub Saharan Aquaculture (2006) that I did for the FAO. Would you not like to publish the summary in the next pre-conference issue of the newsletter so that people have a better understanding of what is happening on the sub-continent?

Thomas Hecht PhD, Professor Emeritus.
Dept. Ichthyology & Fisheries Science
Rhodes University

The synopsis provided here summarizes the current status and recent advances that have been made by the aquaculture sector in the sub-Saharan Africa region during the last decade and the last five years in particular.

Sub-Saharan Africa contributes 0.13 and 13.6 percent to total World and Africa aquaculture production, respectively. Total aquaculture production in the 17 target countries between 1998 and 2003 has increased by 61 percent from 44 962 to 72 334 tonnes. The contribution by aquaculture to Gross Domestic Product (GDP) in the target countries is negligible, ranging from 0.001 to 0.715 percent.

Farming technologies range from simple, low-input, low-output pond systems to high-density recirculating systems in Nigeria and South Africa. Cage culture is expanding rapidly in many countries. Mariculture technologies are generally more sophisticated and capital intensive. Production technologies in the non-commercial sector have not changed appreciably though some advances in the use of inorganic fertilizers and farm-made feeds were evident and the average production in this sector (0.95 tonnes/ha/year) remains low. The non-commercial sector makes an insignificant contribution to fish supply in the region but makes an important contribution to household or community livelihoods. It is unlikely to make any significant contributions to national protein supply in any of the target countries in the short- to medium-term. Mainly because of economic and bio-technical constraints, the transition from non-commercial to commercial fish farming is not common.

Fingerling availability, quality and distribution remains a serious constraint to non-commercial and commercial aquaculture development in all countries and this presents unique business opportunities. Feed availability, quality, distribution and acceptable food conversion ratios remain major constraints to both non-commercial and commercial producers. Most non-commercial farmers use protein limiting diets, the use of farm made feeds is increasing slowly, while manufactured feeds are generally of a low quality. High quality extruded feeds are only manufactured in South Africa. All shrimp feed is imported.

During the last five years, there has been a marked emergence of commercial aquaculture and this appears to be related to increasing fish price. It was estimated that the commercial sector contributes approximately 65 percent to the total fresh and brackish water fish production, while nearly 100 percent of mariculture production is from the commercial sector.

The most significant advances seem to have been made in Anglophone countries, suggesting the need for a greater degree of capacity building in Francophone countries. Most government stations are abandoned or in a state of neglect and disrepair and cannot fulfill their intended mandate. Some stations have been successfully privatized, though in most countries privatization policies and strategies need to be developed and implemented to serve the interests of the commercial and non-commercial sectors.

Awareness campaigns of aquaculture business opportunities in some countries have resulted in a shift in emphasis to commercial farming and the emergence of progressive new small- and medium-scale investors. To increase fish supply, it is incumbent upon lead agencies to focus their support on the emerging commercial sector. There have been major paradigm shifts with respect to the promotion and development of the sector in several countries. In these countries, the sector has responded and made the most significant advances. This suggests that lead agencies should focus on facilitating the provision of enabling legislative and regulatory platforms for development and investment by the appropriate organs of state accompanied by the development of realistic national aquaculture strategic frameworks and the implementation of practical plans.

Aquaculture statistics in most countries are poor. Maintenance of databases is constrained by lack of capacity and financial resources. There is an urgent need to address this shortcoming throughout the region to provide better decision support. Little cutting-edge aquaculture research and development is noted in the region. Given the benefits of research and development, this is a major concern for the future of the sector as a whole. In most countries, the legislative and regulatory environment is weak and does not encourage the development of the sector. The problem is recognized and is being addressed by several countries in the region. As part of this process, a core of countries has now adopted strategic sector development plans, while others are following suite.

Extension services have not improved and in many cases have regressed, making delivery of satisfactory extension one of the overarching challenges. The most appropriate and successful extension method appears to be the on-farm participatory extension approach, which is currently used on a trial basis in several countries. The sustainability of the method however still needs to be demonstrated.

Financial institutions are poorly informed about aquaculture and access to credit by emerging commercial farmers is severely limiting in all countries. Lead agencies must promote aquaculture to lending institutions and assist farmers to develop bankable business plans.

Mariculture is generally underdeveloped, with current investment concentrated in Madagascar, Mozambique, South Africa and Namibia. It is nascent in all other countries where there is

notable potential for responsible development. The advantages and opportunities offered by cage culture at different levels of scale and intensity are now widely recognized and are being adopted. There is a need to build capacity to monitor environmental effects.

Non-food aquaculture is restricted, in order of priority by value, to Nile crocodile, ornamental fish, seaweed and baitfish. Lead agencies need to create awareness of opportunities in this sector.

The market for aquaculture products is generally poorly developed, except in urban and peri-urban areas, though sophisticated market chains exist for mariculture products. It is projected that aquaculture production in sub-Saharan Africa by 2013 will be between 208 600 and 380 400 tonnes per annum.

