



NEWSLETTER

OF

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



<http://www.aasa-aqua.co.za/>

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Volume 4: 12 • November 2008

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A Word from the AASA Chairman and the CEO of AISA

Etienne Hinrichsen

Somehow it feels that my contribution to the newsletter always revolves around welcoming you to the New Year and then (like now) writing that you should enjoy the upcoming Festive Season. No doubt that this is a symptom of the pace at which this year has flow by for me – and you.

Recently some of you may have been involved with me in a set of workshops to collect inputs from an Implementation Plan for the marine aquaculture Policy. I can report that the draft of this plan has been completed and I am hoping that it will become a planning toll from 2009 onwards. Much emphasis has been placed on matters such as research, partnerships, support to industry, public relations around aquaculture, the creation of an enabling environment, industry liaison and the establishment of an active interdepartmental forum to better coordinate Government's role around developing aquaculture. Many of you will be asking if any of this will ever materialize, but I am quietly optimistic given that these matters have now reached Government's agendas.

The debate around the effect and nature of the Alien Invasive Species Regulations continue. Workshops have been scheduled for 9 December (various fish and aquaculture species) and 22 January (trout) to commence with the process of mapping (zoning). The concepts of zoning in as opposed to zoning out is still causing a great deal of concern – essentially this is the difference between saying that certain fish may be used in certain areas only and kept out from the rest as opposed to saying that certain fish may not be used in certain areas but that use in the remainder is "open" (I hear the buzz of confusion). I honestly hope that all parties will come to a workable solution. A solution that does not hamper the responsible growth of aquaculture, while protecting biodiversity and receiving the support and buy in of all stakeholders. I'll put this one on my Christmas wish list.

All that remains for me is to wish you a good break over the Festive Season (for those of you that are able to take a break). Please drive safe, be responsible and farm some fish.

Dr. Lizeth Botes

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

I take pleasure in announcing the next initiative of the Skills Development and Training Programme (STP).

Through the STP partnership with SwissContact, and in collaboration with the Hands-On Coop and the Quality and Health Management Programme (QHMP) Service Provider, funding has been sourced for a Fish Health Specialist, Dr Ralph Knusel from Switzerland, to spend time in South Africa during Jan/Feb 2009 to:

1. work in collaboration with the QHMP service provider to do sampling in order to design fish vaccines
2. work in collaboration with AISA, Hands-On Coop coordinator and the QHMP service provider to provide training in the form of (2.a) a Fish Health training workshop and (2.b) a Small-farmer Fish Health practical training day.

Please find the programme for (2.a) and (2.b) under the upcoming events and let us know at your earliest convenience whether you would like to attend (limited seats available). Interested parties should please provide their full contact details and ID number in order for us to forward invoices. For more details, please contact the AISA office.

Have a blessed Festive Season and Christmas! To those who will be driving to their holiday destination, please drive safely. We look forward to seeing you all again in 2009 !

The Editor's choice

Editorial

Adrian Piers newsletter@aasa-aqua.co.za

A new heading has been introduced in this issue, Regional Roundup. This is to highlight issues of interest to aquaculturists mainly in the SADC region and for cross border news items.

The article below makes the point that fish farming is now developing into an industry where large corporate entities dominate the field. Is this desirable? The editor would welcome any comments.

Letters to the Editor

A beautiful fish farm with a large portion of mountainous, virgin bush and a long stretch of prime river frontage in scenic Schoemanskloof in Mpumalanga is still up for sale. Roughly equidistant between Machadodorp and Nelspruit, just off the N4. Currently operating as part of one of the oldest goldfish and koi producers in SA, it has a 4-bedroom cottage with pretty garden and stunning views, surrounded by electrified security fence and is renowned for its birdlife, including the Narina Trogon, Knysna and Purple-Crested Turacos, and the African Finfoot. It also has a lot of wildlife, including caracal, hippos, porcupines, various buck and many others.

See March 2008 Newsletter for more details.

Price negotiable - please call to discuss if interested - (013) 733-3135 or 733-4179.

Is the Aquaculture boom starting to fade?

By Suzi Fraser

The aquaculture industry has reached an important crossroads, with new challenges emerging regarding the sector's ability to meet future world demand for fish. Small-scale farmers in developing countries are facing difficulties in exporting their produce, and need help to become competitive and access global markets, according to FAO.

In 2006, the world consumed 110.4 million tonnes of fish, with 51.7 million tonnes of that originating from aquaculture. Production by traditional capture fisheries has reached a plateau, so to meet the projected demand for fish of an expanded world population, in 2030 aquaculture will need to produce an additional 28.8 million tonnes – 80.5 million tonnes overall - each year just to maintain per capita fish consumption at current levels.

An FAO paper presented at a meeting of the UN agency's Committee on Fisheries, Sub-Committee on Aquaculture in Chile asks if a series of emerging challenges need to be addressed if aquaculture is to live up to its potential. "The question remains whether the aquaculture sector can grow fast enough to sustain projected demand for fish while ensuring consumer protection, maintaining environmental integrity, and achieving social responsibility," the report said. Already there are some signs that the sector's rapid growth over the last three decades is starting to slow. The sector sustained a yearly growth rate of 11.8 percent from 1985 to 1995. That slowed to 7.1 percent during the following decade, and to 6.1 percent for the 2004-2006 period.

In 2006 aquaculture consumed 3.06 million tonnes (56%) of world fishmeal production and 780,000 tonnes (87%) of total fish oil production. Over fifty percent of the sector's use of fish oil occurs on salmon farms. Fishmeal and fish oil production has remained stagnant over the last decade, and significant increases in their production are not anticipated, according to FAO. At the same time, the volume of fishmeal and fish oil used in formulated aquaculture feeds tripled between 1996 and 2006. This was made possible due to significant reduction of the poultry sector's reliance on fishmeal in poultry feeds. "It is probable that the livestock and poultry sectors will continue to use less and less fishmeal in their feeds, which is good for the future of feed-based aquaculture," noted Rohana Subasinghe, an FAO expert on fish farming and Secretary of the COFI Subcommittee. "However, more and more formulated feeds are being used for non-filter feeding omnivorous fish like carps, thus the need for fishmeal is increasing. So we must make efficiency improvements in the use of feed and also some serious strides in terms of coming up with alternative protein supplements," he said.

