



NEWSLETTER

OF

AQUACULTURE ASSOCIATION OF SOUTHERN AFRICA

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

Volume 5:10 ▪ November 2010

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A Word from the AASA Chairman

Etienne Hinrichsen

End of the year.....yet again!!

I am sure that many South African aquaculture stakeholders share my cautious optimism with regards to the new draft strategic framework for aquaculture which was released recently. My optimism is not founded in the content of the framework, which I believe still needs some work, but rather in the process, awareness and commitments that Government are showing around the finalisation and implementation of these draft strategies. If we can capture just some of this new spirit and drive for aquaculture then I certainly believe that we are on the right track. Having said that, I must emphasise that a collective effort by all Government Departments is necessary to drive this home and we must all do our part – both Government and industry.

It has been a full year and I look forward to a break before we tackle 2011. This year has seen dozens of proposed aquaculture initiatives tabled in various forms and I trust that some of these new projects will come to fruition in 2011. Aquaculture momentum in the SADC region is at an all-time high and I trust that this will lead to better regional sector development.

Planning towards the 2011 AASA conference has progressed well and aspects such as venue, dates and associated activities have virtually been finalised. Please keep an eye out for the various conference announcements which will start coming through thick and fast after the December break.

I am most excited about the new AASA website, which is about to go live for all to view. The format has been simplified and I believe it has been turned into a more accessible and workable tool for the sector from which to gain information, contacts and through which discussions and industry communications can take place. With your support I am sure we can turn this new website into an industry platform of which we can all be proud.

Have a good rest and may 2011 be full of pleasant new challenges.

The Editor's choice

Adrian Piers newsletter@aasa-aqua.co.za

Editorial

Some very laudable statements have come from the first Conference of African Ministers for Fisheries and Aquaculture (see below). Integration is definitely required to rationalize the important contribution aquaculture can make to achieving the goals set out in the Comprehensive Africa Agricultural Programme.

An excerpt from the report:-

Ministers, experts and development partners who have been attending the first Conference of African Ministers for Fisheries and Aquaculture (CAMFA) in Banjul, 20-23 September 2010, have reaffirmed the role of fisheries and aquaculture in achieving the 6% annual growth of the wider agricultural sector as envisaged by the Comprehensive Africa Agricultural Programme (CAADP). This commitment should be transmitted by the support of member states and the African Union to strengthen the policy coherence in national fisheries sector regarding CAADP in order to enhance

the role of fish in food security, poverty alleviation and trade development. "African Union and member states should constitute fish expert pools to urgently engage in the country CAADP processes and respond with post-compact fisheries investment interventions," reveals a report issued at the end of the ministerial meeting.

Speaking at the conference, Mrs. Elizabeth Tankeu, Commissioner for Trade and Industry African Union Commission (AUC) said there was need for strategic dissemination of lessons learned from the success stories and best practices of the countries that have turned fisheries into wealth. She reiterated the AU's commitment to ensure that the fisheries sector in Africa receives the attention it deserves for its own growth and its contribution to socio-economic development. This includes the commitment to develop the fisheries that is demonstrated through various initiatives that have taken place in the last five years starting in 2004, during the extra-ordinary Summit, which was held in Sirte, Libya.

Dr. Ibrahim Assane Mayaki, Chief Executive Officer NEPAD Planning and Coordinating Agency, in his statement, read out by Dr. Sloans Chimatiro, Senior Fisheries Advisor, NEPAD Agency, said that fisheries are very vital for many Africans who daily catch, process, transport and sell fish. He observed that although the African fisheries sector produces substantial benefits, the continent faces major problems to ensure long term resources sustainability.

Taking the floor, on behalf of Dr. Jacques Diouf, the Director General of FAO, Mr. Musa Saihou Mbenga, Deputy Regional Representative for Africa/Sub-Regional Coordinator for West Africa, recalled FAO's initiative on convening the World Summit on Food Security held in Rome, Italy, in November 2009 noting that "Among other issues, the summit declaration explicitly calls for support to regional development frameworks such as the Comprehensive Africa Agriculture Development Programme (CAADP)", which includes a fisheries and aquaculture component.

Experts recommended that the African Union should assist member states to develop mechanisms, which effectively strengthen south to south cooperation in fisheries at all relevant levels, with the view to increasing coherence in best practices between African states. "The African Union should develop and implement a coordination mechanism among Regional Economical Commission and regional fisheries boards to ensure coherence of fisheries management and aquaculture development and their adoption and adaptation in Africa," the meeting suggested. CAADP is based on two major principles; the pursuit of a 6% average annual growth at the national level in the agricultural sector, and the allocation of 10% of national budgets to agriculture. The CAADP complementary programme on fisheries works to ensure that fisheries and aquaculture are integrated in these two major target areas.

Letters to the Editor

I refer to an article in the newsletter by Brynn Simpson (Research facility and hatchery in South Africa, July 2010 – Ed.) regarding the Chinese built aquaculture facility at Gariiep. I would be grateful if this email could be circulated to readers who may be able to assist.

The article raises a couple of important issues. Firstly, the lack of information should have been resolved by having regard to the EIA which ought to have been undertaken (including a public consultation process and detail regarding the fish to be farmed, economic feasibility and the systems to be used etc). Was an EIA undertaken and where is the ROD? Secondly, where are the South Africans in this project? Who will operate, run and own the "gift"?

Shaheen Moolla

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RE: THE REVISED SASSI CONSUMER SEAFOOD GUIDE

WWF has revised the SASSI seafood list using an internationally accepted best practice methodology. This methodology was developed by a number of organisations internationally through the Seafood Choices Alliance and is considered best practice for seafood pocket cards. The strength of the new methodology is that for the first time a transparent process is in place that identifies where a species or fishery is progressing well and where the outstanding challenges lie. It also clearly outlines how a species or fishery (including farming methods) can move towards a 'green' status. Furthermore, since seafood is the most globally traded primary commodity it has become necessary to use a consistent methodology to assess both local and imported seafood so that consumers are presented with consistent advice in seafood pocket cards. This now facilitates fair comparison between countries and allows for the sharing of assessment results between countries. It also allows for the incorporation of new information as it becomes available.

In South Africa, the decision to use the "common methodology" was taken by the WWF Sustainable Fisheries Programme's Advisory Committee (of which SASSI is a key component). This Committee has representatives from the fishing industry, aquaculture industry, restaurant and retail sectors as well as the South African National Biodiversity Institute (SANBI) and government which endorsed a three phase process to the development of a revised SASSI list. The first phase was (a) a data/information collection phase, followed by (b) extensive consultation with relevant local and international experts (including input from the Department of Agriculture, Forestry and Fisheries (DAFF), the University of Cape Town, the Oceanographic Research Institute (ORI), BirdLife South Africa, South African shark conservancy and the Marine Stewardship Council (MSC)), and finally (c) an external review phase. The review process for aquaculture was led by Prof George Branch from the University of Cape Town. The panel included Prof Colin Attwood (UCT), Etienne Hinrichsen (AASA), Dr Lizeth Botes (AISA), Dean Impson (CapeNature), Keagan Halley (DAFF), Chumo Morake (DAFF) and Cloverly Lawrence (SANBI).

