



IFFO
THE MARINE INGREDIENTS ORGANISATION

February 2017 Issue 289



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A visitor from another planet who happened to drop in to an IFFO conference would think humans were mostly male, mostly over 30 (some would say 50) and believers in old fashioned talking face to face – getting to know people, rather than just using technology to communicate. Any of us with teenage children will have seen talking being overtaken by sending texts or other digital messages via the permanently-to-hand smartphone, even if the receiving person is in the same room. A teenagers' day can be made or destroyed by the digital drip onto their Facebook page.

President Trump knows all about this and over 20 million people know his thoughts in the time it takes to hit 140 characters on a keyboard. While IFFO

members may not be quite at this level, we need to move with the times. Social media is part of daily life for better or worse so we are asking members if you would like us to have a social media presence. The golden rule is “don’t start into social media unless you can resource it properly” – having unanswered comments or questions on a Facebook page is a good way of looking unprofessional. Resource means cost so this is one of the questions in our annual Member Survey, along with the tracking questions we ask each year to make sure we are delivering a good service. Should we invest in some additional resource at IFFO or leave it to our teenagers?

As a half-way house, we have just launched a new Members’ Forum where questions or comments (not advertisements) can be posted by members wanting to share information. Please take a minute to look at the Forum on our [website](#) and join in. While you’re

there, check out our new Infographics feature for the latest trade statistics (in the members area, market intelligence section).

By the time we see hopefully many of you at the IFFO Members Meeting in Barcelona (1st – 3rd May, registrations are now open at www.iffoevents.com), we may have some answers. I have a feeling that if our interplanetary visitor was there, he/she/it would agree that a real conversation works a lot better than a tweet, but social media allows wider communication for some of those times when we can’t be face to face. Please let us know what you think.

Andrew Mallison

Director General

ANNOUNCEMENTS

IFFO Members’ Meeting—Registration now open



This year’s Members’ Meeting will be held in sunny Barcelona and will include the usual packed programme giving attendees a succinct industry update with lots of networking opportunities. Registrations are now open via www.iffoevents.com and includes information about the hotel, program and an online registration form. The event dates are:

- Monday 1st May - IFFO Management Board meeting
- Tuesday 2nd - Wednesday 3rd May - IFFO Members' Meeting

Registrations can only be accepted online and paid via credit card using the online payment system, SagePay. Deadlines for registration are as follows:

- ‘Early Bird’ registration until Friday 24th March
- Registrations with accommodation until Friday 24th March
- Final registrations without accommodation until Friday 21 April

We recommend that you register as soon as possible as rooms are available on a first-come first-served basis. If you are interested in sponsorship then please contact secretariat@iffo.net.

We look forward to seeing you in Barcelona!

New IFFO China Office Manager & Executive Assistant



IFFO is pleased to welcome Ms. Qiwen Zhang as Office Manager and Executive Assistant to

IFFO's China Director, based in our Beijing office. Qiwen has a Master's degree in International Business from the University of Leeds (UK). Before joining IFFO, Qiwen spent two years at the Chinese Consulate General in Lyon (France) as an Assistant of Consular Affairs and Diplomatic Affairs. Qiwen is

familiar with non-for-profit organizations from her work as a project manager and interpreter at China Federation of Logistics and Purchasing for over 3 years.

Invitation to provide input on the full draft of the version 2.0 of IFFO RS Responsible Supply Standard



In order to maintain the credibility and relevancy of its leading standard, the IFFO RS Governance Board ratified a proposal to review and enhance the IFFO RS programme through the development of 'Version 2.0'. The IFFO RS certification process includes two key components: the fishery assessment, and the factory assessment. The development of Version 2.0 includes a thorough review of both and these (excluding the new Mixed Fishery Criteria) are ready for Public Consultation via our [website](#) for a period of 60 days beginning 16th January 2017.

To continue with this key next stage in the development of Version 2.0, IFFO RS Ltd. has produced a draft of the revised full standard that consists of the fishery assessment methodology, fishery and factory assessment criteria (excluding Mixed Fishery Criteria). A public consultation feedback submission form (excel format) has been developed in order to provide a user friendly way for

stakeholders and other interested parties to provide input on the development. The purpose of this public consultation is to obtain input from a wide range of stakeholders and interested parties on the proposed standard and to inform about the continuing development of Version 2.0.