Small-scale aquaculture farmers are benefiting from the US\$79 billion a year international trade in fish, although they face a number of challenges in doing so. And FAO is now seeing that, for some commodities and in some producing countries, the overall number of fish farms is decreasing, while the size of individual farms is increasing, pointing to the concentration of fish farms into fewer hands. "These trends need to be addressed, for example by establishing innovative producer networks so that small farmers can join forces, improve their operations, access markets, and remain competitive against bigger producers," said Subasinghe.

Other challenges highlighted by FAO's paper include the environmental impacts of fish farming, food safety and antibiotic use, and the impacts that climate change may have on aquaculture.

Full story at

http://www.aquafeed.com/read-article.php?id=2550§ionid=1&utm_source=Aquafeed+English+Newsletter&utm_campaign=404ece43a4-Aquafeed+Newsletter+-+10+-+09+-+2008&utm_medium=email

Abalone



Advertisement

Deep Blue Aquatic Systems

Aquaculture & Live-holding Systems
Reg. No. 2000/023584/07



We have the pleasure of introducing our new technology company, Deep Blue Aquatic Systems. Our aim is to be the leading supplier of aquaculture equipment in the SADC region.

We specialize in design, manufacture and installation of aquaculture and live holding systems and are able to supply a broad range of custom systems from complete hatcheries through to live-holding.

We have many years of combined experience working in the industry, both operationally and in supplying systems to aquaculture and fishing operations. We can add value by supplying appropriately designed systems to enhance productivity, efficiency and product quality.

We look forward to working with you on any new project, large or small.

We aim to exceed your expectations.

Brynn Simpson & Grant Brooker

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Catfish

No submissions



Crayfish and Lobsters



Blue Crayfish from experiment

A Northwestern State University researcher studying the growth of crayfish observed an unexpected effect from her experiment. More than half of the crayfish turned blue.



Doctor Julie Delabbio, NSU Aquaculture Research Director, believes that the mudbugs may have been influenced by the blue background in all the aquariums. According to Delabbio, the blue colour could be an adaptation in an attempt to camouflage to the environment. She plans to test that variable by placing a different colour background in the tanks and seeing if the crayfish will adapt to that colour.

Blue crayfish have occasionally shown up in the wild but as a genetic anomaly.

<http://www.wcsh6.com/news/watercooler/story.aspx?storyid=95617&catid=108>

Eels



Aquaculture farm in Mauritius to produce eels

From Agence de Presse Africaine

The Development Bank of South Africa (DBSA) and the Ripple Fishing International (RFI), an international fishing company have signed a \$US 20 million agreement to finance the creation of sea farms for the breeding of eels in the coastal regions of Mauritius

During the signing ceremony in the capital on Saturday, the Senior Investment Officer of DBSA, Elmarie Oosthuizen, said the accord is not only the first one concerning a regional aquaculture project but was the first initiative to breed eels in the Southern and Eastern seas of Africa. Oosthuizen indicated that the first phase of the project will be completed in two years time and the annual production will be about 2500 tons. Most of the production will be exported to Asia, namely to Japan, China, Taiwan and also to European countries, he stated. He further pointed out that the project will have a profound impact on the local fishermen's community and that it will expose them to different international markets and help create jobs and bring foreign currency to the country. Also that the sea farms will help improve the food security of the country as the products will also be sold on the local market. For his part, Jeremy Lewis, the Chief Executive Officer of RFI disclosed that the company has made of Mauritius its logistics hub where all fish from the Indian Ocean region will be collected and distributed. All processing facilities will also be installed in the island.

<http://www.apanews.net/apa.php?article80007>

Ornamentals



No submissions

Oysters & Mussels



A solution for Red Tides?

Abstract of paper by Aurelie Chambouvet, Pascal Morin, Dominique Marie, Laure Guillou

Control of Toxic Marine Dinoflagellate Blooms by Serial Parasitic Killers.

The marine dinoflagellates commonly responsible for toxic red tides are parasitized by other dinoflagellate species. Using culture-independent environmental ribosomal RNA sequences and fluorescence markers, we identified host-specific infections among several species. Each parasitoid produces 60 to 400 offspring, leading to extraordinarily rapid control of the host's population. During 3 consecutive years of observation in a natural estuary, all dinoflagellates observed were chronically infected, and a given host species was infected by a single genetically distinct parasite year after year. Our observations in natural ecosystems suggest that although bloom-forming dinoflagellates may escape control by grazing organisms, they eventually succumb to parasite attack.

<http://www.sciencemag.org/cgi/content/short/322/5905/1254>

Prawns



Vibriosis in Shrimp Aquaculture

Review article abstract

Aquaculture is the fastest growing food sector globally and has established itself as high protein resource to fulfill the food demand since the natural resources exhibits over exploitation. But, presently, the biggest problem faced by the aquaculture industry worldwide is diseases caused due

to various biological and non-biological agents. Among the groups of microorganisms that cause serious losses in shrimp culture, the best known are bacteria, because of the devastating economic effects they have on affected farms. Bacterial diseases, mainly due to *Vibrio*, have been reported in penaeid shrimp culture systems implicating at least 14 species and they are *Vibrio harveyi*, *V. splendidus*, *V. parahaemolyticus*, *V. alginolyticus*, *V. anguillarum*, *V. vulnificus*, *V. campbelli*, *V. fischeri*, *V. damsella*, *V. pelagicus*, *V. orientalis*, *V. ordalii*, *V. mediterrani*, *V. logei* etc.