The role of the panel was to review the draft assessments undertaken by SASSI staff and consultants, including scientific content, accuracy, consultation of appropriate experts for each assessment and consistency across assessments. Assessments rely heavily on broad scientific, biodiversity and management expertise and should be fairly and objectively applied across species and aquaculture sectors. The individuals on the review panel were included for their individual experience and their participation in the panel does not constitute organisational endorsement of the methodology or listing results. As is common practice in fishery/farm assessments and seafood lists internationally, the review panel does not include anyone who represents an organization directly benefiting from the seafood industry. However, it is important that fishery/farm or seafood industry stakeholders are provided with a mechanism to input into the process so as to ensure that all available information is considered. As such, assessment summaries will be available on the SASSI website (www.wwf.org.za/sassi) and full assessments can be requested by email (sassi@wwf.org.za). Written comments providing substantiated information sources (including original copies of data, reports or peer-reviewed publications) will be reviewed by the SASSI review panel. Should new information become available, stakeholders are encouraged to submit this information via the same email address.

Imported seafood (wild capture and farmed) are assessed by the appropriate local organisation in the country of origin and reviewed by the WWF international seafood co-ordinator to ensure consistent application of the common methodology. WWF South Africa draws these assessments from an international database for local use. Similarly, all assessments conducted or commissioned by WWF South Africa are submitted to this database for use on seafood pocket cards in countries where South African fish is regularly exported.

The above process has now been completed and the revised SASSI list has been publicly available since the 9th of September 2010. However, it is important to note that the SASSI list will be an on-going process with new species being assessed as required and as such the SASSI seafood database and seafood card will be regularly updated. Stakeholders are also reminded that, while these assessments provide advice, they do not constitute any type of endorsement or

eco-label. In order to verify the sustainability of any seafood product, WWF promotes the use of independent and credible 3rd party eco-labels such as the Marine Stewardship Council (MSC), GlobalGAP and the Aquaculture Stewardship Council (ASC), once it is operational. Furthermore, current SASSI assessments will be re-evaluated regularly, and this will be communicated through our website.

The international methodology is reviewed and updated regularly and the SASSI review panel and experts that contributed to assessments are working on constructive recommendations to contribute to further refinement of the assessment methodology.

It is important to remember that the purpose of the SASSI list is to provide consumers and industry with easy-to-use information about the relative sustainability of the seafood available on the South African market. WWF is aware that some of the evaluations may have implications for companies involved in the seafood industry and will continue to work throughout the value chain to help fisheries and farmers improve the sustainability of their operations. Given the current threats facing our marine ecosystems, we believe that it is necessary to act now in order to ensure the long-term health of both our seafood industry and the marine resources upon which we all rely.

A key driver resulting in the “orange” listing of a number of aquaculture products was feed-related, which included the lack of a clear sustainability policy adopted by feed manufacturers and limited traceability of protein sources. WWF was approached by Stellenbosch University to develop a generic sustainability policy as well as on-farm feed management guidelines. An important component of this project will be stakeholder engagement; to this end, a workshop is planned to ensure the policy and guidelines meet the requirements of industry stakeholders as well as the SASSI listing methodology.

If you have any further queries please do not hesitate to contact us.

Kind regards,

Alice Johnson
WWF Sustainable Fisheries Programme

Abalone



Namibian Abalone farm expansion

From the New Era - by Catherine Sasman

The Lüderitz Abalone Farm is expanding but will only start exporting again from October 2011. The Lüderitz Abalone Farm owned and run by Johannes ‘Rassie’ Erasmus and his wife. It is the first abalone farm in Namibia, and one of two production facilities in the country. Abalone farming, as is the consumption thereof, is a new concept in the country primarily because it does not naturally breed in the Namibian part of the Atlantic Ocean. But abroad, and mostly in Asia, abalone is a much sought-after delicacy, a rare and expensive luxury food.

“It tastes of the ocean but it is not a known taste like fish or lobster; it is an acquired taste,” explained owner of the production farm. It is an edible snail whose flesh is consumed raw or cooked. Its current international price is US\$38 to US\$42 per kilogramme. A recent study showed that abalone farming would remain high in the foreseeable future. Profitability will be affected by both the supply and demand sides of the market.

“The markets are very big especially over the Christmas and New Year periods. We do not market in South Africa or Europe, but in China and Japan.” During February to September sales drop to about US\$2.50, but demand remains more or less constant. If the Lüderitz Abalone Farm reaches its projected production capacity, its exports to the Asian markets will constitute a mere eight percent of the demand there. Abalone aquaculture started in the late 1950s and 1960s in Japan and China, with commercial farming picking up more rapidly in the 1990s to fill the declining supplies of “wild abalone” harvested from the sea since over-fishing and poaching have reduced wild populations. Today, most abalone consumed is farmed mostly in Asia, but also in Australia, Canada, Chile, France, Iceland, Ireland, Mexico, New Zealand, Thailand, the United States and South Africa. China has the largest production of abalone, with South Africa the largest producer outside Asia.

Erasmus started out in the business at Hermanus in South Africa where he and his wife hatched spuds – or juvenile abalone – for years before bringing the business to Namibia in 2002. Here, the couple bought a piece of land from the Lüderitz Town Council, terraced the rocky and sandy stretch, built a new roofed hatchery, and stacked row upon row of blue ponds, which are called the settlement tanks for the ‘grow out’ of adult abalone kept out-of-doors. This week, Erasmus started to set up new ponds to expand the business. The Development Bank of Namibia assisted with a N\$12-million loan for further infrastructural development with the aim of producing 80 tonnes of abalone per year with a possible increase of workers of between 250 and 300. A black economic empowerment group has 25 percent interest in the business, 30 percent belongs to a Chinese company that has other interests in South Africa, and the workers at the farm have a five percent shareholding. Erasmus has the majority shareholding of 40 percent. Before the BEE shareholders came on board, the company exported 20 to 25 tonnes. Erasmus said the farm would again start exporting from October next year to allow time for the expansion.

At the Lüderitz Abalone Farm, ocean water is pumped into the land-based tanks that are run in a flow-through fashion. The water is then re-circulated back into the ocean. The tanks are fed with oxygen 24 hours a day to allow for greater growth of the animals.

All in all, explained Erasmus, it takes up to three-and-a-half to four years before the abalone, which is then about 70 grammes, can be marketed. In June this year, the about 200 000 to 250 000 abalone were placed in the grow-out tanks. When the farm is in full production, it can yield an income of N\$2.5 million to N\$3.2 million, estimated Erasmus. Although abalone farming is still new in Namibia, Erasmus is of the opinion that it has potential to grow because the Namibian ocean has a high oxygen content. “Our biggest advantage is that we have quality waters, possibly the best in the world.” Because the ocean is colder by three to five degrees Celsius than the South African waters where abalone is farmed, Namibian abalone is less susceptible to diseases. “We are sitting with a project that works; we have come this far with our own money.” Despite the support he received from the Development Bank of Namibia, Erasmus is of the opinion that more should be done to promote and grow aqua- and mariculture in Namibia. “Government is on the right path but must do more; the opportunities for aquaculture and mariculture are huge,” he said.

<http://www.newera.com.na/article.php?articleid=14335&title=L%C3%BCderitz%20abalone%20farming%20expanding>

Ornamentals



Amalinda Fish Farm – SA model?