Many of the proposed changes for Version 2.0 are with regards to the fishery assessment methodology that aims to facilitate the assessment by improving the Standard's consistency and ability to tackle fisheries with multiple species, or which have lower levels of information available; the addition of Good Manufacturing Practice clauses and revised social and environmental criteria into the factory audit. It is hoped that Version 2.0 will promote more responsible management in such fisheries and ultimately further reduce the environmental impact of the fishmeal and fish oil manufacturing process.

Dr Andrew Jackson, Chairman of the IFFO RS Governance Board explains "We consider stakeholder involvement as very important for the development and credibility of the IFFO RS Certification Programme. We would therefore welcome and encourage any comments or feedback regarding the revised fishery assessment criteria and the proposed

factory audit criteria which include sections on Good Manufacturing Practice and a number of fundamental social and environmental aspects. We look forward to launching IFFO RS V2 and continuing to promote more responsible fisheries management and marine ingredient production practices."

The public consultation feedback submission form is available in the download section on the IFFO RS website (please visit www.iffo.net/node/736) together with the revised full standard that consists of the fishery assessment methodology, fishery and factory assessment criteria. For comments and information regarding this process please visit the IFFO RS website www.iffo.net/iffo-rs or contact IFFO RS secretariat at rs@iffo.net.

Press coverage examples:

- <https://www.undercurrentnews.com/2017/01/17/iffo-launches-consultation-on-standard-for-fishmeal-oil/>
- <http://www.intrafish.com/aquaculture/1207232/revised-fishmeal-standard-looks-for-feedback>
- <http://www.fishupdate.com/iffo-aims-to-set-new-standards/>

Marine Ingredients and their contribution to global aquatic animal protein supply



The following article written by IFFO's Technical Director, Dr Neil Auchterlonie, was published in the January issue of Fish Farmer available [here](#).

At IFFO, The Marine Ingredients Organisation, we have seen a representation of marine ingredients in the media, especially for fishmeal and fish oil, that has been largely negative over 2016. In some instances, rehashed arguments and criticisms which go back decades have again been given media attention, despite the fact that they were proven to be inaccurate many years ago. Even the once common criticism of "how many kilograms of wild fish does it take to grow a kilogram of farmed salmon", encapsulated in the Fish In:Fish Out ratio (FIFO) raised its head recently, along with statements of a ratio of 5:1 which had years previously been shown to be incorrect have recurred. Why is a sector that can show something approaching 45% of global annual supply to be independently certified – a percentage volume well in excess of other animal feed ingredients – the continuing subject of negative stories when the reality is very far from the accusations?

Fishmeal and fish oil were the major ingredients in aquafeeds for several decades, and thus the mainstay of diets supporting the development of the fed aquaculture industry. There is a long history of their use in aquafeeds. In the early years of modern aquaculture, feed

was manufactured predominantly from these two ingredients only. Feeds for the cultivation of carnivorous fish species such as salmon, bass, bream and shrimp in particular, were regarded as being reliant on marine ingredients to provide the species' nutritional needs, and logically it is easy to understand why fishmeal may be regarded as "nutritionally complete" for carnivorous species. Marine ingredients are therefore the foundation of modern fed aquaculture, and hold an important position in past, present and future farmed fish cultivation. Some authors had pointed out the potential risks that were associated with this situation (Tacon & Metian, 2008) as it is well understood that global annual supply of marine ingredients is finite. In fact, a restriction to global aquaculture growth through the constrained supply of marine ingredients has not happened principally because the use of fishmeal and fish oil has been optimised through their partial substitution with alternative feed ingredients. The partial substitution of both fishmeal and fish oil has mitigated the risk of the "fishmeal trap" occurring where aquaculture development was predicted to stall due to the lack of marine ingredients (Jackson, 2010). Fishmeal and fish oil remain essential components of aquafeeds for most fed species for at least some part of the production cycle. At IFFO we recognise that continued aquaculture growth cannot be achieved with marine ingredients alone, because there just isn't enough of these high quality materials to go around. We note that there is a strong case for other aquafeed ingredients supporting aquaculture development, but we say "as well as" rather than "instead of". IFFO has been describing fishmeal and fish oil as strategic ingredients rather