Full paper with pictures at

http://www.aquafeed.com/documents/1226433083_1.DOC

Tilapia



Subsistence Aquaculture in Malawi

From BBC News

This seems an unlikely place to go fishing for your dinner. The dusty scrublands of Zomba West have been brittle dry since April, when the rainy season ended. "When we first started fish farming people thought it was mad, they told us it will never work here," says Esther Fikira. She leads me to a series of dirty green ponds, dug into the baked clay soil. The water is murky, almost stagnant, but Esther assures me there is a big haul of tasty "chambo", the local delicacy, lurking just below the surface. "If you had only seen the benefits this community has had from eating these fish," says the 50-year-old, wading in, "then you will know why I will never give my pond away."

There are now 700 fish farmers like Esther here in the bushland settlements to the west of Malawi's former colonial capital, Zomba.



Full article at

Esther weeds one of her fish ponds.

<http://news.bbc.co.uk/2/hi/science/nature/7683748.stm>

New technology to boost income of Tilapia fish farmers

By Floro Taguinod in the Phillipines

After years of using commercial fish feed, farmers here have discovered that natural fish food is in fact preferred by Tilapia. The discovery was revealed through a study made by the regional office of the Bureau of Fisheries and Aquatic Resources (BFAR). According to Hermogenes Tambalque III, BFAR R02 extension chief, phytoplanktons (minute plants) are actually the preferred food of Tilapia since it is easier to digest than commercially available fish feed. "By nature, Tilapia feeds on phytoplanktons. By delaying by 45 days the onset of introducing commercial feeds, we can save as much as 5 bags or roughly 3,500 pesos in today's prices," Tambalque said, adding that commercial feeds account for as much as 70-80% of total production cost. "This technology will help lessen the expenses of fishpond operators. If only Tilapia can talk, it would tell you that it prefers natural food than commercial fish feeds," he said. The BFAR official said that this delay in feeding does not adversely affect the overall growth of the fish stocks and actually enhances cost-benefit ratio for budget-conscious Tilapia farmers. Tilapia fingerlings, he said, have difficulty digesting artificial feeds and that supply of natural food in the pond, given right fertilization, can promote growth of planktons which in turn serves as food for the fish. Ramon Gutierrez, a BFAR-

assisted demo fish pond operator in Rizal village, said his 500-square meter fishpond, stocked with a total of 2,500 size 22 fingerlings, produced 354 kilograms of Tilapia at 5-6 pieces per kg within a more than four-month culture period. Gutierrez, whose initial venture failed prior to the introduction of the new technology, recommends a ratio of 5 bags chicken manure during pond preparation and 15 kg inorganic fertilizer (16-20-0) for maintenance. He said a total production cost of P13,500 compared with around P17,000 for normal semi-intensive culture of Tilapia in similar area is expected if the procedures are followed. Also a rice farmer, Gutierrez says that early failure due to lack of basic knowledge almost made him quit fish farming. "With improved knowledge and skills from BFAR, I revived my project and was glad to finally make a nice profit out of it," he said. BFAR regional director Dr. Jovita Ayson who has been in the thick of fish farming productivity programs in the region, reiterated that businessmen who are interested in fish farming can take advantage of bureau's programs. "We also offer other technologies like polyculture and use of duckweeds, that our farmers can choose from to enable them to cut on feed cost and maintain or enhance productivity." Ayson said.

Draft Standards for Responsible Tilapia Aquaculture

From Fishupdate.com

The first set of measurable, performance-based Tilapia aquaculture standards created through a transparent and multi-stakeholder process was released for public comment by the World Wildlife Fund through their initiated Aquaculture Dialogues.

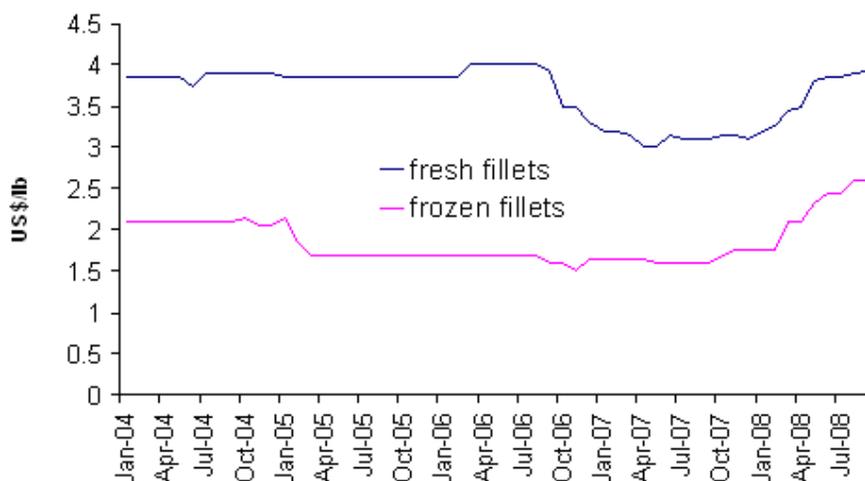
"When finalized, these will be the world's most robust standards for the Tilapia aquaculture industry," said Jose Villalon, director of the WWF-US Aquaculture Program. "They also will be the most credible standards, as they will be the outcome of three years of open discussions and consensus building among leaders in the Tilapia farming industry."

The draft standards were developed by the Tilapia Aquaculture Dialogue, a group of Tilapia producers, seafood buyers, nonprofit organizations, and other Tilapia aquaculture stakeholders. The Dialogue is driven by a Steering Committee that includes representatives from Regal Springs Trading Company, Sustainable Fisheries Partnership, New England Aquarium, Aquamar, Rain Forest Aquaculture and WWF. The standards are designed to minimize the impacts, identified by participants, that cause 70 to 80 percent of the problems associated with Tilapia farming. This includes chemicals used to treat diseases being released into the water and non-native Tilapia escaping from farms. Comments on the draft standards will be accepted through February 2009. Final standards are expected in March 2009. The standards are based on a set of principles, criteria and indicators also created by the Dialogue participants. The principles are high-level goals for addressing each impact. The criteria provide direction on how to reduce each impact and the indicators address how to measure the extent of each impact.