By Qurban Rouhani q.rouhani@ru.ac.za

Could this be a model for developing South Africa’s freshwater aquaculture sector?

During the various government meetings held around the development and planning for aquaculture, we are often asked what the difficult areas in aquaculture are considered to be. Most people expect it to be something technical like breeding fish or increasing production, but are invariably surprised to find that it is the marketing. Production is easy, but selling is difficult. Recently again, I was reminded of just how difficult it is to sell fish. As part of a national programme to support and develop aquaculture, the Rural Fisheries Programme had taken on a project to provide technical support to re-commission Amalinda Fish Farm. This project has been funded through the Water Research Commission (WRC) and the Department of Agriculture, Forestry and Fisheries (DAFF). In its first life, Amalinda Fish Farm (situated on the outskirts of East London) functioned as a state hatchery for the production of angling species of fish (such as bass). In the 70's and 80's, this was norm for Nature Conservation Projects. After Nature Conservation realised that stocking alien fish species was not a conservation mandate it decided to pull out of Amalinda. And so, in its second life Amalinda Fish Farm was resurrected as a koi farm. The provincial government leased the farm to a community trust and appointed a service provider to assist the emerging farmers to increase production and to market their fish.



Figure 1. On the left is what most of the ponds liked like at Amalinda before the involvement of the WRC / DAFF Project. With technical support, Amalinda implemented a turn around strategy and now most of the ponds are productive (right).

When the Rural Fisheries Programme visited Amalinda Fish Farm two years ago, the term of the service provider was coming to an end and it was clear that although Amalinda had significant potential, there was still much that had to be done before Amalinda could become sustainable. The ponds at Amalinda were largely empty and overgrown with weeds, there was no production plan in place, the skills to manage the facility were missing and there was no marketing plan. The ornamental industry in South Africa, although small, is relatively well structured. There are distribution networks with regards to the marketing of these fish and to enter it, especially for a specialised niche fish such as koi, one needs to understand how it functions.

At a steering committee meeting of the WRC / DAFF programme, a decision was made for Rhodes University to engage with Amalinda Fish Farm so as to provide them with the technical support for them to become a viable operation. Fortunately, in as much as there was a lot to be done, there was an equal, if not more willingness on the part of the staff of Amalinda to roll up their sleeves and to get to work.

In the first few meetings between Amalinda and Rhodes University, a turn around strategy was developed. But this was a turn-around strategy that was like no other we had developed before as it was exceptionally simple. In fact it was so simple, that we did not even record it as a document (and we have at times produced rather large and cumbersome documents). It was just three lines that were written on a flip chart, and everybody agreed to it and remembered.

The lines read:

1. Hire a Technical Manager
2. Find a commercial partner to assist with marketing
3. Develop institutional capacity

I distinctly remember the bead of sweat running down my back as it dawned on me that the simplicity of this plan belied the mountain of work ahead of us. South Africa has its fair share of community aquaculture projects that failed to make a mark, and with the current economic crisis even established businesses were feeling the pinch, so taking on Amalinda was a “leap of faith”.



Figure 2. Rhodes University researchers conducting a spawning training session at Amalinda Fish Farm

The first two points of the turn-around strategy is easy to explain. While some of the farm workers were experienced, they lacked the skills to manage and plan the operations of a commercial farm. The board agreed that a skilled farm manager was needed to increase production and to manage the staff. The need for a commercial partner was also easy to justify. Amalinda did not have any marketing networks therefore a partnership with a commercial koi producer was essential. The third point of the turn around strategy might require more explaining.

In any business, there is clear process with regards to who makes management decisions, how a decision is translated into action by staff and the interaction between the various components within the business. For example, if transport needs petty cash from finance to fix a puncture for the work bakkie, who approves it? How does the money get disbursed? Who decides the limit for petty cash? And how is it finally accounted for. This might seem rather simple, but that can only be attributed to the fact that the business has developed clear pathways on these decision making processes.

In many developmental aquaculture projects, the implementers have often overlooked the fact that knowing, for example, how to spawn a catfish is equally as important for the project beneficiaries as developing the capacity to be able to consult amongst themselves, make decisions, implement and then finally be accountable. In my experience, I have seen more projects fail because project beneficiaries could not agree on the running of the project rather than on maybe feeding the wrong diet to their fish. Therefore the Programme was intent on Amalinda would receiving the necessary support to develop its institutional capacity.



Figure 3. At the recent East London koi show, Amalinda won 14 prizes and gained valuable exposure.

This support was provided by means of regular meetings, discussions with the management of Amalinda Fish Farm on the running of the farm and assisting them to make and implement decisions. The task was then to identify a commercial partner and to hire a Technical Manager. A commercial koi farm in Gauteng was contacted and by means of a Memorandum of Understanding (MoU) it was agreed that Amalinda would buy koi fingerlings from the commercial partner and when the fish reached market size, the partner would assist in the marketing of the koi. Amalinda on its part would hire a Technical Manager to get the ponds going and to ensure that the koi are taken care of and reach the desired sizes..

This was all put into place over a year ago. For all three parties (the commercial partner, Amalinda Fish Farm, and the provincial government department that managed the Amalinda funds), this was new territory and therefore there were delays. However, the delays were rewarded by some successes.

Life returned at Amalinda. The sound of reeds rustling in the empty overgrown ponds was replaced by the shriek of kingfishers sitting on the bird nettings looking for gaps to swoop into the pond to grab their prey. The staff realised that after years of dormancy, a sense of purpose had returned to Amalinda, and that just maybe, this facility was going to become a business in its own right, rather than a development project that relied on government funding. However, as with most good stories, there is a part where the hero stumbles within reach of the finishing line, but manages to pick himself up and cross the line.



Figure 4. Staff feeding fish at Amalinda Fish Farm. Capacity building of the staff has been an important focus area for Amalinda.

As the koi in the ponds were achieving good growth rates in the ponds, it became apparent that the commercial partner was not going to be able to satisfy Amalinda's marketing expectations. After

months of negotiation a final meeting was called to resolve this issue, eventually Amalinda decided that it would need to identify another commercial partner.

With the assistance of Rhodes University, this was done. The commercial partner, an ornamental fish farmer from KZN was flown to East London, and an agreement was reached. The commercial partner was interested in the marketable koi in the ponds and to initiate the partnership he bought 2000 fish to market within his network. The commercial partner also has a large market for goldfish and placed a standing order for R 80 000 worth of goldfish from Amalinda. This request was accepted and the hatchery at Amalinda is being modified to breed goldfish, broodstock for several varieties of goldfish have already been ordered.

What is of interest here, is that the period to establish the first partnership with the commercial fish farmer took a year to put together. When that partnership did not fulfil the needs of Amalinda and when another partnership was required, it took a month to put into place. This is an indication of Amalinda having developed its institutional capacity. By strengthening its institutional capacity, Amalinda was able to identify a problem, develop a solution and then act on it. Thus developing the institutional capacity of emerging farmers needs to be recognised as being as important for them as being able to spawn fish. These processes of developing technical and institutional capacity of emerging farmers, is not something that can be done by one or two short courses, but by providing long - term mentoring and support. Amalinda is therefore a successful model of how government can support emerging farmers in developing their technical and institutional capacity so that they can engage effectively with the commercial sector as equal partners and collectively increase their market share.