than commodities for over 10 years implying their targeted use at key points in production cycles to optimise performance from growth, quality and health perspectives. These are high-value materials and their use in aquafeeds remains essential from a nutritional perspective. Including fishmeal in aquafeed is much more than merely a supply of crude protein and fat, as it provides an excellent amino acid profile for carnivorous fish as well as a range of important vitamins and micronutrients. Fish oil provides the omega-3 fatty acids essential to the health of farmed salmonids, and ultimately the health of the consumer, and although fish oil is seen as a separate product. There is also fish oil present in fishmeal at a level dependent on fish species but commonly between 8% and 12%.

The reduction in marine ingredients in aquafeed associated with the development of the salmon industry since the 1990s is well documented (e.g. Ytrestøy, Aas, & Åsgård (2015)), and salmon feed manufacturers now often quote percentage inclusion rates for fishmeal in single digits for a grower diet. For salmon production in Europe, the alternative ingredient focus to date has largely been on materials of vegetable origin. In 2013, Norwegian salmon diets were reported as being comprised of vegetable origin materials showing approximately 67% of the total feed composition (*Ibid.*). The vegetable material included in European salmon feed recently includes soy meals, corn gluten meal, sunflower meal and wheat gluten meal, so it is clear that a range of products are being used. In regions outside of Europe animal protein sources have been included as alternative ingredients for salmon and farmed fish species. Clearly all these ingredients have different nutritional profiles, different digestibilities, and

notably for some of the vegetable based ingredients, potentially the presence of Anti-Nutritional Factors (ANFs), all of which can affect the performance of fish feeds.

At least some inclusion of fishmeal is still required in grower diets, however, to support the farmed fish's supply of essential nutritional requirements. Science is advancing knowledge in this area all the time, for example a threshold level of 15% fishmeal has been suggested for another farmed carnivorous species, barramundi, *Lates calcarifer*, (B. Glencross, N. Rutherford, 2011), and more recently revised to 10% (Glencross et al., 2016), but the point is that it is an important constituent of the diet for that species. It may well be the case that commercial grower feeds for Atlantic salmon are generally near the threshold for the species as well, and there are some interesting technical discussions developing around the influence of feed composition on the gut microbiome and subsequent effects on fish physiology including immunocompetence and the ability to cope with disease challenge. In the Faroe Islands there is at least an association between higher level marine ingredient inclusion in salmon feed and good biological performance, and where this is not an important factor it is clear that some farmed salmon standards and markets, for example Label Rouge, still call for premium quality salmon produced with a high(-er) marine ingredient inclusion feed.

Fish oil is certainly near the threshold of its inclusion in European salmon feeds, and a focus on the omega-3 content of farmed Scottish salmon prompted by a

recent scientific publication (Sprague, Dick, & Tocher, 2016) has brought the issue into the media spotlight. Of the fish oil volume that is available annually, IFFO estimates about 200,000 tonnes comprises the omega-3 fatty acids eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), so it is understandable that there is more pressure on this resource. Although a proportion of this supply goes to direct human consumption in the form of nutraceuticals (IFFO estimates 21% in 2015), aquaculture in general and the salmon farming industry in particular takes a major share (approximately 58% of the aquaculture share in 2015).

Somewhere the message about continuing and optimising utilisation of marine ingredients has become confused. We have seen many instances of the academic community, in particular, providing statements on fish-free diets in press releases such as outputs from published papers, funding awards for new science projects, or even in competition awards for producing fish-free feed of commercial quantities. This probably grabs an (uninformed) readers' attention, but is not constructive in achieving a balanced and optimal supply of feed ingredients for aquaculture in the future.

It is clear that there is some pressure on supply of marine ingredients into aquafeed, and this pressure will continue until such time as novel sources such as insect meal or vegetable oils containing EPA and DHA derived from GM technology become a commercial reality. Even when that occurs, the next point is to provide commercially relevant volumes, and for

the foreseeable future that is the sole domain of marine ingredients.