To read and comment on the Tilapia standards, go to www.worldwildlife.org/Tilapiadialogue

Tilapia prices in the US

US tilapia prices



Live Tilapia block roads in China!

A fish tanker recently lost its load on a road in China. Video clip of the fish covered road at this link.

<http://news.bbc.co.uk/2/hi/asia-pacific/7692455.stm>

Chinese Tilapia producer HQ Sustainable Maritime stocks and profits soar

Sales were up 42% year-over-year, and up 55% sequentially. Net income grew 62% year-over-year to \$5.6 million. The balance sheet looks good too. Cash increased to \$50 million, with long-term debt of less than \$5 million. Shareholders' equity is up 18% year-to-date at \$81.2 million.

Norbert Sporns, CEO of HQ Sustainable Maritime Industries, Inc. said "I am very pleased with our performance during the third quarter, which represents the best third quarter in the Company's history. Our success is a direct result of the expanded capacity of our aquaculture plant, which has increased from 20,000 metric tons live weight flow through to 30,000 metric tons, and the significant progress we have made in establishing solid relationships in the fast food industry during the quarter. We intend to double our current production capacity by the end of the next calendar year, and are confident that doing so will help us to take advantage of what we see as a strong growth opportunity for the production of ready-to-eat meal products with Tilapia as the main protein component," he said.

<http://seekingalpha.com/article/105475-hq-sustainable-maritime-swims-against-the-red-tide>

Trout and Salmon



Review of import duty on Salmon into South Africa

From Krijn Resoort Krijn@molapong.co.za

The trout farming associations and salmon processors were approached by the International Trade Administration Commission of South Africa (ITAC) last year for input on the review of the current import tariff on Salmon products.

The regional trout associations together with the Aquaculture Association of South Africa decided to combine their efforts into a petition for the retention of the duty on Salmon products. After ITAC visits to the interested parties a final presentation was done by parties interested in both the removal and the retention of the duty on Salmon products to the ITAC Commission in March this year.

The trout associations argued that;

Removal or a reduction of the salmon import duty would have a negative effect on the local trout farming industry as trout competes with salmon in price and quality.

Trout is commonly sold by the processors as Salmon Trout, therefore indicating that trout can be used as a substitute for Salmon. Removal of the duty on salmon will therefore directly influence the local trout price.

Trout farming takes place in rural areas and this is exactly where government has spend a lot of time supporting the trout industry. A reduction or removal of the duty could make these efforts futile or even a waste of resources.

The ITAC commission agreed with the trout associations that salmon and trout are similar or substitute products and that a reduction in the duty could have an adverse impact on the growth potential of the infant trout industry. The duty will remain the same for a period of 3 years, after which another review will take place. Down stream processors have the opportunity to apply for a rebate, subject to a permit issued by ITAC and subject to confirmation from the trout associations that they were not in a position to supply the processors with trout.

The outcome is a relief to the trout farmers who were already battling a 25% feed price increase this year, combined with high fuel prices and high inflation rates. Unfortunately within a week of hearing the outcome on the general import duty on Salmon products, the association was notified that a more specific trade agreement could have an even bigger impact on the industry. In 2003, negotiations between The free trade agreement with EFTA, comprising Iceland, Liechtenstein, Norway and Switzerland and the SACU countries, were started. It covers tariffs on industrial goods, including fish and other marine products and agricultural products. An agreement was signed in June 2006 and allows, amongst others, for the import tariff on salmon and trout to be reduced by a specific percentage per year. This means that by 2015 there will be no more duty on these products from these 4 countries into SACU countries.

Although this agreement was debated on an international level, rather than on a national basis, without a public participation requirement, it does highlight the need for farmers to work together and be aware of what is going on in the world around them. In the case of the general review on the duty of salmon products it would have been a far more difficult task if the trout associations had not received support from Aquaculture Association of South Africa, which provided the appeal with credibility and a wider industry overview. The trout farming industry has subsequently acknowledged the fact that there is a need for a national trout farming body to deal with these kinds of national and international issues and is looking at the South African abalone industry as an example of how an industry can be represented.

For a copy of the ITAC document you can contact me at Krijin@molapong.co.za

Chairman of the Western Cape Trout Association.

Salmon sales up 22% in two years

By Simon Bain.

The popularity of fresh salmon in the UK is leaping, with consumption at home rising by 22% in two years, according to a report by market research group TNS. Fresh salmon meals consumed at home rose from 179 million in 2006 to 219 million this year, says the report. Mark Thomson of TNS commented: "One of the key priorities in the current economic climate is health, it has an even bigger influence on consumers. The popularity of fresh salmon continues to leap as its health benefits are increasingly recognised."

Published this week, the latest annual survey of Scottish salmon production anticipates more modest growth, from 129,930 tonnes in 2007 to approximately 136,000 tonnes in 2008. Scott Landsburgh, the new chief executive of Scottish Salmon Producers' Organisation, said: "We welcome the growth in the UK fresh salmon market. As people are reportedly spending less on eating out, it is extremely encouraging to see one in five UK households purchasing fresh salmon over the last year." Gilpin Bradley, managing director of leading independent Wester Ross Fisheries, said: "We have experienced strong growth in demand, particularly in the local market and specialist retailers. Sales within the Highlands and Islands have increased from 25% to 35% of turnover during the last year as local people enjoy eating locally-grown salmon." Bradley added: "We also supply Highland salmon smokers who provide much-needed full-time employment in remote communities."

Responding to the Scottish Government's consultation on Scottish aquaculture, Landsburgh welcomed ministers' intentions to create an "industry that is ambitious, thriving, growing, diverse and profitable". The TNS survey found that fresh salmon accounts for 58% and smoked salmon for 24% of the total spend in the salmon market.