Abalone



Dedicated Aquaculture veterinary entity set up in South Africa

By Anna Mouton annamouton@telkomsa.net

Readers of popular aquaculture publications will be familiar with the confident figures quoted for worldwide growth of aquaculture production in the face of declining capture fisheries. Reference is made to the blue revolution, optimistically predicting that development of aquaculture will be the solution to future food scarcity. However, it is increasingly recognized that the future of aquaculture is threatened by disease. It is inevitable that growth and intensification of aquatic animal production will lead to disease emergence and a greater number and severity of disease outbreaks. This has long been cause for concern amongst South African aquaculturists.

The local abalone industry, represented by the Abalone Farmers' Association of South Africa, has maintained an abalone health program for the past five years in partnership with Marine and Coastal Management. Unfortunately, the program suffered from several shortcomings, most importantly a shortage of manpower which limited service delivery to other aquaculture sectors. The program also lacked sufficient emphasis on preventive measures such as the development of biosecurity protocols for industry. Recognition of the urgent need to develop greater veterinary capacity was heightened by the outbreak of abalone viral mortality in Australia. How could the South African industry be protected?

It was felt that the establishment of an independent company would provide the answer. After nearly a year of planning and preparation, Amanzi Biosecurity has been created with the stated objective of contributing to the sustainable growth and development of the aquaculture sector through offering services relating to aquatic animal health. Amanzi Biosecurity was founded as a section 21 company with capital from members of the abalone industry. The intention is for other aquaculture industries to take up membership, as the client base of the company expands. In the spirit of transparency, Marine and Coastal Management has been invited to place a representative on the board of directors, to ensure that the company serves all industries equally and fairly.

Amanzi Biosecurity has been operating from leased premises at Hermanus in the Western Cape, South Africa, since the beginning of September 2007. The company has its own histology laboratory with trained staff and can deal with most aspects of diagnostics and health examinations in house. Although some testing, such as bacteriology, is currently outsourced, it is planned to expand into these areas. The company presently employs one full time veterinarian, Anna Mouton. A second veterinarian has been recruited to join Amanzi Biosecurity before the end of the year. Due to the historical association with the abalone health program, the clientele is largely abalone based. However, capacity exists to serve other industries, such as oysters and marine finfish. It is hoped that, with the arrival of the second veterinarian, the finfish component will increase to include freshwater fish. Amanzi Biosecurity intends to focus heavily on disease prevention,

primarily the development of biosecurity protocols for farms. They cater for clients throughout South Africa and welcome enquiries from neighbouring countries.

For more information contact Anna Mouton on +27 (0) 83 293 0218 or annamouton@telkomsa.net

Catfish



No submissions

Crayfish and Lobsters



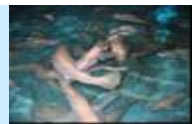
Global warming affecting Lobster markets

Global warming is leading to complicated and unexpected changes for the lobster industry, say scientists gathered at an international conference in Charlottetown, USA. Warmer waters are making some lobster more active, and more likely to climb into traps. About 250 scientists at the eighth International Conference and Workshop on Lobster Biology and Management are discussing a wide variety of topics, lobster behaviour, aquaculture, health assessment, population dynamics, but climate change is a factor in many of the papers being presented at the conference.

One of the unexpected problems off the coast of Australia brought about by climate change is the arrival of an invasive species, a sea urchin that is destroying lobster habitat. "That urchin itself has been responsible for a lot of the denuding or the removal of the kelp beds, just grazing those kelp beds down to bare rocks," Stewart Frusher of the Tasmanian Aquaculture and Fisheries Institute told CBC News Tuesday. "That habitat is not one that's favoured by lobsters." In eastern North America, talk of more frequent and more severe storms worries scientists who have found these storms can cause sudden localized lobster kills.

Not all of the research at the conference is bad news. In some areas, warmer water has made lobster more active and more likely to enter fishermen's traps. With global warming affecting habitats in different ways, conference delegates said local management practices will have to be specially tailored to keep up.

Eels



Eel breeders in Taiwan want investigation

From the China Post

Eel breeders in the southern county of Chiayi urged the Fisheries Agency yesterday to probe their claims that the eels recently found to contain residue of a banned antibiotic might have been smuggled from overseas. Earlier, the agency under the Council of Agriculture released laboratory test results showing that eels from seven aquaculture farms around the island contained residue of the banned bactericidal antibiotic enrofloxacin.

The publication, however, triggered strong protests from Chiayi eel breeders. Tang Ching-chung, chairman of the Chiayi County eel and shrimp aquaculture farmers' association, claimed that none of the breeders would want to risk their lucrative business of exporting eels to Japan by using banned drugs. All their members know that both Taiwan and Japan have very strict safety checks on living fish cargoes, noting that all eel shipments must bear quality certificates issued by the Bureau of Standards, Metrology and Inspection when they go on sale.