References:

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Interim Solution for ASC farm standards with regards to the sourcing of marine ingredients



Aquaculture
Stewardship
Council

With the exception of the ASC Bivalve Standard, all ASC farm standards have the shared vision that any whole-fish used for fishmeal and fish oil production must originate from a sustainable fishery(ies) that is certified by an ISEAL member scheme. In most of the relevant standards this vision is translated into a time-bound requirement after which 100% of the used fishmeal and -oil must be certified by an ISEAL member scheme.

These ambitious requirements have not developed as quickly as was anticipated by the WWF's Aquaculture Dialogues, and so are facing compliance challenges for ASC-certified farms and for those preparing to join the programme. Therefore, the ASC certification programme has released some interim solutions to these problems.

The interim changes are (ASC text):

1. The requirement for sourcing certified marine raw material against an ISEAL member scheme will not be time bound.
2. The interim requirement requiring marine raw material to be categorized as A-B1 by the SFP's Fish Source Score, will be substituted by the requirement that marine raw material has to be categorized as A-B2.

In a nutshell, this means that the raw material used for the production of marine ingredients destined for ASC farms does not necessarily have to achieve MSC certification status in the time frame published in the current species standards. Fisheries such as the Peruvian Anchovy Northern-central stock, Atlantic Menhaden, Chilean Anchovy regions III and IV, Icelandic Capelin and Boarfish in the North-East Atlantic – all IFFO RS approved but rated

as SFP B2 – are now compliant to be used in the production of feed for potential and current ASC certified farms. IFFO RS welcomes this solution as it allows more supply of independently assessed marine ingredients that have been sourced and produced responsibly into the aquaculture industry, at a time when the market is seeking increased volumes of certified product.

It is important to note that the current Interim Solution supersedes the relevant marine raw material requirements in the ASC Farm Standards. However, once launched and operational, the ASC Feed Standard will replace this Interim Solution as well as the non-marine raw material requirements in the ASC Farm Standards.

For more detailed information, please see [here](#).

Report from the ECSafeSeafood project meeting in Brussels 25th-26th January 2017

Neil Auchterlonie attended the stakeholder event and open science meeting of the ECSafeSeafood project meeting in Brussels on the 26th-26th January 2017. The ECSafeSeafood project (<http://www.ecsafeseafood.eu/>), title: "Priority environmental contaminants in seafood: safety assessment, impact and public perception", is a European FP7 project, with a total value of more than €5m, which addresses safety issues in seafood resulting from environmental contaminants. Coordinated by the Portuguese Institute of Sea and

Atmosphere (IPMA) it is a very large project with 18 partner organisations in the consortium from 10 different countries. The project is potentially important as it was designed to provide additional scientific evidence that could be used to inform food, public health and environmental policies.

As well as the stakeholder event on the first morning, the subject matter in the science meeting was divided into various sessions, including: Seafood Safety Knowledge Transfer; Safe Seafood the Consumers can trust; Marine toxins in seafood; Toxicity and modelling; Rapid

detection tools for seafood safety. It will be no surprise that much of the discussion at the conference focused on the issue of micro- (and nano-) plastics. Interesting presentations covered the use of new methods for identifying contaminants in seafood, and with a risk-based approach being the way that regulators tend to approach these issues in Europe, using ever increasing amounts of data in risk assessments. Contaminant-level differences in contaminants between seafood pre-cooking and post-cooking were presented, and the implications for

policy discussed (currently contaminants are regulated in raw seafood). Relevant to fishmeal and fish oil were discussions around the subject of heavy metal contamination, and the broad range of persistent environmental contaminants that have arisen from the electrical sector, especially including flame

retardants.

The micro-plastics discussions were extensive, and some interesting results presented but it is clear that the science is at a very early stage in the subject and there is a long way to go before we have enough data to understand impacts, if any, in the seafood supply chain.

An interesting meeting, and well worth attending, but overall the consensus coming out of the scientific discussion was that the levels of contaminants being identified are generally well below thresholds of concern for human safety, and so there are no implications for policy change at the current time.