Market growth of 22% equates to nearly 400,000 fish every week, and fresh fish has been the fastest-growing protein in the shopping basket over the last eight years, up 64% in spending.

http://www.theherald.co.uk/business/news/display.var.2466807.0.Salmon_sales_leap_22_in_two_years.php

Salmon polyculture with Mussels and Seaweeds

Thierry Chopin and Shawn Robinson have proven that environmental management brings companies cash. Shawn is a biologist with the Department of Fisheries and Oceans. Thierry a researcher at the University of New Brunswick is part of a research team that has won a prestigious award from the Natural Sciences and Engineering Research Council of Canada for their research into aquaculture ecosystems. The two University of New Brunswick researchers have worked with Cooke Aquaculture Inc. and Acadian Seaplants Ltd. for nearly seven years in surrounding salmon cages with seaweed and mussels, which filter fish food leftovers and nutrient waste and serve as new marketable products.

The research team is putting to use about \$280,000 in synergy awards doled out this fall from the Natural Sciences and Engineering Research Council of Canada for the project to hire post-doctorate fellows and continue with market research potential for its ecosystem, called integrated multi-trophic aquaculture, or polyculture. The companies see real economic benefits to both diversifying their products and branding themselves as eco-friendly above the academic discoveries that are emerging.

Cooke Aquaculture's spokeswoman Nell Halse said multi-trophic aquaculture is helping her company qualify its operations for an eco-certification label through a company well-known around the globe. "Our customers and the retailers are looking for some kind of proof we're an environmentally sustainable company," she said. "The market research shows people are willing to pay a premium for sustainable products"

Full story at

Other



Panic as Nile Perch Stocks dwindle in Uganda

By Ephriam Kasozi in the Monitor in Kampala

The Uganda government is pushing for a regional policy to oblige investors in the fishing industry to immediately start contributing to fish breeding to save particular species that earn big on the world market from extinction. State Minister for Fisheries Fred Mukisa said the new policy is being crafted to compel entrepreneurs engaged in fish processing to invest in fish farming, especially of Nile Perch, as a pre-condition to obtaining trading/export license. Mr Mukisa told a stakeholder's conference at Imperial Royale last week that the proposed arrangement is to replenish the stock of rapidly dwindling fish varieties in East Africa's waters.

The conference organized by Lake Victoria Fisheries Organization (LVFO) aimed to develop, adopt and harmonize measures for sustainable management of fishery resources in Africa's largest fresh water Lake. "We are yet to agree on the measures and ways of implementation but we are looking at the option that people who process fish have an input towards fish production," Mr Mukisa said, "If the policy is adopted, it would be a requirement before a processor gets a licence."

<http://allafrica.com/stories/200811080146.html>

http://www.monitor.co.ug/artman/publish/features/Reducing_fish_stock_calls_for_urgent_interventi_on_74727.shtml

Organic Aquaculture

By K.G. Kumar

Recently the announcement of what is claimed to be the world's first organic aquaculture harvest of the large freshwater prawn, scampi, in the backwaters of Kerala, India, which is the leading producer and exporter of fish and seafood products in the country, was made. This unique project is the baby of the Marine Products Export Development Authority (MPEDA), which is collaborating with Switzerland's State Secretariat for Economic Affairs (SECO). It is aimed to pursue the huge market potential of selling aquaculture products in the markets of the European Union (EU).

The trend towards fish farming and organic aquaculture is fuelled by growing global demand for seafood and capture-based aquaculture. Driven by rising consumption worldwide, the international trade in fish products is expanding at a rapid pace, according to the United Nations Food and Agriculture Organization (FAO). Half of the world's fish trade is now sourced from developing countries. The value of world exports of fish and fish products grew 9.5 per cent in 2006 to \$86 billion and nearly 7 per cent in 2007 to \$92 billion, according to FAO. The proportion of world fish production (145 million tonnes) that is traded internationally now represents 38 per cent of the total, or 55 million tonnes.

Developing countries, notes FAO, have confirmed their fundamental importance as suppliers to world markets, accounting for 50 per cent of all fish exports. Their net export revenues from this trade have reached a record high of \$25 billion. Imports are mostly by developed countries, now responsible for 80 per cent of all imports in value terms (\$96 billion). China has now become the

world's largest exporter of fish (valued at \$9.7 billion), but its imports are also growing, reaching \$4.2 billion in 2007.

At the regional level, the EU is the world's biggest market for fish, reflecting both growing domestic consumption but also its recent expansion to include 27 countries. Major importing countries and large international retailers have put into place increasingly stringent safety and quality standards for fish imports, but also requirements related to ecolabels that certify that fish were farmed or captured in an environmentally and socially responsible manner.

For producers in developing countries, finding the technical know-how or the financial resources required to meet such standards of certification can pose challenges. Certification is mandatory for selling organic products in most markets of the world and, in the case of the Indian Organic Aquaculture Project, Naturland of Germany has been chosen as the certifying agency and Indocert of Kerala as the inspection body. Consider also the situation of Ecuador, a country once famous for being the largest producer of shrimp in the world. Soon matters took a turn for the worse and Ecuador's fame was tainted by the social and environmental injustice of the aquaculture industry, leading to protests and boycotts of Ecuadorian shrimp in Europe. But Ecuador then went on to set up the first certified organic shrimp farm in the world, EcoCamaronera Bahía (ECB), inspected by IMO of Switzerland and certified by Naturland e.V. of Germany.

Certification is also one way to help aquaculture limit its environmental impacts and ensure that it benefits small farmers to the maximum extent possible. Certified products allow buyers and consumers to choose those that are produced in a sustainable, healthy, and socially responsible way. As more such certification and eco-labelling programmes proliferate, producers are struggling to meet the various standards being applied by different companies, countries or certifying organizations, which can differ significantly. An overabundance of schemes also increases the likelihood that watered-down, unreliable certification labels are used alongside credible ones. Africa is not happy about China and Asian commercial fish farms either, and is especially worried about the use of antibiotics and chemicals in farm-raised shrimp by Sulalanka, a Sri Lankan company, Shell Oil, and USAID.