Japan is Taiwan's largest eel market, buying more than 70 percent of Taiwan-bred eels.

Tang also said eel breeders have complained that the test results, which they questioned with regard to the source of the samples used, have resulted in a fall of eel prices. In the past what were claimed to be their eels also tested positive for banned drug residue, but a subsequent probe found that the fish in question were actually smuggled from China. He called for the government to conduct a similar investigation to clear the reputations of the local breeders.

Ornamentals



The Uncooperative Ornamental Fish Trade in South Africa

From Nick James, Rivendell Hatchery nickjames@intekom.co.za

Having recently visited a number of ornamental fish farms in the northern parts of the country I am struck by the difference in the way we do business here, compared to the successful farms of SE Asia. The norm there is cooperation, whereby large numbers of small and larger fish-breeding operations pool their fish sales through a central marketing facility, which can then offer a comprehensive list of species. This has several benefits not the least being that even micro level enterprises can market their fish through the coop. Family operations with just a few small earth ponds producing just one or two species of fish still manage to earn a living as the demand for these is in the thousands each week. The coop markets them worldwide and each individual customer of the coop often orders these fish by the hundred. For example, the main importers in Johannesburg and Pretoria don't import the common aquarium fish in tens or twenties, they bring them in by the hundred or more. Some of the staples like neon tetras and guppies are imported several thousand at a time.

Why can't we cooperate here? Well there are several reasons. Firstly we are a lousy bunch of businessmen in this country, when it comes to cooperation. Each wants to do his own thing and many are highly secretive about what they are doing or whom they supply. This implies that those folks are really struggling to make a living and feel that if any of their 'secrets' are revealed, they will lose out financially. Sure, one of the reasons is that tropical ornamental fish farming is somewhat climatically marginal here, but in many ways I don't buy that argument: tunnels are a relatively inexpensive option to raise water temperatures from a low of around 9-11°C to at least 16-18°C if properly installed. I have heard some say that tunnels make little difference to their water temperatures, but when you look at them they are often poorly erected with draughts and leaks, and all the warm air escaping through gaps, rents and tears. Other tunnels I have seen have water flowing through them, which of course dilutes their warmth-retaining ability.

Can we form coops and satellite-breeding facilities like they do in the East? I like to think we can, but it requires a change in mindset to overcome the mentality that any business must automatically buy you a BMW in its first couple of years in operation to be seen to be viable: too many people have this goal. Maybe it requires a more humble approach (something else that South Africans are appalling at...) in that you **are** succeeding if you do successfully produce only 500 ordinary red swordtails a week for R4.00 each. That is the sort of business that thrives in the East, yet we scorn it here. More fool us. There are many South Africans who would welcome that sort of income, and

maybe we should promote it more than we do. The government agencies involved with promoting aquaculture should maybe look to the successes of the East, and get over the mindset that aquaculture is purely about producing food per se. If you can sell your fish for money, there is no shortage of food that it will buy. When we talk “aquaculture” we have this obsession with tonnages...you are only seen to be a ‘viable aquaculture business’ if you produce “tons of fish”, just look at the literature: “South Africa’s total aquaculture production was around 1060 tons....” etc. Bollocks.: the middleman will take all your profits anyway, as so many have found out. This country is littered with state-of-the-art highly intensive catfish farms that prove just that. For a fraction of that sort of investment shouldn’t we be focusing on more simple, Asian style cooperative aquaculture that self- employs people, makes them a decent although humble living, gives them a cash-flow and therefore keeps them fed? At the same time we get to establish our own distinct ornamental fish farming systems suited to this country, and produce quality fish that can (and should) replace those imports. But it requires cooperation, and, of course, a change of mindset.



Oysters & Mussels

Standard for Mussels launched in Ireland

The Irish Sea Fisheries Board has unveiled the first independently accredited eco-standard for aquaculture, the Irish Quality Eco-Mussel Standard. Launched at the World Seafood Congress in Croke Park Conference Centre, Dublin, Ireland, the mark is an extension of the existing Irish Quality Mussel Scheme, which is awarded to mussel growers and processors who meet a number of key criteria and follow strict environmental management practices in all aspects of their business.

“Top in the mind for many of the 400 seafood delegates here at the conference is the issue of sustainability of seafood resources. By adhering to this stringent scheme we are demonstrating our companies commitment that we are following strict environmental management practices in all aspects of our business. Promoting this is important, particularly given that until now there has been no certification of this nature for aquaculture before,” said Mr Minihane.