Response to German TV programme on the Norwegian salmon-farming industry

Following a [German TV programme on the salmon farming industry](#), broadcasted by ZDF on 14th December, IFFO responded directly to them with the following points:

The use of Ethoxyquin

Ethoxyquin has been approved for use as an antioxidant in fishmeal, an ingredient of farmed fish feed, for many years with no evidence of any risk to the health of consumers of farmed fish. It is currently authorised at 150mg/kg in feed but as with all feed additives, the European Food Safety Authority (EFSA) periodically reviews safety data and re-authorises use if safe. The EFSA Opinion on the use of ethoxyquin in animal feed was published in November 2015. While no obvious health risk was identified, the EFSA Opinion was inconclusive, requesting more data on which to make a full safety assessment. The European Commission is providing a period of

time for the additional safety data to be provided, recognising the absence of known health risks and important role that ethoxyquin has in the animal feed supply chain.

Until such time that the additional information is provided to the European Commission and a decision made on reauthorisation, we can look at the level of risk associated with ethoxyquin, based on the data we know. A calculation shows that a 70kg person would have to consume 1.75kg of salmon (approximately 12 portions of salmon weighing 150g each) per day, containing the highest likely residue of 0.2 mg/kg ethoxyquin (as reported in a recent study), to reach the Acceptable Daily Intake (ADI) of 0.005mg/kg set by the World Health Organisation. The consumption of farmed salmon may be said to pose only negligible risk through ethoxyquin as compared to the many

known benefits associated with eating oily fish.

While alternative antioxidants exist, they are typically less effective, require higher inclusion rates and/or incur greater cost. However, IFFO recognizes the need for all feed ingredients to be safe and is working with industry partners and EU authorities to provide data for these studies. At present, calls to ban ethoxyquin are not supported by scientific evidence and decisions on use should only be made once current research has concluded. The fishmeal industry supports all efforts to provide further data information on the permitted safe level of both ethoxyquin and its metabolites. The industry ensures that at all times ethoxyquin is used responsibly and that the levels of the antioxidant and its metabolites do not exceed the agreed limits set by the EU. The amounts of ethoxyquin that we



consume by eating farmed fish are very low compared to the internationally set permitted safe limits.

The EU regularly monitors the use and safety of all feed and food additives to ensure consumer safety.

Peruvian fishmeal

Peru is the world's leading fishmeal producer, with the vast majority of production coming from dedicated vessels landing to licenced, independently certified plants. The fishery is carefully managed and the fishmeal produced is high quality, safe and fully traceable. Peruvian Anchoveta is a short lived, small and bony species and despite years of promotion and encouragement by the Peruvian government, the human consumption market is still less than 3% of the catch and there is no sign of any significant market developing. Marine ingredients are now used selectively to the extent that, in all fed aquaculture, 0.3kg of fish (before conversion to fishmeal) creates 1.0kg of farmed fish. Marine proteins are highly digestible, form the essential basis of all juvenile farmed fish diets, and marine oils are still the best source of long chain Omega-3 fats.

Where whole fish are used for fishmeal production, they are generally sourced from small pelagic fish species. Species of this type (such as the Peruvian anchovy) are characterised by fast growth rates, early maturation and high levels of productivity. These

characteristics make these fisheries comparatively easy to predict and manage compared with slower growing, later maturing species such as cod and haddock. The Peruvian anchovy fishery is notable as a fishery where the industry works very closely with the government, and shows decades of successful stock management even in the case of extreme environmental change such as El Nino events. The marine ingredients industry is very aware of the need for a healthy ecosystem and is investing in research to understand how to balance the needs of fishing for human nutrition with the needs of the ecosystem.

Since 2009, IFFO, together with the support of the industry, retailers and NGOs, developed an independent third party certification scheme for marine ingredients, which was adopted by the industry in 2011. The IFFO Responsible Supply (IFFO RS) now certifies over 45% of the total global supply of fishmeal and fish oil, a higher figure than any other animal feed ingredient can claim. 35% of the global raw material comes from recycling trimmings and offcuts from seafood processing, a figure that continues to grow over time. Peru holds the highest number of IFFO RS certified companies and production sites, and produces about 17% of the total certified supply. The Standard's reach is now being expanded to incorporate social practices with the development of version 2.0, which should be adopted in

late 2017.