<http://sify.com/finance/fullstory.php?id=14789613>

CERTIFICATION SERVICES



PPECB Certifications is
a SANAS (C12&C33)
accredited certification body.

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amongst others to the

following standards

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Client Relationship Manager
for further information.

Tel: 021 8565693

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Regional Roundup

South African bank injects US\$ 20 million in aquaculture project in Mauritius

The Development Bank of South Africa (DBSA) signed a loan agreement, worth US\$ 20 million, with Ripple Fish International towards the establishment of 'eel' farms and wild 'eel' fisheries in the coastal areas of Mauritius, Madagascar and South Africa. The agreement was signed in the Mauritian capital by Leon Cornelius, Country Manager of the DBSA, and Jeremy Lewis, Chief Executive Officer of Ripple Fish International, a global fishing supply entity.

DBSA Senior Investment Officer Elmarie Oosthuizen said the agreement was not only the first for the DBSA in terms of investing in a regional aquaculture project. It also represents the first-ever initiative to farm Long Fin eel, also called Mossambica, and the African Mottledeel in the Southern and Eastern African regions," she said. She indicated that the roll-out for the project had started on the first acquired farm land close to the eastern Madagascar town of Manajary and would be followed by additional farms in the Manakara region. Oosthuizen emphasised that initially the farms would be established in Madagascar, followed by South Africa and Mauritius with a potential for further regional expansion. The first phase of the project is expected to take between two and three years to complete and the annual production capacity would turn around 2500 tonnes.

The second phase of the investment will take Ripple Fish International regional investment up to US\$ 85 million. For his part, Lewis indicated that Mauritius will be the logical hub where all live and processed fish products will be collected and exported to the Far East and Europe.

[http://www.afriquenligne.fr/sa-bank-injects-us\\$-20-million-in-aquaculture-project-in-mauritius-2008103114865.html](http://www.afriquenligne.fr/sa-bank-injects-us$-20-million-in-aquaculture-project-in-mauritius-2008103114865.html)

Kenyan Minister urges investment in Mozambique

By Maseme Machuka in the Standard

Kenyans should take advantage of the investment incentives offered by the Mozambican government, Deputy Prime Minister and Trade Minister Uhuru Kenyatta has said. He asked Kenyans to expand their investment there to boost the economy and hailed the Mozambican envoy to Kenya, Marcos Namachula's, call for Kenyans to invest in his country.

"The investment world is moving global. Kenyans have great potential to expand business throughout the continent," he said. He also invited Mozambican investors to invest in his country. Namachula said investors should exploit the opportunity Mozambique offers which make the market an attractive destination for foreign investment. "The government has put in place attractive trade and investment initiatives for Kenyans," said the ambassador.

With a population of 17 million, Mozambique's market is small. However, its integration into the Southern African Development Community (SADC) offers investors easier access to the main market in southern Africa. Mozambique has many opportunities in Aquaculture from its 60 rivers and lakes.

<http://www.eastandard.net/InsidePage.php?id=1143998012&cid=14&j=&m=&d>

Rice – Fish culture promoted in Uganda

By Jophn Kasozi

Rice production in Uganda has increased from 50,000 to 170,000 tonnes per annum. This has made the country reduce rice imports from 60,000 metric tonnes in 2005 to 35,000 tonnes in 2007, saving about \$30m in the process and improving food security, the state minister for fisheries, Fred Mukisa, has said.

Speaking at the opening of the five-day regional workshop on Rice and Aquaculture at Hotel Africana in Kampala, Mukisa noted that paddy rice culture was becoming popular, especially in eastern Uganda, with about 37,020sq.km and a population of 6.42 million.

The workshop was attended by delegates from Burundi, Cameroon, Democratic Republic of Congo, Ethiopia, Ghana, Madagascar, Malawi, Mozambique, Rwanda, Tanzania and Uganda.

In March 2004, President Yoweri Museveni launched the Upland Rice (NERICA) Project. Since then, rice farming in Uganda has grown from 4,000 farmers in 2004 to over 35,000 in 2007. Mukisa explained that this was achieved through the transfer of irrigation and paddy rice production skills to farmers' groups in the four pilot sites. Japan gave Uganda a grant of \$1.3m in 2006 and \$1.5 in 2008 for rice production. The funds are administered by the Food and Agriculture Organisation (FAO). The FAO representative in Uganda, Percy Misika, said the world consumption of rice is increasing on average by 1% per annum yet productivity was going up by only 0.5%. "This accumulative gap created over the 10 years has now caused a "rice crisis," said Misika. He added that an average Ugandan consumes 10kg annually, compared to 3kg 10 years ago, despite a kilogramme of rice going for \$1.26, up from \$0.6 a year ago. Demand for rice in Africa is growing faster than anywhere in the world, at about 6% per annum. Rice is the third largest crop in Africa, next to maize and cassava."

FAO signs agreement for \$410,000 to improve aquaculture in Nigeria

By Queen Shady in Abuja

In an effort to improve Aquaculture in Nigeria and further make it competitive in the international community, the Food and Agricultural Organization has provided US \$410,000 of funding support in the area of capacity building, seed development, and in other allied areas to support aquaculture development.

[http://www.ngrguardiannews.com/business/article02/indexn2_html?pdate=131108&ptitle=FAO%20signs%20\\$410,000%20to%20improve%20aquaculture%20in%20Nigeria](http://www.ngrguardiannews.com/business/article02/indexn2_html?pdate=131108&ptitle=FAO%20signs%20$410,000%20to%20improve%20aquaculture%20in%20Nigeria)

Talks on Africa's fisheries held in London

Talks on the future of Africa's fisheries and aquaculture development were held at the Commonwealth Foundation in London, according to the official Newsletter of the New Partnership for Africa's Development (NEPAD). "The purpose of the policy discussion in London is to help improve awareness of the challenges facing Africa's fisheries and its economic growth through the management of fisheries and the development of aquaculture, and to identify policy constraints," the Newsletter said. These talks follow the endorsement of the NEPAD action plan for the development of Africa's fisheries and aquaculture by African Heads of State and Government on 25 August 2005. NEPAD and its partners have spearheaded investments in critical areas in inland and marine fisheries as well as aquaculture.