Koi farm booms

A fish farm that helped Japanese stave off starvation in the aftermath of World War II has recently been inundated with orders from new-rich Asians seeking to decorate their homes. Oishi Fish Farm in Fukuyama, Hiroshima Prefecture, gained fame after it was described in Masuji Ibuse's novel "Black Rain," which was based around the atomic bombing of Hiroshima. Black carp were raised as a valuable source of protein in the immediate postwar days. But today, the fish farm cultivates nishikigoi (Japanese carp or "koi") for ornamental purposes, and now its orders from abroad have nearly caught up to domestic ones, which remain sluggish due to the recession.

The four-hectare farming grounds are home to 70 large and small ponds fed by subterranean water. The overseas orders come mainly from the wealthy in China, Indonesia, Taiwan and other parts of Asia. They accounted for 45 percent of the nearly 100 million yen (\$1.2 million) in sales the farm booked last year. "Twenty years ago, orders from abroad didn't even account for 10 percent of our sales," said the farm's operator, Masaaki Oishi, 57. In late October, a Chinese trading house manager and five subordinates from a Malaysian trading company visited the farm for the first time. They bought 300 nishikigoi, each about 60 centimeters in length, for 9 million yen. The Chinese manager, in his 60s, is a huge fan of the carp. He e-mailed Oishi Fish Farm out of the blue and has completed four transactions to date. In the beginning of November, buyers from Indonesia and Thailand also visited the farm. The most expensive fish sold so far went to a Hong Kong industrialist who paid 10 million yen.

"Foreigners like carp that are on the plumper side," Oishi said. "Compared with buyers in slumping Japan, (foreign buyers) are prosperous. I was surprised to see them spare no expense." Although the farm has received overseas orders for about 20 years, the last five to six years have seen a surge in the number of Asian customers. Keeping nishikigoi is a status symbol in Japan, especially since former Prime Minister Kakuei Tanaka was repeatedly shown on TV feeding his nishikigoi in a pond at his residence in Tokyo's Meguro Ward. According to Oishi, wealthy Chinese and others who raise nishikigoi at their homes or luxury holiday villas are becoming more commonplace. He also said technical journals about the fish are selling well in China. Japan has about 500 fish farm operators, mainly in Niigata and Hiroshima prefectures.

The All Japan Nishigoi Promotion Association, headquartered in Ojiya, Niigata Prefecture, said demand for nishikigoi has also risen in the United States, Germany and other Asian countries in recent years. "Although the fish are also being cultivated overseas, nishikigoi lovers from abroad covet fish raised in Japan because of the exemplary colors, patterns and shapes that result from the highly-skilled techniques employed in their cultivation here," an official said. Oishi's now-deceased father, Shigemi, started Oishi Fish Farm soon after the end of World War II. He loaded up the fry and sold them from a charcoal-powered car. In Inbuse's "Black Rain," the story's central characters return to their hometown after the atomic bombing of Hiroshima and raise carp in a pond to supplement their diets. After the war, when food was scarce, Oishi Fish Farm raised black carp for food. In the 1960s, the farm switched and began raising nishikigoi.

<http://www.asahi.com/english/TKY201012120123.html>

Oysters & Mussels



Improved biosecurity for oysters in Europe urgently needed

By Aquafeed.com Staff

Improved biosecurity in the oyster aquaculture industry in Europe urgently needed, EFSA report concludes. EFSA has published a scientific opinion on the risk factors linked to increased mortality among Pacific oysters in some Member States since 2008. The Panel on Animal Health and Welfare concluded that oysters older than 18 months can be a source of virus and it is not safe to transfer oysters older than 18 months from affected areas to areas not affected by increased mortality events.

The panel recommended that to best promote and preserve high health status and in particular to prevent and/or control increased mortality, measures are urgently needed to improve the general level of biosecurity in the oyster aquaculture industry in Europe. Furthermore to minimize the risk of subsequent transfer of infectious agents from hatcheries and wild-caught spat, there is a need to establish the health status of oyster spat at source. An assessment of the health status should include results of regular batch laboratory testing (at least in regards to OsHV-1, ref strain and μ var, *Vibrio* species, and histopathological examination) and epidemiological assessment.

Improved diagnostic methods should be developed to check for the presence of OsHV-1 μ var and other strains. The methods for detection of OsHV-1 (including different strains) need to be validated and harmonized. Relevant genomic information of the OsHV-1 μ var virus should be obtained for a better characterization of the strain in order to i) perform phylogenetic studies, ii) improve diagnosis iii) investigate potential for increased infectivity and virulence. The phylogenetic relationship of OsHV-1 strains should be investigated. Clear criteria for viral strain differentiation taking in account genotype and epidemiological criteria are necessary.

To better understand existing and emerging health problems, a robust health surveillance system for Pacific oyster production in Europe is needed. Well designed epidemiological research studies, including comparison studies, in order to determine the potential importance of infectious agents and other environmental factors on increased mortality in Pacific oyster are necessary.

For full article plus link to original report:-

[http://www.aquafeed.com/read-article.php?id=3634§ionid=5&utm_source=Aquafeed+English+Newsletter&utm_campaign=702f8ef27c-Aquafeed Newsletter 11-18-10&utm_medium=email](http://www.aquafeed.com/read-article.php?id=3634§ionid=5&utm_source=Aquafeed+English+Newsletter&utm_campaign=702f8ef27c-Aquafeed+Newsletter+11-18-10&utm_medium=email)

Shrimp and Prawns



Process Of Creating Global Standards For Shrimp Enters Final Stage

The process used by the ShAD and the seven other Aquaculture Dialogues coordinated by WWF is the only one for aquaculture standard-setting that seeks to be in compliance with the International Social and Environmental Accreditation and Labeling Alliance's guidelines for creating environmental and social standards.

"The development of robust standards and certification schemes that can help consumers and businesses make more informed and better choices, and also inspire producers to improve their practices, is becoming essential in our increasingly complex global farmed seafood industries," said GSC member Peter Bridson of the Monterey Bay Aquarium's Seafood Watch Program.

The standards will also be performance-based and, as much as possible, metrics-based, thereby encouraging innovation at the farm level.

The ShAD standards will be given to the Aquaculture Stewardship Council (ASC) to manage when that entity is in operation. WWF is helping to create the ASC, which will be responsible for working with independent, third party entities to certify farms that are in compliance with the standards being created by participants of the Aquaculture Dialogues.

<http://www.perishablenews.com/index.php?article=0011327>

Tilapia

One of World's Largest Indoor Fish Farms Hopes to Expand

One of the world's largest indoor fish farms is getting ready to get bigger. Blue Ridge Aquaculture in Martinsville currently produces 4 million pounds of Tilapia a year. Right now, they're looking for investors to expand. Bill Martin, CEO, says that in another two or three years, they plan on opening another facility that will produce 10 million pounds of tilapia a year. That would mean about 100 jobs for the area. Martin says tilapia is growing quickly in popularity. He believes farming fish is the safest way to raise them.

The fish are fed a high protein diet. He says they're also looking into feeding them algae, which would help increase omega 3s in the fish. He and Vice President Jim Franklin say with farm-raised fish, there's no mercury or toxins. "We don't use antibiotics so the fish are healthy they have no exposure to pesticides which they could be exposed to in the waters in the wild," said Franklin.