In the city of Chimbote, a much-awaited underwater 10km pipeline was completed last year for the disposal of treated wastewater from the Industrial Fishing Establishments (IFE) of El Ferrol Bay of Chimbote at a cost of US\$18m. The equipment and cutting-edge technology were developed in accordance with the requirements established by PRODUCE (Peru) in relation to compliance with the Maximum Permissible Limits (MPL) law for fishery wastewater. It was developed within the guidelines of hydrooceanographic studies which favour the dispersal and dissolution of the wastewater and so maximizing natural decomposition. The project cost several million US dollars and was funded by local businesses, many of whom are IFFO members. All IFFO members in Chimbote are using the new facility and welcomed the reduction in environmental impact the project offers. IFFO visited the site in May 2016 and saw this impressive development at first hand. The project is an excellent example of the fishmeal industry working collaboratively to the benefit of the local community. In addition, the fishmeal industry has invested a figure of at least US\$76m from 2009 on a range environmental improvements in Chimbote plants. The information presented in your programme was out of date.

FEFAC Fish feed committee meeting



IFFO was invited to attend the recent Fish feed committee meeting held on the 19th January in Lisbon, Portugal. The committee meetings are organised by the European Feed

Manufacturers Association (FEFAC) and is attended by feed associations within the EU. The Fish Feed Committee addresses issues affecting the EU fish feed industry such as EU legislation on public health concerns (amongst them the safety concerns of fish feed ingredients) and is also involved in various aquaculture related initiatives and provides support to EU funded research projects.

Dr Gretel Bescoby represented IFFO at the meeting where regulatory issues around fish feed was discussed in detail. An update on the re-authorisation process for ethoxyquin was high on the agenda and was a particular topic of interest which sparked a lot of conversation. Gretel provided the committee with an update on the IFFO fishmeal stability trial and our work with the UN-Transport for Dangerous Goods

(UN-TDG) sub-committee. The committee felt that it is a move in the right direction that according to the results of the trial, reduced dosage levels of ethoxyquin in fishmeal is a realistic possibility in future. Gretel also reported that the UN-TDG has agreed to reduce the residual levels of ethoxyquin in fishmeal at the time of shipping from 100ppm to 50ppm with the next steps being the amendments of the International Maritime Organisation (IMO) codes accordingly.

Another topic of interest was the number of Rapid Alert System for Food and Feed (RASFF) notifications on ruminant DNA (rDNA) found in fish feed

in Europe. The European Commission has agreed to embark on a future "workplan" outlining a possible adaptation of the current methodology to assess for rDNA.

The EU policy framework on sustainable development of aquaculture was discussed with the launch of the new EU Aquaculture Advisory Council (AAC) where 60% of the Executive Committee seats are allocated to the industry with the remaining 40% to NGOs and other associations. The 1st working group meeting will be held in February 2017.

An update on progress of the EU Product Environmental Footprint (PEF)

pilot projects on feed and fish was provided along with an explanation of the significance of the launch of the Global Feed Life Cycle Assessment (LCA) Institute (GFLI). The GFLI, of which IFFO is a member, aims to provide a freely accessible, transparent LCA database of feed ingredients which will allow for globally harmonised assessments and benchmarking of environmental footprint calculations of feed manufacturing. The seafood/fish feed project will commence in quarter one of 2017.

The next Fish Feed committee meeting is planned for June 2017.

New Members' Forum and Infographics for IFFO website



With the start of the year, we have launched two new sections in the

Members' Area of the IFFO website. The first is the new IFFO Members' Forum, which is a confidential space for members to share and discuss any news or questions for both the IFFO team and fellow members. The IFFO team will post our latest reports and news, but we also invite

members to share any news or questions which you think would be interesting for fellow members.