Representatives of the WorldFish Centre, NEPAD and the Forum for Agriculture Research in Africa (FARA) presented papers at the occasion, jointly organised by Prof. Trond Biomadal on behalf of WorldFish Centre, the Nigerian High Commissioner in London, and the Commonwealth Foundation. The occasion was attended by African High Commissioners and Ambassadors based in London, and other invited guests.

Feeds

Sesame extract used to spare fish oils

By Suzi Fraser of Aquafeed.com

Sesame extract could double fish feed production from available fish oil. Research at the Swedish University of Agricultural Sciences has revealed that a component of sesame oil added to fish feed may enable salmonid fish to produce the long-chain omega-3 fatty acid DHA from linolenic acid in plant oils. Potentially this discovery, which won the DSM Innovation Award at AquaVision 2008, could enable fish feed makers to double production from the currently available fish oil while providing farmed fish that still have the omega-3 fatty acid content that make fish a healthy food for the consumer.

Professor Jana Pickova, who led the research team, explained. "We knew from the literature that substances from many plant species are known to be active modulators in animal metabolism. Examples for this are antioxidants, plant estrogens and others. For example, there were reports from Japan that showed increases in omega-6 levels, so we thought it could be possible to stimulate omega-3 levels in the same way. We explored the potential of some of these compounds to modulate lipid metabolism to provide a positive effect on the content of EPA and DHA in the fish fillets. My colleague Sofia Trattner had investigated sesame and the composition of sesame oil. This led us to test a component of the oil, a lignan known as sesamin, in feed for rainbow trout. The experimental feeds used only linseed and sunflower oils and were made with de-fatted fishmeal to minimise the marine oil present. Only one had sesamin. "The fish fed on the sesamin diet had significantly higher levels of DHA, up by around 37%, compared with the control group on the non-sesamin diet. This extra DHA came from a metabolic process in the fish, stimulated by the sesamin, that converted linolenic acid into DHA. We did not see any adverse effects on fish growth or health. In a parallel study, we found similar results in which γ -lipoic acid increased EPA levels."

The research was recognised at the AquaVision 2008 conference in Stavanger, Norway, by the presentation of the first DSM Innovation Award of €10,000 to the Swedish research pair. The initial trials were with rainbow trout weighing 50g at the outset and their work is continuing with a second trial beginning with fish at 300g. The results will become available next spring.

Professor Pickova concluded, "If this work can be translated into commercial practice, we can significantly increase the amount of fish feed we produce from the fish oil that is sustainably available."

At the same conference, Knut Nesse of Skretting Salmon Feeds announced that 800,000 salmon produced at the Centre for Aquaculture Competence (CAC) in Norway had yielded more fish protein than was used to produce their feed, without reducing the omega-3 level in the fish flesh. The results demonstrate commercially farmed salmon can be net fish protein producers, producing more fish protein than comes from the wild fish used in the feed.

These two advances announced at AquaVision 2008 clearly demonstrate that limits in the supply of marine raw materials do not need to frustrate future growth in the aquaculture industry.

Environment, Health and Disease issues

Residents question EIA on Eastern Cape proposed fish farm

From Legalbrief Environmental

Residents of Mossel Bay and nearby Little Brak River have handed in a number of objections to CCA Environmental, the company which produced an environmental impact assessment which apparently favours Irvin & Johnson's proposal to create a large fish farm off the Mossel Bay coast.

The Herald notes that the I&J aquaculture project is planned for a 200 ha area about 2.5km off the Little Brak River mouth. At premium production, about 3 000 tons of fish will be contained in cages below the sea surface. CCA spokesperson Jeremy Blood has confirmed the objections had been received and said they had been forwarded to the Department of Environmental Affairs and Tourism, along with the environmental impact assessment, for a decision on whether or not to approve I&J's plans. An answer was expected in the second half of November. The Times notes that although sure to create employment, the fish farm has drawn fierce criticism over its unsightly cages - likely to protrude a metre out of the sea - that would be in the middle of a prime whale-viewing spot. Mossel Bay Tourism chairperson Louis Cook said local stakeholders had not been consulted about all the proposals, notably the possibility of acoustic devices to chase away whales. Fishing experts say successful fish farming is crucial to the wellbeing of SA's future fishing industry, which is likely to be hard hit by dwindling global ocean harvests.

<http://www.thetimes.co.za/PrintEdition/Article.aspx?id=875528>

http://www.eherald.co.za/herald/news/n32_29102008.htm

Research matters, Reviews & Training

The Basics of Sample Collection

From Anna Mouton

Collecting samples for diagnosis of disease can be a frustrating and confusing experience for the fish farmer. It is extremely discouraging when the laboratory reports that samples were not suitable for testing. This short article attempts to prevent such disappointments by providing an overview of the various types of samples and their testing.

Fresh (and not so fresh) samples

When dealing with fish or shellfish, fresh is a short lived state. All animals, including humans, have enzymes which, if not contained, will destroy their cells. The living animal has various mechanisms to keep such enzymes in check. After death, the enzymes begin a process of cell and tissue destruction known as autolysis. This is accompanied by growth of bacteria and other decomposers. In warmblooded animals, autolysis and decomposition are significantly slowed by cooling, as the enzymes and normal flora of the animal are more active at body than environmental temperature. Body temperature equals environmental temperature in coldblooded animals, which is why their cells and tissues break down so rapidly at environmental temperatures. The process is only moderately slowed by refrigeration.

The important message for the fish farmer is that fresh, for all practical purposes, ends with death. A live animal is the preferred sample. If, as is often the case, it is not possible to submit a live animal to the laboratory, steps must be taken to preserve samples.