More at:-

<http://www.thefishsite.com/fishnews/5333/irish-world-first-for-independent-ecostandard>

Prawns



Paper on Shrimp White Spot Syndrome Virus

From NewsWise

Researchers report in the September issue of *Molecular and Cellular Proteomics* the most complete list so far of proteins present in a virus that causes severe shrimp mortality and significant economic losses to shrimp cultivation worldwide. This discovery could help understand how the virus is assembled and how it infects shrimps. White spot syndrome is a viral infection of shrimps that is highly lethal and contagious, killing shrimps within 7 to 10 days. In 1993, this disease resulted in a virtual collapse of the Chinese shrimp farming industry and, by 1996, it had severely affected East and South Asia. The disease was reported in the United States in late 1995. Although no treatment for the disease is available yet, scientists have been studying the proteins that make up the virus to understand how it infects shrimps and avoids their immune system.

Choy-Leong Hew and colleagues showed that the virus is assembled by at least 58 proteins, including 13 proteins which are reported for the first time. The scientists also localized 33 of the proteins on the envelope, which is the membrane surrounding the virus, and nine proteins in the nucleocapsid, the core of the virus that contains its genetic material. Although Hew and colleagues do not know yet how these proteins work together, their localization in the virus is shedding light on some of their functions and will help determine which ones could be targeted by antiviral drugs.

The abstract "Shotgun Identification of the Structural Proteome of Shrimp White Spot Syndrome Virus and iTRAQ Differentiation of Envelope and Nucleocapsid Subproteomes," by Zhengjun Li, Qingsong Lin, Jing Chen, Jin Lu Wu, Teck Kwang Lim, Siew See Loh, Xuhua Tang, and Choy-Leong Hew can be found at:-

<http://www.mcponline.org/cgi/content/abstract/6/9/1609>

Tilapia



Asian fish farmers welcome Tilapia standards

From Fish Update

The World Wide Fund for Nature has said unique issues related to tilapia farming in Asia will be addressed in standards for certifying tilapia aquaculture products, which are under revision in response to feedback about fish farming in Asia received at the first Tilapia Aquaculture Dialogue meeting. The meeting, held in Kuala Lumpur in August after the Tilapia 2007 conference, follows a series of tilapia dialogue meetings held in the United States over the past two years that have focused more on tilapia farming in the Americas than Asia. "As we develop standards for tilapia aquaculture, it is critical to consider the issues related to tilapia farming that are unique to each major tilapia producing country, like the high number of small-scale and resource-limited producers in Asia" said Jose Villalon, director of the World Wildlife Fund's aquaculture programme. "That is why the dialogue meetings are multi-stakeholder, transparent and held in different regions. Since almost 80 percent of the world's tilapia is produced in China, we are excited about the level of engagement at the dialogue meeting in August."

Henning Gajhede Sorensen of Thai Tilapia Company, Ltd. concurs with Villalon. "Make no mistake about it, the Tilapia Aquaculture Dialogue is in Asia and we support it," said Sorensen. "We have been a little suspect of what has taken place prior to this meeting, but when the producers involved in the effort in the West - our competitors - took the time and spent the money to come to Asia, we knew this went beyond competition."

Full article:-

http://www.fishupdate.com/news/fullstory.php/aid/8585/Asian_fish_farmers_welcome_tilapia_standards_.html

Tilapia sales growth in the US

An update of the report in the last newsletter at:-

http://www.mercurynews.com/lifestyle/ci_6804853?nclick_check=1

And a report on the Live Tilapia market in North America at:-

Trout and Salmon



Trout produced from Salmon eggs

By Catherine Brahic in the New Scientist.com news service

Trout whose parents are salmon have been created by a team of Japanese researchers. These rainbow trout, some of which carry a gene to make them orange, were born of sperm and egg produced by salmon. The researchers injected trout germ cells into sterile salmon embryos which could make for a very confusing family tree! They say the fish might just hold the key to conserving many endangered species of fish. They injected newly hatched sterile salmon with germ cells, precursors to sperm and egg cells, taken from male trout. The embryos developed into adult fish of both sexes, capable of producing either trout sperm or trout eggs. Crucially, these sperm and egg could then be combined to produce healthy trout offspring. In normal conditions, trout and salmon cannot produce offspring together. If traditional methods to protect a threatened species such as restoring their habitat and breeding them in captivity fail to protect them, then the hope is that frozen germ cells could bring that species back from the brink of extinction. So far, the germ cells have been frozen in liquid nitrogen and stored for up to 10 months, but "theoretically, they are stable forever," says Goro Yoshizaki of the Tokyo University of Marine Science and Technology in Japan, who led the study.