They have hopes to expand quickly. Martin says they want to be the first in the U.S. to package tilapia. "Virtually 80 percent plus of the seafood we eat in the United States is imported. Virtually none of that is inspected. Not a good thing. We want to grow it here and have it inspected here," he said. Martin says they want to have as little impact on the environment as possible. Right now, they're working on a methane generator to burn waste and supply power to run the building. They plan to use what's left over to grow algae.

<http://www.wset.com/Global/story.asp?S=13626488>

Bacteria that consume MT residues

By Natalia Real of FIS

Bacteria could protect tilapia farmers and nearby ecosystems. Mexican researchers have discovered that three common bacteria species voraciously eat the potentially dangerous steroid methyltestosterone (MT) which aquaculture farmers use to change the sex of their tilapia. The finding may lead to a safer environment for workers as well as residents and wildlife near farms, and has a global reach because tilapia is raised in over 100 countries, reports EP Magazine.

Tilapia farmers add MT to the powdered fish food they give tiny tilapias, or fry, daily for three to four weeks to turn them into males. Males are desirable because they grow faster than females and to prevent reproduction by keeping one sex only. Fry swallow MT and then excrete it back into the water.

Fish biologist Wilfrido Contreras Sanchez, who heads the biological sciences division at the Autonomous Juarez University of Tabasco where the bacterial research was done, is concerned that the steroid's residue might impair the health of workers who enter the water to gather juvenile fish. Further, many farmers discharge the tainted tank water into natural bodies of water where it might harm wildlife. The health of locals who swim in or wash their clothes in the waters might also be jeopardised, he said. How the use of MT in aquaculture could affect humans or wildlife is largely unknown, he said.

Contreras is hopeful that the bacteria in the study will eradicate potential dangers if added to the water filters in the tanks in high enough amounts. The team intends to run additional experiments to determine how many bacteria to use, what species to use and how long to let them eat. The university may then be able to grow heaping quantities of the selected bacteria and sell the microorganisms to tilapia farmers in the form of a concentrate. Another finding that was also achieved by the researchers: the fish in the tanks with *P. aeruginosa* weighed more than the fish from tanks without the bacteria. *P. aeruginosa* could be one species that boosts growth in aquaculture systems.

The research received funding from Oregon State University, the University of Arizona, the Autonomous Juarez University of Tabasco and the US Agency for International Development through its AquaFish Collaborative Research Support Programme.

Trout and Salmon



Trout that can breed at 20 degrees C!

Trout capable of reproducing in warm water have been bred in Russia. The new breed of this delicious fish is the fruit of many years of work done by the experts at the "Adler" fish farm in the city of Sochi. Now experts are preparing the papers for registering copyright.

The new breed of rainbow trout spawns at the end of summer. During this period, water temperature even in mountain rivers, where the trout traditionally lives, rises to 18-20 degrees. This fish does not spawn at such a temperature anywhere in the world, it needs water no warmer than of 7-8 degrees. However, after many years of work, the Sochi experts managed to breed a unique trout which is happy even at 20 degrees.

The period of spawning for the trout depends on the latitude of its location, the absolute height above sea level and the water temperature. In northern countries, spawning begins in the middle of

September, in Western Europe it continues until January and even the end of February. “Our trout spawns much earlier in the year, we have been breeding it for 14 years,” – Victoria Yankovskaya, the chief breeder of the “Adler” fish farm explained to “The Voice of Russia”.

“The need for this breed stems from the fact that the growth cycle in this case is cut down to 9-10 months. It means that in 10 months we can get a marketable fish weighing 250 to 300 grams. There is a large market for this fish”.

Breeders are confident that this early-spawning trout will enable them to increase the population of these valuable inhabitants of mountain rivers. At present, fish breeders in Sochi produce 20 to 25 million grains of roe a year. The roe ripened in incubators is sent to 90% of Russian fish farms which breed the trout.

The Sochi trout farm, which is over 30 years old, has created a gene pool of the most valuable and promising kinds of fish bred at different latitudes. By crossing the steelhead trout with the rainbow trout, experts got an absolutely new breed, the Adler trout, capable of living both in fresh and salt water.

Market opportunity for wild Salmon diminishing

A window of opportunity to increase Alaska salmon sales, which producers suggested last spring might be open as long as four years, is beginning to close. The Chilean salmon farming industry is recovering more quickly than expected from a viral epidemic that struck in 2009, meanwhile Pacific salmon farming in closed containment freshwater tanks is starting in China.

The window opened in 2009, when an epidemic of infectious salmon anemia slashed production from the 20-year-old Chilean fish farming industry from a peak of about 650,000 metric tons in 2008 to barely half that in the past two years.

Full story at:-

http://www.alaskajournal.com/stories/111810/fis_mwc.shtml

GM Salmon approval

When the Food and Drug Administration announces the fate of the AquaAdvantage salmon, the first genetically modified (GM) animal ever considered for commercial consumption, they may have considered only a fraction of their decision’s consequences. So far the FDA has focused on whether or not the salmon are safe to eat or might escape and breed with wild fish. They haven’t yet considered how GM salmon could affect, for better or worse, public dietary habits or the fallout of a boom in fish farming.

“The way they’re defining safety is overly narrow,” said Martin Smith, an environmental policy analyst at Duke University and co-author of a Nov. 18 commentary in the journal *Science*, of the FDA’s approval process. The modified fish is produced by AquaBounty, a Massachusetts-based company which, for more than a decade, has asked the FDA to approve their proprietary breed: an Atlantic salmon with growth-stimulating genes spliced into its DNA from Chinook salmon and ocean pout. On a tissue-for-tissue basis, the FDA has deemed AquaAdvantage flesh to be little different from farmed or “natural” salmon, though critics argue the agency has relied on possibly skewed data provided by the company itself. Critics also share concern about AquaAdvantage salmon escaping and interbreeding with wild salmon, potentially eradicating a majestic portion of the living world’s heritage. The GM fish would, however, be sterile and — at least in the beginning — grown inland, far away from any coastline.

As far as interbreeding goes, well-regulated GM salmon would seem less threatening than farmed salmon, which are already spreading disease and genetic homogeneity among endangered wild populations.

But that only covers a portion of the issues raised by GM salmon. Just as the FDA was blamed for being short-sighted in its initial approvals of GM crops, by failing to anticipate the inevitable spread beyond farms of modified genes and proteins, they may again be avoiding the larger and long-term ramifications of a biotechnological innovation. Smith and his colleagues aren't taking a side. They just want the FDA to do the job right. "We're arguing that they need to think about what this innovation is doing," Smith said. "This is not just about GM salmon. This is about the next transgenic animal for human consumption, and the next after that." One unconsidered possibility may actually be of great benefit to the public. Should AquaAdvantage salmon prove commercially viable, growing faster on less food than their farmed counterparts, total salmon production could rise dramatically and drive down their price to consumers. As a result, people might eat more salmon, ostensibly using it to replace less-healthy meats in their diet. Given the apparent benefits of eating omega-3 fatty acid-rich fish, that could be a boon to public health.