Chilling out

Cooling a carcass will slow, but not stop, its decay. Cooling is suitable for samples which will reach the laboratory within a short period. If samples are intended for histological examination, cooling to approximately 4 °C for two to three hours will usually be acceptable. The longer the period of cooling, the less the chance of a successful diagnosis. Ordinary freezing causes cell rupture and loss of tissue integrity and is not suitable for histological samples. Histology relies on the microscopical examination of cells and tissues to diagnose disease.

Disease can also be diagnosed by finding the cause within the affected animal. In the case of infectious diseases, this can be done through culturing the microorganism in the laboratory. Chilled or frozen fish are generally good samples for microbial culture. The tissues do not have to be as well preserved as for histology, but the risk of contamination with non disease causing microorganisms increases as decay progresses. This is especially true of bacterial contamination.

Some of the newer diagnostic techniques based on molecular methods can be applied to frozen tissues. Frozen fish or shellfish can also be useful for identification of toxins. Therefore, it may be worth freezing some samples and storing these for further testing, should the need arise.

Fix it

Fixation refers to the preservation of tissues by addition of chemicals known as fixatives. Clearly, if a fixative is able to halt all enzymatic processes in tissue, it follows that it is likely to be toxic to animals, including humans. Most fixatives are indeed toxic and many are carcinogenic, notably formalin. Fish farmers intending to fix samples should exercise caution and consult the laboratory for safety information.

There are many different fixatives with various applications. The most common fixative for use with fish is 10% neutral buffered formalin. This is excellent for histology and may provide adequate samples for electron microscopy, molecular diagnostics and parasite identification. For invertebrates, Davidson's fixative is preferable to 10% neutral buffered formalin. When using Davidson's fixative, samples must be postfixed in ethanol after a day or two. Ethanol is not an ideal primary histological fixative and is not suitable for electron microscopy. Ethanol is a good fixative for many external parasites as well as for molecular methods. Concentrations typically range from 70% to 100%. Gluteraldehyde is the fixative of choice for electron microscopy.

The great advantage of fixed samples is their resistance to degradation. They can be posted to the laboratory without concern about delays. However, fixed samples cannot be used for culture of bacteria or other microorganisms, as the fixative kills all cells. The other drawback of using fixatives is that only small samples can be fixed. Samples for fixation in 10% neutral buffered formalin cannot be more than 5 mm thick and those for gluteraldehyde must be even smaller. This is because of slow penetration of the fixative into the samples. If samples are too thick, autolysis and decomposition occur before the fixative can reach the center. The implication for the fish farmer is that dissection is required in most cases.

Talk about it

Fish farmers often contact the laboratory after the event, when samples have been collected or despatched. It is generally a good idea to call the laboratory or a veterinarian as soon as a problem is noted. Discuss the issue and obtain advice on the most appropriate sampling strategy. If there are concerns about the logistics of obtaining fixatives and containers, or about transport of samples, bring these up. The laboratory can usually provide fixatives and containers and assist with arranging transport. Costs can also be determined.

If a fish farmer is in a remote location, it is well worth keeping a permanent supply of the most common fixatives on the premises. Many of these have long shelf lives. Fixatives can be obtained from the laboratory. It is not recommended that farmers attempt to make up their own fixatives. A box of scalpel blades and a few basic dissecting instruments are invaluable when collecting

samples. These items can be ordered from most chemists. Having the correct materials and tools on hand for sample collection goes a long way to ensuring meaningful laboratory results.

Anna Mouton is a veterinarian with Amanzi Biosecurity. She can be contacted on anna.mouton@amanzivet.co.za or 028 313 2411. Amanzi Biosecurity provides aquatic animal health services to the aquaculture industry. Please feel free to contact us for advice on sample collection. We are happy to supply sampling materials to clients and to assist with arranging transport to our laboratory.

Regulatory matters

No submissions

Conferences, Upcoming events

Conferences

February 15 -18, 2009- Aquaculture America 2009 - Seattle, USA

Email: worldaqua@aol.com

Web: www.was.org

March 15 -17, 2009 - Seafood Processing America - Boston - USA

Organised by Diversified Business Communications

Email: food@div.com

Web: www.bostonseafood.com

Western Cape Workshops

Fish Health Training workshop - 6 February 2009

Venue: Stellenbosch University

Presenter: Dr Ralph Knüsel

Facilitator: Danica Resoort, QHMP Service provider

10am-11am: Generic Fish Health Management

11am-12pm: Treatment options

12-1pm: Lunch

1-2pm: Fresh Water Fish Disease issues

2-3pm: Marine Fish Disease issues

3-4pm: Practical Dissection session

Costs: R500

Small farmer Fish Health practical training day –7 February 2009

Venue: Jonkershoek

Presenter: Dr Ralph Knüsel

Facilitator: Henk Stander, Hands-On Fish Coop

10-11am: Fish Health Management

11am-12pm: Treatment options in various systems

12-1pm: Practical Dissection session
1-2:30pm: Lunch (transport to Lourensford)
2.30-3.15pm: General farm management (Gerhard Compion)
3.15-4pm: On-farm Fish health management

Costs: R100 (no costs for Hands-On Coop members)

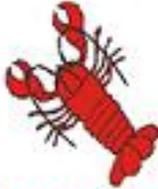
Limited seats available, please book & pay before
15 Jan 2009 at Dr L Botes: Lbotes@ai-sa.org.za

Employment

Abalone Hatchery Manager

West Coast Abalone (situated on the St Helena Bay on the West Coast) is looking for a hatchery manager. We require a self motivated, innovative, responsible person with a passion for abalone, aquaculture or all things marine. Definitely a hands-on position involving also the management of about 6 staff members. The hatchery manager will report directly to the MD. Training can be given but obviously experience and relevant background is an advantage. The person should be practical and hard-working. Duties include weekend standby and packing for export. West Coast Abalone produces 50 ton abalone per year, and the hatchery manager will be responsible for providing spat for on-growing.

Should the position interest you please send me your CV or questions to kwhyte@wca.co.za



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