Yoshizaki and colleagues took a type of germ cells called spermatogonia from male rainbow trout and injected them into sterile masu salmon embryos. Despite their sterility, 10 of 29 male embryos grew up to be adult salmon capable of producing trout sperm about 17 months later. When the male germ cells were transplanted into female salmon embryos, five of the 50 resulting females could produce viable trout eggs. The researchers have previously performed this part of the experiment with both trout germ cells and trout embryos. Yoshizaki's team then used the salmon produced sperm to fertilise the salmon-produced eggs. About 89% of the fertilised eggs hatched to produce healthy trout. Before injecting the germ cells into the sterile salmon embryos, the researchers tagged one of their genes with a green fluorescent protein. When they looked at the hatchling trout, they found that these also carried the fluorescent protein, proving that they had developed from the original trout germ cells. "If this can help save a few species, why not?" says Jean-Christophe Vié, deputy head of the World conservation Union's species programme. He points out that most threatened species are not disappearing because they cannot reproduce, but rather because of changes to their natural habitat that make survival difficult. "It's naive to think that it will be enough to reproduce a species and throw it back into nature and the species is saved," Vié told New Scientist. "For a species to survive, it needs to be adapted to its environment." Species that have already become extinct in the wild are even less likely to survive if they are brought back through artificial reproduction, he adds: "There is just one condition for a species to flourish and that's for the threats that it suffers from to cease."

Yoshizaki is collaborating with Penny Swanson of the Northwest Fisheries Science Centre, a federal research institute in Washington state, US. Together, they hope to repeat the experiments with germ cells from the endangered sockeye salmon. Salmon and trout belong to the same family so Yoshizaki notes that it may be difficult to apply the technique across more divergent species. "I do not think salmon can produce tuna eggs or carp eggs," he told New Scientist. Still, there are those who believe such efforts could prove crucial to preserving endangered species of fish. Bryan Clarke who directs The Frozen Ark, a network of scientists who seek to gather genetic material from threatened species, says germ cell banks could operate much like a seed banks, which store seeds from different plant species.

Vié agrees, but says more effort should be put into protecting living species in the first place. "Let's protect the genes," he says, "but let's protect them alive."

Other



Breeding of Tuna being studied in Malta

By Chris Galea

Malta's progress in aquaculture research is being acknowledged, as shown by the fact that the country has been asked to participate in the SELFDOTT programme together with scientists from seven other countries, Minister George Pullicino said. While visiting the aquaculture centre at Fort San Lucjan the Minister said that the progress being made in the field has brought more foreign investment to the country as well as the acknowledgement of Malta as one of the main centres in the Mediterranean in the industry. The Minister for Environment and Rural Affairs explained that the SELFDOTT programme which runs over three years and for which Malta will receive €246,000 aims at developing self-sufficient aquaculture systems for the breeding of tuna. He stressed on the importance of the programme particularly in view of the efforts to safeguard the Atlantic Bluefin Tuna, a species which is risking extinction. He also went on to say that the invitation to participate in the programme is a certification for the excellent work being done by the biologists and workers at Fort San Lucjan and follows the successful participation in the REPRODOTT programme which was aimed at developing new techniques for the breeding and domestication of tuna and the success in the breeding of amberjack .

On his part, Parliamentary Secretary Francis Agius said that the aquaculture industry has developed from nothing and in the last 17 years has become an important pillar in the Maltese economy. He added that until now the industry has been based on the breeding of two species, namely gilthead sea bream and sea bass, but there was the need to diversify the market and thus the possibility of breeding amberjack and tuna was being explored.

Bluefin Tuna doing well breeding in captivity

By Fatima Ferdouse in Globefish Tuna report

Some positive developments have been reported recently about Japan's Bluefin tuna farming. The Kinki University has successfully raised the 3rd generation farmed Bluefin to marketable sizes. The university first succeeded in hatching tuna from eggs of wild fish in 2002. Those hatched fry, the 2nd generation, were farmed to the grown up stage and finally to the latest development. Commercialization of this technology would be a major breakthrough in sustainable tuna supply to the Japanese market and worldwide. As previously reported, Japanese imports of fresh and frozen tuna were at record low levels during the first six months of this year due to declining catches in most of the oceans.

Original report at:-

<http://www.globefish.org/dynamisk.php4?id=4294>

Norway feels the pressure from Asian Aquaculture

From the Fish Site

Farmed fish from Asia could provide Norwegian fish with tough competition in the European market place and so Norway's industry must focus on better market analysis and new product development, says the Norwegian Institute of Fisheries and Aquaculture (Fiskeriforskning). A recently published report by Fiskeriforskning says that a large number of European frozen fish producers are now launching products with pangasius, the Vietnamese catfish, and that several new products are featuring on the supermarket shelves. Sales of skinless and boneless pangasius fillets are rising rapidly in Europe. The fish is sold as frozen fillets to the EU and it is a potential competitor for Norwegian white fish products such as cod, saithe, haddock, redfish and Greenland halibut.