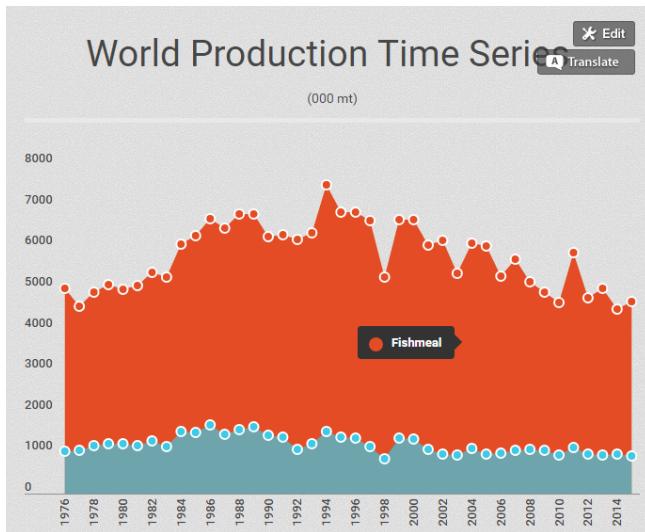
As this is a members' only forum, we ask you not to publish any confidential information or prices, advertising or forward any information posted to non-members. If you think this forum would be of interest to a colleague (within the member company), please ask them to contact us and

we will create a user account for them. We look forward to joining in discussions with you. Please don't hesitate to email us via secretariat@iffo.net if you have any questions. Visit the new forum [here](#).

The second is the new infographics section, which will keep members up to date with the latest industry data and summarizing important trends in the form of Infographics. The infographics are split into the following sub-sections:

- Annual data
- Monthly data
- Quota data
- Weekly data
- Prices (Producers/Premiums only)

The Infographics will be updated shortly after the data is made available to us, so as to keep data as current as possible. As this is work in progress, we welcome your feedback and suggestions on how to further improve this service. Find out more [here](#).



World aquaculture consumed 12% more feed in 2016

Global feed production has surpassed 1 billion tonnes for the first time, with the United States and China accounting for a third of all production, according to the 2017 Alltech Global Feed Survey. Brazil continues to be the leader in Latin America, while Mexico recorded the highest growth in metric tonnes.

Meanwhile, for the first time in several years, the European Union showed growth in the production of feed, led by Spain (8% increase). In contrast, production fell in Germany, France, Turkey and the Netherlands. The survey also reveals that the predominant growth comes from feed sector for beef, pig and aquaculture, as well as from several countries in Africa, Asia and the Middle East.

The report includes results from 141 countries and more than 30,000 feed mills, and Alltech claims that it is the most complete and consistent assessment to date on feed. "The Alltech Global Feed Survey provides valuable information and an annual pulse check on the feed industry as we look toward sustainably feeding a growing population," said Aidan Connolly, Alltech's director of innovation and vice

president of corporate accounts. "The survey continues to improve and provide more robust and reliable data."

The 2017 Alltech Global Feed Survey estimates that global feed production reached 1,032 million tonnes, an increase of 3.7% over last year and 19% over the results of the first survey published in 2012, despite the 7% decrease in the number of feed plants.

The growth of production with fewer factories "which means greater efficiencies and a decreased environmental footprint," Connolly stressed. The survey evaluates the production of compound feed and prices through information collected by the Alltech global sales team and in partnership with local feed associations. It aims to provide an information resource for responsible politicians, decision makers and industry stakeholders.

This year's report shows that the top 30 countries, classified by production, own 82% of the world's feed mills and produce 86% of the total feed globally. The top 10 countries producing feed in 2016, in order of importance in terms of production, are: China, the United States,

Brazil, Mexico, Spain, India, Russia, Germany, Japan and France. These countries account for 56% of the world's feed mills and represent 60% of total production.

The Alltech survey also notes that aquaculture continues to grow year on year, with an increase in feed production of 12% in 2016, consuming 39.9 million tonnes. Increased production in Turkey, Germany, the United Kingdom and France contributed to a better performance in the European region.

Africa increased about 1 million metric tonnes, driven by Egypt and Nigeria in particular. Asia maintained its volume, but with an interesting movement among its players: Philippines, China and Myanmar declined in 2016, while Vietnam, India, Indonesia, Japan and South Korea increased.

This rise in tonnage seems to follow the upward trend, about 8% annual growth, in the consumption of farmed fish. By species, those that required more feed were carp (32%), shrimp (21%), tilapia (12%), salmon (11%) and catfish (8%).