"GM salmon could put fresh salmon in reach as a protein source for low-income households susceptible to conditions linked to poor nutrition," Smith's team wrote in *Science*. GM salmon farming could, however, become so widespread that demand for feed becomes unsustainable. Like other high-level predators, salmon subsist on large amounts of protein. It already takes about three pounds of wild fish to produce one pound of farmed salmon, and salmon farming consumes a full 40 percent of global fish oil production. Many ocean fish populations are already over-fished, with base-of-the-food-web populations of small fish, once thought inexhaustible, collapsing under demand for fish meal. A boom in salmon farming could make the problem worse.

"Nobody can predict the future, but you can look at studies of demand for farmed salmon, and come up with some reasonable scenarios," Smith said. "More importantly, you'd set up a precedent for how to think about these innovations."

The FDA's public comment period ends soon, and a decision on AquaAdvantage salmon could come before the year's end. Other genetically modified animals in the food industry's pipeline include pigs and cows.

<http://www.wired.com/wiredscience/2010/11/genetically-modified-salmon/>

Other



Giant groper ready for culture

By Daniel Bateman in the Cairns Post

They are among the biggest fish on the Great Barrier Reef, and they are coming soon to a plate near you. Australian State Government scientists have been growing giant Queensland groper in 30,000 litre research tanks at Portsmith in an attempt to develop the fish into a high-yield aquaculture crop. The scientists recently marked a major milestone in their three year-long project by spawning groper larvae and successfully rearing them to the juvenile stage, all in captivity.

This means the baby gropers, measuring 2.5mm long, will be transferred to commercial fish farms between Cairns and Ingham for further growth trials, where they will reach their 2.7m long adult size. Northern Fisheries Centre aquaculture scientist Adam Reynolds said the Queensland groper had shown strong market potential in South-East Asia as a fast-growing, delicious fillet fish. In China, giant groper have been selling for up to \$14kg at farm gate prices.

"These guys are expected to be our primary species that will replace the work we've done on other species," Mr Reynolds said. "They produce a very nice white fillet. They're eaten in either plate-sized animals such as barramundi ... up to larger animals which are suitable for producing a fillet product." The Queensland groper is one of the largest fish on coral reefs, and a protected species within the Great Barrier Reef Marine Park. Researchers were permitted to catch about 23 young groupers in the wild at Weipa as broodstock and transferred to the fisheries centre where they have each grown between 20-40kg. Trials showed Queensland groper grew faster than other grouper species, with potential to reach a commercial product six to eight months after entering their grow-out phase. Mr Reynolds said previous aquaculture projects had shown successful production of gold-spot grouper, flowery grouper and coral trout since 2002.

http://www.cairns.com.au/article/2010/12/13/140031_local-news.html

Feeds

PetroAlgae proteins can be utilized at 100 percent for tilapia feed

In Florida, a third party study done by the Aquaculture Research Institute at the University of Idaho has found that PetroAlgae protein concentrate (PPC) produced as a co-product along with the renewable fuel feedstock by the company's micro-crop technology system can replace menhaden fishmeal protein at levels up to 100% in feeds for tilapia.

The study also found that PPC would be suitable as a fishmeal replacement for other farmed fish species. According to the study, tilapia is one of the largest-volume farmed fish species, and tilapia production is expected to grow from 2.8 million tons to more than 9 million tons by 2020, requiring 13 million tons of feed (up from 8 million tons in 2010).

According to PetroAlgae, "The International Fishmeal and Fish Oil Association, a trade body, estimated that each ton of fishmeal travels an average of 5,000 kilometers to reach its end-user in the aquaculture industry. By comparison, PPC allows for a shortened supply chain and reduces business risk, because micro-crop farms using PPC can be sited locally, close to consumption centers."

More:-

<http://biofuelsdigest.com/bdigest/2010/11/05/petroalgae-proteins-can-be-utilized-at-100-percent-for-tilapia-feed/>

Alternative feed ingredients

In an interview the founder of groundbreaking fish feed company, Dragon Feeds, talks candidly about the urgent need for change in the aquaculture industry and explains why his own product offers a sustainable alternative to traditional fishmeal. Dragon Feeds began looking at ways to produce sustainable aquaculture feeds around 10 years ago. Following five years intense research and development work, the UK company unveiled its unique fishmeal alternative, which combines its own farm-produced *Nereis virens* polychaetes, also known as ragworms, with vegetable proteins.

Today, Dragon's feed project has caught the imagination of the entire seafood supply chain – from fish farmers to top chefs and consumers – with one notable exception: traditional fishmeal manufacturers. Managing director Tony Smith is happy to take the plaudits but with traditional fishmeal stocks under immense pressure he tells World Fishing & Aquaculture he's both

astounded and disappointed that no other feed companies have so much as spoken to him about his product.

Full story at:-

<http://www.worldfishing.net/news101/exclusive-q-and-a-with-tony-smith,-dragon-feeds>

Food Outlook publication available from FAO

The new issue of FAO's Food Outlook providing market analysis on the major food commodities in world trade is now available. The publication provides market analysis on the major food commodities in world trade. The next issue of Food Outlook will be published in June 2011.

Download the report (PDF) [Download the report](#)

This report is also available on <http://www.fao.org/giews/english/fo/index.htm>

Feed manufacturer publishes magazine

A global aquaculture feed supplier, EWOS has published a new edition of its Spotlight magazine. The new magazine is dedicated to meeting the challenges of customers' demand for cost efficient fish feeds, with a lower proportion of the marine raw ingredients that have traditionally been used to ensure high performance. Intensive fish farming relies upon fishmeal and fish oil, but the supply of these ingredients is static or declining. This means that our reliance on marine resources in fish feed must be reduced, and that future increases in salmon and trout production must be matched by a decrease in the use of fishmeal and oil.

Click here to view

http://www.ewos.com/portal/wps/wcm/connect/2464278044dc6863b2e1f319f7d72264/Spotlight_02_2010.pdf?MOD=AJPERES&CACHEID=2464278044dc6863b2e1f319f7d72264

Regional Roundup

Mauritians announce plans to invest in Mozambican aquaculture

From Growfish

A business group from Mauritius has announced plans to invest US\$1.2 billion in Mozambican aquafarming to produce 60,000 tonnes of fish in two Maputo province districts, reports the Maputo-based daily Noticias. Citing Mozambican Fisheries Minister Victor Borges, the newspaper states that the country has the potential to produce 2 million tonnes of various kinds of fish using aquaculture processes, though current production is no more than a thousand tonnes, or 0.05 percent. During a Mozambican government seminar to present the country's potentials in the sector, Mauritius's Fisheries Minister, Von-Mally Joseph, said his country aimed to make use of the investment incentives Mozambique was offering.

Borges acknowledged that national fishing production "is below its potential" in Mozambique, since the country only produces 150,000 tonnes per year, about 45 percent of what it is possible to

produce. The Mozambican government is undertaking a number of actions to increase production, specifically meant to attract more investment with a view to reaching other markets and not just the European Union, currently the main destination of national fish exports. The fishery sector currently accounts for 2 percent of the country's gross domestic product (GDP) and 4 percent of its overall exports. Fish is the fifth most commercialised product abroad.