Production of pangasius is expected to reach in the region of one million tonnes in 2010. Imports are increasing rapidly and reached approximately 130,000 tonnes in 2006. Russia imported more than 40,000 tonnes. Norwegian products have not so far felt the effect of these imports, although this is probably because the increase in imports from Vietnam has coincided with the increase in demand for seafood in the EU. Norwegian fish producers may see greater competition in the frozen consumer pack products market, for example breaded fish, where species does not necessarily influence consumer choice. There is, however, continued uncertainty with regard to the effect and consequences of the increase in imports of new species. If consumption falls, while at the same time the market is flooded with cheap fish from Vietnam, this could have serious negative consequences for the Norwegian frozen fish industry.

The tropical fish, tilapia, is also a potential competitor. The consumption of this species is growing in the USA, although it is still a relatively unknown species, with a relatively modest market share in Europe. However, the market is likely to grow. Fiskeriforskning's report points out that the Norwegian fisheries and aquaculture industries are well equipped to meet the challenge of increasing competition from new species. One key advantage is the short distance Norwegian products have to travel to mainland European markets. This offers potential to develop the fresh fish market, which usually commands better prices. Norway also has a well-established, traditional market for products such as clipfish, salted fish and stockfish. These specialities are expected to have continued growth in premium markets.

Feeds

Tilapia used as feed for Sushi grade Black Sea Bass

By Mary Landers in the Savannah Morning News

Researchers and their guests recently took a bite out of a fishy problem at Skidaway Institute of Oceanography. These tasters were being used to provide raw data on farm-raised fish. Black sea bass raised on tilapia was tested against bass fed food pellets and ones caught fresh from the ocean. During the blind taste test, sushi lovers took a sample of sashimi made from black sea bass raised at the Skidaway Institute of Oceanography and fed tilapia, and then filled out a questionnaire as they sampled sushi made from black sea bass.

The question put to the sushi-loving panel was this: Which black sea bass sashimi is best? One sample was made with wild-caught fish. Another was prepared with black sea bass fed a standard diet of pellet food. The third was made with fish raised on a diet of juvenile tilapia. About 20 tasters filled out questionnaires as they munched the thin slices of raw sea bass identified only as "A," "B" and "C" that were prepared by chef A.K. Tran of Sushi Time Towa. Skidaway Institute professor Dick Lee organized the panel to get feedback on the fish he raises using a non-polluting aquaculture system there. He already knew that black sea bass, a type of grouper, grows twice as fast on the diet of live fish. He just didn't know how acceptable they'd be for the sushi market, which is his ultimate target. If his scientific panel can be believed, the fast-growing black sea bass are quite acceptable. Five people preferred the pellet-raised fish, seven preferred wild caught, and

eight gave the biggest thumbs up to Lee's fish-fed fish. "In a way, it shows they're really not all that different," Lee said. For sushi lovers, the subtle differences in flavor and texture in the samples made little difference to their dining pleasure.

"I can't complain about any of them," said Felton Jenkins, an investment portfolio manager. "I'm going to get more."

New paper on fishmeal replacement in Aquaculture diets

Abstract

Replacement of fish meal with plant proteins in aquaculture diets presents several problems. Firstly, aquaculture diets, particularly diets for carnivorous fish species, are nutrient dense and may contain up to 450 g crude protein (CP)/kg. Such diets preclude the use of ingredients with only moderate CP content, such as pulses including peas and faba beans or oilseed meals including canola/rapeseed meal and flax. Secondly, virtually all crops contain heat-labile and heat-stable secondary compounds including protease inhibitors, tannins, lectins, phytate, dietary fibre and starch. Removal of heat-labile secondary compounds may be accomplished by extrusion or other heat treatment. However, elimination of heat-stable secondary compounds, and increasing the nutrient concentration of diets, requires fractionation of crops. Fractionation technologies range from low technology processes such as dehulling to medium technologies such as air classification to sophisticated technologies such as aqueous and solvent protein purification. Studies on the nutritional value of processed plant proteins in various fish species have consistently shown improved digestibility and growth compared to feeding unprocessed ingredients. This review examines effects of processing technologies on nutritional properties of soybean meal, canola meal, peas, lupins and flax in aquaculture diets.

Paper available at:-

http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6T42-4PPWMCS-1&_user=613892&_coverDate=09%2F21%2F2007&_rdoc=1&_fmt=&_orig=search&_sort=d&view=c&_acct=C000032099&_version=1&_urlVersion=0&_userid=613892&md5=118d1f4b0598d1c888651e31a08d62b1

Environment, Health and Disease issues

The Food and Agriculture Organization -- Environmentally friendly Aquaculture

From the FAO

The US\$400 billion seafood industry has no choice but to adapt to intensifying demand from retailers and consumers for "environmentally friendly" fish. During opening remarks made to industry representatives attending the 2007 Seafood Industry Congress (25-27 September, Dublin), Grimur Valdimarsson, Director of FAO's Fishing Industries Division, said that the need for seafood producers to guarantee environmental performance is unavoidable. "The push towards sustainable fisheries is not just coming from government or environmental groups, but from the market itself," Valdimarsson said, noting that major seafood retailers like Unilever, Tesco, Walmart and Asda have already committed to putting on their shelves only fish that was harvested or raised sustainably. "In recent years the seafood industry has been uncertain as to whether these trends represent a momentary fad. Today, there's no question: it's real, it's a sea change, and it's the way of the future," he said. In broad terms, this means that producers will need to be able to assure retailers and consumers that their fish were not taken from overexploited stocks, farmed in ponds where mangroves once stood, or caught in nets without turtle-saving excluder devices installed.

Doing so requires monitoring fishing activities via tracking systems, labels and similar mechanisms. There are already a number of initiatives under way that seek to do this, established either by seafood retailers or public interest organizations. While expressing concern over the proliferation of diverse and competing efforts, Valdimarsson stressed that, overall, the trend is a positive one. "Complying with these new imperatives is technically extremely difficult, and so the challenge facing industry right now is finding ways of doing so that are both adequate and economically feasible," Valdimarsson acknowledged. "Already, producers have put into place internal systems to ensure that they are providing seafood that is fresh, safe to eat, and of the highest quality, which is what today's consumers demand," Valdimarsson said. "You don't need to invent a new agency to guarantee that environmental standards are being met -- monitor for environmental performance in a similar way, as you do for safety and quality."

Developing countries will have a tough time. Resource-strapped developing countries will have a particularly hard time making the transition to fully certifying their fisheries. "They've already been struggling mightily to comply with health and safety regulations on fish imports put into place by importing countries in the developed world," Valdimarsson explained. Helping resolve this problem is an issue of particular importance to FAO, he said, adding that the retailers shaping market trends have a responsibility to help suppliers in the developing world cope.

And FAO and other international development organizations working on fisheries and aquaculture will need new resources to help the developing world's fisheries sector adapt.

This year's World Seafood Congress was co-organized by FAO, the United Nations Industrial Development Organization, the World Health Organization, the International Food Quality Certification Group, and Ireland's Sea Fisheries Protection Authority in collaboration with the International Association of Fish Inspectors and with the support of the Irish Sea Fisheries Board, Enterprise Ireland, and the Food Safety Authority of Ireland. The congress has traditionally focused on seafood safety and quality issues, but environmental concerns have risen higher on its agenda in recent years.

One of the most serious difficulties faced by fish exporters is coping with different safety standards being imposed by various importing countries. The need for greater harmonization of standards and more equivalence agreements, as well as the proliferation of private standards and certification schemes for fish products will also be discussed in Dublin.

Research matters, Reviews & Training

Fish Farmers urged to improve on Quality and Standards in Uganda

By Gladys Kalibbala in the New Vision

As fish becomes increasingly scarce in the lakes, Ugandans have been advised to stop lamenting and concentrate on fish farming. Israeli experts who were in the country to train fish farmers on quality and standards said this was one way to lift Ugandan farmers out of poverty.

The Israeli deputy director general of quality management, Raz Yechie and his colleague, Perez Yankale, from Fishart International Ltd, cited lack of quality management as one of the obstacles that hinder African countries from accessing the international market. Yechie gave an example of his country where there is a serious shortage of land and water, yet the country is one of the biggest exporters of fish. He said if more farmers went into fish farming, the fish in the lakes would be left to multiply. About 45 fish farm managers and four fisheries staff were trained in fish farming techniques at the National Agricultural Research Organisation in Kajjansi. The participants were taught new aspects of international quality management and cost-effectiveness in agricultural production. They also trained in brood-stock management, seed production, ponds management,

water quality control, feeding and feed quality (according to European Union disease control), production planning and post-harvest treatments and regulations.

The minister of state for fisheries, Fredrick Mukisa, said though a lot of emphasis has been put on food quality and safety, not much has been done to train farmers. He said the Government was in the process of establishing model fish farms that meet the required standards of fish export fish on the premium markets. "Training in quality management is a requirement if our fish is find entry onto the international market. I am glad our farmers have benefited from this training," Mukisa said.

He said there is a lot to learn from Israel in agriculture, especially in the area of quality and safety management of food production. "Israel enjoys a wide access to premium markets for her agricultural products and Uganda would like to emulate you in order to access such markets," Mukisa told the experts. Yechie identified some of the principles of quality management as satisfying customer needs, constant improvement of products, measurement and control and teamwork. He explained that the aim of international standards was to give the consumer security as far as safety and hygiene of the product is concerned.

Mukisa urged participants to put into practice the knowledge they had acquired. "We need improved quantity, quality and safe fish out of the farms you are managing and that is how we shall judge you," he said.

Regulatory matters

South Africa – Policy on Sustainable Marine Aquaculture

By Yolandi Groenewald, in the Mail and Guardian

Last week Environment and Tourism Minister Marthinus van Schalkwyk published Policy for the Development of a Sustainable Marine Aquaculture Sector in South Africa in an attempt to promote and regulate aquaculture in South Africa. This is the first policy of its kind in the country.