The government recently approved the Fisheries Master Plan for 2010-2019, whose immediate aim is to enhance the sector's contribution towards improving the population's food and nutritional security. The plan also aims to improve the quality of life of artisanal fishermen and small-scale fish farmers, besides increasing the sector's contribution to the country's economic and social development and a better balance of payments.

http://www.growfish.com.au/content.asp?contentid=15209&utm_source=Aquafeed+English+Newsletter&utm_campaign=a60eda7e19-Aquafeed+Newsletter+11-04-10&utm_medium=email

Kenyan Fish farmers embrace technology to boost yields

By Bob Koigy in the Business Daily

Behind government funding to dig fish ponds, in an agricultural stimulus modeled on an Indonesian programme, is a Kenyan innovation set to make the scheme more productive than its Asian forebear — thanks to a farmers' group now monitoring fish ponds by satellite from a control centre built to steer the venture to maximum productivity. As a global first, the Liquari Fish Farmers Self Help Group's pilot project could transform the output from the government's Sh1.12 billion investment in aquaculture. Kenya's potential to produce fish, according to the Ministry of Fisheries, amounts to 1.4bn hectares of potential fish farming area, with capacity to produce 11m tonnes a year worth Sh50 billion.

Yet, two years ago the country was producing just 4,220 metric tonnes a year on 772 hectares. It's a sum that last year saw the Ministry pour Sh8m into each of 140 constituencies for the digging of 100 fish ponds per constituency. Progress reports suggest that many constituencies in Western province have already reached the 100 ponds target, and most are now well advanced into aquaculture. Turning the ponds into profitable fish farms is key to delivering the pay-back conceived by the Government.

Chief fisheries officer Sammy Macharia says the project can spur economic growth. "In the next two years, we envisage that through the stimulus programme the sub-sector will be contributing at least Sh4bn annually to the economy. This is a gold mine," he said in an earlier interview.

And such early results are borne out by the Indonesian model. When the country focused on funding aquaculture expansion in 2004, it managed to increase fish production from one million tonnes to seven million today. But with the Indonesian government having recently pulled out of the fish farming project, fish farmers are struggling to maintain the farms, many of which are falling into disuse.

Full article at:-

<http://www.businessdailyafrica.com/Corporate%20News/Fish%20farmers%20embrace%20technology%20to%20boost%20yields/-/539550/1058538/-/41yjtoz/-/>

EU trade program to assist Kenyan aquaculturists

From FIS by Natalia Real

The failure of small-scale farmers in Kenya to meet international standards is hindering a campaign designed to boost fish exports. However, EDES - a trade scheme funded by the European Union (EU) that assists developing states in the reinforcement and adjustment of regulatory regimes to satisfy rigorous quality demands of European markets - has decided to help Kenya.

“Kenya was picked as a test country in the region because of its long association and high volume of trade with EU,” explained Marie Josee, EDES’s head of information and communication. The EU’s traceability requirement mandates that the quality of all imported food items be tracked throughout their value chain, Business Daily reports. “Transporters and processors in the country have the capacity to maintain high safety standards required for food items, but for us to meet the traceability demand there needs to be a policy framework to assist artisanal fishers to operate within the required standards,” told Beth Wagude, CEO of the Kenya Fish Processors and Exporters Association (AFIPEK).

Kenya’s Fisheries Development Ministry believes that the majority of the more than 2 million people working for the industry are small scale operators who do not meet the quality standards due to ignorance or lacking aptitude. For example, even though traceability standards demand that fishing boats carry ice containers, the boats used by freshwater fishers are too small to fit them.

“While these quality measures are stringent, I am glad that the European Commission (EC) has shown confidence in Kenya’s ability to comply and make us an ‘approved exporter,’” said Professor Japhet Micheni, the Fisheries Development Ministry PS.

EDES will assess Kenya’s food production chains and recommend technical and financial support for modifications that will help the industry export its products to the EU.

Exports of fish products in 2009 yielded KES 3.5 billion (USD 41.8 million) – an amount the government wishes to expand threefold via greater production and observance of global quality standards. It is expected that the country’s fish production capacity will escalate once farmers start raising tilapia in the numerous fish ponds created under the government’s economic stimulus package. “There needs to be a regulatory policy framework to ensure that the quality of water, fingerlings, and feed that farmers use meet the international threshold,” said Wagude.

“Aquaculture has the ability to reduce pressure on the few sources, fresh water and marine, that have traditionally borne the brunt of overfishing,” stressed Dr Richard Abila, deputy director of Kenya’s Marine and Fisheries Research Institute.

<http://www.fis.com/fis/worldnews/worldnews.asp?monthyear=&day=22&id=39333&l=e&special=&n db=1%20target=>

Related article at:-

<http://www.businessdailyafrica.com/Corporate%20News/-/539550/1056216/-/11ncufaz/-/>

Fusion Marine pens installed at new Ghanaian tilapia farm

Fusion Marine has completed the installation of a fish farm in Ghana for tilapia. Production on the farm on the Volta River is envisaged to be in the region of 275 tonnes of fish per year with output expected to increase further in a couple of years’ time.

The project for Volta Rapids Tilapia Ltd has been in the pipeline for the past three years and required two site visits by fish farm specialists, including Fusion Marine aquaculture consultant

Carmelo Agius, to find a suitable location that met the correct environmental criteria. The chosen location was just downstream from the hydroelectric power Akosombo Dam on a stretch of the river where the flow was judged ideal, thanks in part to the controlling influence of another dam lower down the river at Akuse.

This farm, which employs local fishermen, consists of three Fusion Marine Aquaflex 40m circumference polyethylene pens and two 70m pens. As far as it is known, these latter two pens are the largest currently found on a freshwater site in Africa. The first young tilapia were stocked at the beginning of October with a regular input of fingerlings planned to ensure steady production. It is planned to build a commercial hatchery next to the farm in two years time so as to provide an efficient and integrated production chain. Fusion Marine project consultant professor Carmelo Agius said: "It is great to see state-of-the-art fish farm pens appearing on a commercial scale in West Africa. For decades very small and rudimentary cages have been used up and down this part of Africa; their small size and home made structure make them very laborious and risky to manage. They also entail huge amount of maintenance work.

"The Fusion Marine pens will enable the industry to pitch itself at a different level of operation altogether and catalyse the introduction of modern management strategies in this fledgling industry throughout Africa."

He added: "There is a good market for tilapia in Ghana and the fish are currently fetching a good price. The marketing prospects also look good for neighbouring countries."

<http://www.worldfishing.net/news101/fusion-marine-pens-installed-at-new-ghanaian-fish-farm>

Namibian Aquaculture yields an inadequate output

Factors including insufficient skills and technology shortages have kept the Namibian Government from achieving desired results in different aquaculture initiatives, said Marine and Fisheries Minister Bernhard Esau. He said domestic aquaculture is in its incipient stages and yielding little output.

Introduced by the ministry in 2000, aquaculture has barely developed - mainly because of lacking skills, technology and funding that have kept projects from expanding and providing sustainability, income and food security.

Esau gave his statement while visiting the Mpungu Fish Farm at Nkurenkuru and its harvest of about 1.5 tonnes of tilapia. The farm produces 80 tonnes of fish yearly - an amount so low that it does not turn out enough money to uphold the communities and cooperatives operating the farms, reports New Era.