Department spokesperson Mava Scott said the paper was published after a two-year intensive stakeholder engagement process. "The main purpose is to encourage acceleration of the development of the marine aqua-culture industry. It is further aimed at promoting the development of an economically sustainable and globally competitive industry with minimum negative impact on the environment." The department believes marine aquaculture presents an opportunity to increase the diversity of economic activity substantially in coastal areas, specifically where declining fish stocks and shifts in distribution of certain fish species have led to job losses and economic hardships for people who historically found employment in the fishing industry.

The policy essentially has four objectives. It wants to create an environment that promotes the growth of marine aquaculture and enhances the industry's contribution to economic growth. It also wants to promote transformation and broader participation in the aquaculture industry. It aims to support and develop regulatory and management mechanisms aimed at avoiding or minimising adverse environmental impacts. Lastly, it wants to increase the variety of species being farmed.

The department also believes the industry has the potential to create skills-based employment and income for coastal communities. The policy will be complemented by a marine aquaculture development plan, which will outline strategies for its practical implementation.

Full article at:-

<http://www.mg.co.za/articlePage.aspx?articleid=320199&area=/insight/monitor/>

Announcements & Upcoming events

Western Cape Aquaculture Policy and Strategy Workshop: 17-19 Oct 2007

An invitation to Aquaculture stakeholders to attend and contribute to discussions at the Western Cape Aquaculture (marine & freshwater) policy and strategy workshop scheduled for 17-19 October 2007 in Cape Town has been made by Shelton Kaba Mandondo of the Provincial Development Council of the Western Cape. This workshop is a follow-up on the workshops held at the end of 2006 and beginning of 2007. The objective of this workshop is to

- (a) discuss and comment on the Western Cape draft Aquaculture policy discussion document and
- (b) provide inputs into the drafting of a Western Cape Aquaculture Strategy.

An international expert on aquaculture policy and strategy development as well as a representative from the Food and Agricultural Organisation (FAO) of the United Nations (UN), Fisheries and Aquaculture Management Division, will also participate in the workshop to advise on best management practise.

To register contact Aamina Hartley at the Department of Economic Development and Tourism
Phone 021-483 9946, Fax 021-483 5399
E-mail address: amhartley@pgwc.gov.za

Conferences

The Aquaculture Association of Southern Africa Conference – an update

From Natasha Marshall, AASA Secretary info@aasa-aqua.co.za

Dear Delegates and Interested Parties

18 Days – Countdown to the start of the conference! I trust that by now you have made the necessary arrangements in regards to accommodation and transport for the week of the conference.

The deadline for registration and payments was at the end of September. Thank you to those who have settled their conference payments. There is however still outstanding payments and I urge you to pay by no later than 12 October.

Late registration will be accepted if accompanied by proof of payment.

IMPORTANT NOTICES:

- **Banquet: 24 October** – Dress code : **FORMAL** (not necessarily Black Tie)
- **Refreshments:** Please note that apart from tea, coffee & a limited amount of wine, you are responsible for your own drinks during Conference events (ie. Social Evening, Conference, Banquet, Workshops, etc.)

- **Transport:** Please be aware that no transport will be arranged for those attending workshops/training & social functions at the different venues indicated on the program. You are responsible for your own transport. Transport will only be arranged for the Tour Day on the 22nd. Directions to all venues will be provided in your conference folder.
- **Parking at CTICC:** Each delegate will be issued with a parking voucher for the CTICC parkade.

FINAL REMINDER:

- **Meal Preferences** – Please communicate with me **before 12 October** if you have a specific meal preference, i.e. HALAAL/KOSHIER/VEGETARIAN, for catering purposes during the week of the conference. This will be forwarded to our caterers.
- Our **Social Meet and Greet Function** will be held on Monday evening (22/10) at 18:30 at the *I&J Predator Exhibit*, Two Oceans Aquarium. **To assist us with catering for this event it would be appreciated if you could indicate A.S.A.P. whether you'd be able to attend this function, at your earliest convenience, by forwarding an email to me at info@aasa-aqua.co.za.** Thank you to those who have already responded.
- The **AGM** of Aquaculture Association of Southern Africa will be held on Tuesday (23/10) at 18:30 at the TwoOceans Aquarium. **We would once again appreciate your response in regards to attendance of this meeting for catering purposes.**

For your information please find a link to INFOSA insert on Africa.

http://www.globefish.org/files/Africa12p_548.pdf

If you have any queries please don't hesitate to contact me.

Employment

From: kunle animashaun danwa112@yahoo.com

Subject: Seeking Employment in aquaculture

I am Animashaun Waliu Adekunle, and am an experienced aquaculturist specialized in catfish. I am looking for employment in an aquaculture company. I will be glad if my application could be considered. Thankyou.

Contact Number: 0799913585