<http://www.fis.com/fis/worldnews/worldnews.asp?monthyear=&day=25&id=39405&l=e&special=&n db=1%20target=>

Environment, Health and Disease issues

Disease hits New Zealand oysters

Puzzled scientists are battling to identify why millions of Pacific oysters are dying in New Zealand waters. Up to half of the juvenile Pacific oyster stocks in the North Island are thought to have died, and up to 10 per cent of the adults, according to Oyster Industry Association chairman, Callum

McCallum. Aquaculture New Zealand said up to 80 per cent of juvenile oysters on some farms have died.

The European Food Safety Authority (EFSA) has called on animal health experts for a scientific opinion on widespread die-offs of Pacific oysters, *Crassostrea gigas*.

Acting on a request from the European Commission, the EFSA has specifically asked whether the juvenile stocks may have been killed off by a combination of a herpes-like virus - Ostreid Herpesvirus-1 (OsHV-1) - and environmental factors. In Britain, the movement of oysters from parts of the Kent coast has been banned after the herpes decimated juvenile Pacific oyster stocks. The OsHV-1 virus has wiped out stocks in France in recent years, and Britain has declared a containment area on the Thames and north Kent coasts. A spokeswoman for the Centre for Environment, Fisheries and Aquaculture Science (CEFAS) said: "OsHV-1 is an emerging disease that has been associated with high levels of mortality in Pacific oysters in France, Jersey and some bays in the Republic of Ireland.

In 2008 France's main marine research institute, French Research Institute for Exploitation of the Sea (Ifremer), set up a crisis team which found 40 per cent to 100 per cent of oysters aged 12 to 18 months were dying from the oyster herpes. Scientists found that an increase or a sudden change in the water temperature was an important risk factor, but the introduction of non-certified possibly-infected spat, movements and mixing of populations and age groups, among other husbandry practices, were key risk factors. European authorities want increased biosecurity measures in their oyster aquaculture sector and tests on the health status of oyster spat before it is collected for farming.

Mr McCallum said restrictions had been placed on the movement of oysters into the few North Island bays where farms were not affected or to the South Island. Until this year, around 3.5 million dozen Pacific oysters - around 2800 tonnes - were harvested annually in New Zealand's \$30 million industry, with the majority exported, mainly to Australia and Asia, but about half of the oysters due to be exported next year are now dead.

"Stocks [for next year] are going to be reduced considerably," Mr McCallum said.

Aquatic disease specialists had taken approximately 250 samples for analysis, and Ministry of Agriculture and Forestry response manager Richard Norman said speculating on the cause of the deaths would be premature

http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10691614



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Research matters, Reviews & Training

Communal rearing - DNA pooling in aquaculture genomic selection schemes

Abstract

Traditional family-based aquaculture breeding programs, in which families are kept separately until individual tagging and most traits are measured on the sibs of the candidates, are costly and require a high level of reproductive control. The most widely used alternative is a selection scheme, where families are reared communally and the candidates are selected based on their own individual measurements of the traits under selection. However, in the latter selection schemes, inclusion of new traits depends on the availability of non-invasive techniques to measure the traits on selection candidates. This is a severe limitation of these schemes, especially for disease resistance and fillet quality traits. Here, we present a new selection scheme, which was validated using computer simulations comprising 100 families, among which 1, 10 or 100 were reared communally in groups. Pooling of the DNA from 2000, 20000 or 50000 test individuals with the highest and lowest phenotypes was used to estimate 500, 5000 or 10000 marker effects. One thousand or 2000 out of 20000 candidates were preselected for a growth-like trait. These pre-selected candidates were genotyped, and they were selected on their genome-wide breeding values for a trait that could not be measured on the candidates.

A high accuracy of selection, i.e. 0.60-0.88 was obtained with 20000-50000 test individuals but it was reduced when only 2000 test individuals were used. This shows the importance of having large numbers of phenotypic records to accurately estimate marker effects. The accuracy of selection decreased with increasing numbers of families per group. This new selection scheme combines communal rearing of families, pre-selection of candidates, DNA pooling and genomic

selection and makes multi-trait selection possible in aquaculture selection schemes without keeping families separately until individual tagging is possible. The new scheme can also be used for other farmed species, for which the cost of genotyping test individuals may be high, e.g. if trait heritability is low.

See:-

<http://www.gsejournal.org/content/42/1/41>

<http://www.gsejournal.org/content/pdf/1297-9686-42-41.pdf>

Global report on Aquaculture and Inputs

World demand for aquaculture supplies and equipment is projected to exceed \$80 billion in 2014, buoyed by increasing aquaculture production and consumer demand for fish. Commercialization of farming across the world and increasing intensities of production will necessitate the use of commercial grade feeds, chemicals and biologicals as well as more mechanization on fish farms. Farmed fish will continue to meet the supply gap as fish demand outpaces wild fish capture. Demand for fish is expected to continue to outpace growth in other global food sources such as livestock and agriculture. Almost 50 percent of the fish produced by 2014 will be farmed. Finfish like carp and tilapia and shellfish like shrimp will dominate aquaculture production.

Asia/Pacific is projected to account for over 80 percent of global demand for aquaculture supplies and equipment in 2014. Of this, China alone will consume three fourths of the total. This is in direct correlation to the region's global dominance in aquaculture production. Several factors contribute to the huge aquaculture production turnover from Asia: a long coastline; tropical and temperate weather suitable to rearing aquatic species; low labor costs in a hitherto labor intensive industry; strong local demand as well as export competitiveness; integrated farming practices enabling multiple crops and better land and resource utilization; and a growing manufacturing base for supplies and inputs.

Demand of aquaculture supplies and equipment in all other regions will increase as well with the highest growth in Africa/Mideast at 13 percent annually and lowest in North America at 8 percent per year. North America is projected to have the highest unit value of aquaculture supplies and equipment as both the cost of production and input costs are higher here than in other parts of the world.

Aquafeeds are expected to remain the largest product category. Feed demand overall for each species will be commensurate with the growth in production of that species. However, industrially produced feed demand will be higher than that for farm made feeds. The global feed market is projected to reach 37.5 million metric tons by 2014. Other significant supplies and equipment expected to register good growth include chemicals and biologicals, specifically water treatment products and feed additives. As farming becomes more intensive and industrialized across the world, farmers will have to resort to using external water treatment inputs to maintain good pond ecology and animal health. The pressing need to reduce dependence on fishmeal in aquafeeds and improve the efficiency of feeds will make feed additives a necessary inclusion in production practices.

To order the report (for a fee)

http://www.reportlinker.com/p0330491/World-Aquaculture-Feed-Equipment-Chemicals.html?utm_source=prnewswire&utm_medium=pr&utm_campaign=prnewswire

Or email nbo@reportlinker.com

Conferences and Upcoming events

Asia's Largest Aquaculture and Ornamental Fishes Show

Aqua Aquaria India 2011.

From 6th-8th February, 2011, at Chennai in India.

Website: www.aquaaquaria.com

Email: info@aquaaquaria.com

Seafood and Processing Expo - London

London Seafood Expo and Seafood Processing Expo 2011

From 28 - 30 June, 2011 at ExCel London

Email: orangex@emirates.net.ae / nafees@orangeairs.com

Web Site: www.londonseafoodexpo.com