Source: FIS.com

Fishmeal industry needs to redefine its focus, says top producer TASA



Peru's anchovy fishmeal processors cannot feed the world and should focus on providing a premium protein

product, says Humberto Speziani, head of Tecnologia de Alimentos (TASA). Peru's anchovy catches have remained flat while global aquaculture production in metric tons has more than doubled to more 100 million tons, from only 50 million tons in 2003, according to the Food & Agriculture Organization of the United Nations. Besides that, fishmeal exports from Peru have slumped in the last five years because of lower catches associated with El Niño weather phenomenon.

"The fishmeal industry can't keep up with growth in aquaculture, our volumes are going to be flat and they are growing at rates that we cannot supply," TASA President Speziani. "Anchovy fishmeal has all of the amino acids. We can improve to supply an optimum quality product." Peru needs to promote its product as a high nutrition product as anchovy oil has attributes "that are much more what buyers can get elsewhere," Speziani said. The industry needs to improve the consistency of its products both from fishing and processing to become a more reliable

and eventually niche supplier, he said.

Nationwide, the country's fishmeal exporters have struggled with quality especially as the fish starts to deteriorate having spent too long stored on vessels at sea, he said. Peru's fishmeal exporters are collectively negotiating with the Marine Stewardship Council (MSC) to certify Peru as a sustainable fishmeal and fish oil supplier, a step that will enforce best practices among the major producers, Walter Martinez, head of Corporacion Hayduk.

Peru's share of global fishmeal production has reduced from 29% in 2011 to 18% in 2015, according to a presentation by Hayduk. Peru's fishmeal production fell to 852,000t in 2015, compared with 1.68mt in 2011, according to the presentation. While the share of fishmeal in aquaculture feed has gradually decreased during the years due to growing substitution of proteins

obtained from oilseed, fish oil is still a fundamental source of Omega-3 fatty acids used in salmon without viable substitutes, Speziani said.

Several companies, including global agricultural giants Cargill Inc. and Bunge Ltd., are working on solutions involving algae plants and genetically engineered crops to provide alternative sources of the essential docosahexaenoic (DHA) and eicosapentaenoic (EPA) fatty acids that provide a complete range of amino acids. "It remains to be seen if consumers will go for" the alternative products, Speziani said, stating that anchovy has a number of nutrients that won't be available in the substitutes, many of which haven't been yet identified by science. "It's evident that we have to know more about the properties of our product."

There are still question marks over the capacity of fish to absorb the alternative

forms of DHA and EPA, be it from algae or plants, he said. It might be anchovy-based DHA and EPA is better suited to the needs to the aquaculture while new forms of Omega 3 could be used in human consumption products such as oil supplements, he said.

Speziani said Peru's anchovy biomass will eventually return to normality after an abnormally long El Nino multi-year episode. Information supplied by the US National Oceanic and Atmospheric Administration shows a gradual normalization of oceanic conditions in the Pacific Southeast, with water temperatures returning to normal levels and salinity levels dropping. Peru's fishing industry is close to completing its 2mt production quota for the second fishing season, despite wide-scale closures of fishing areas because the presence of juvenile fish.

Source: Undercurrentnews.com

New body to promote gender equality in seafood industry



Created in December 2016, Women in the Seafood Industry (WSI) will look to represent the half of all seafood workers which are heavily under-represented at leadership levels globally. WSI was created by "specialists at the cross-road between the seafood industry and gender issues", and will aim highlight women's contribution to the seafood

industry; to raise awareness of gender issues within this industry; and to promote professional equality between men and women, it said in a statement.

"The motivation to create WSI came from the growing recognition that although one in every two seafood workers is a woman, women are overrepresented in lowest paid and lowest valued positions and very few at leadership

positions."

"Women are essential contributors to this important food industry, but they remain invisible, including to policy makers," the statement said. "There is a need to increase awareness about their role in this industry and to recognise the value they bring."

While much progress has been achieved,

a lot remains to be done, said WSI. The organization will aim to operate as a sounding board to amplify women's voices, and help them gain visibility through practical projects. WSI has chosen the World Seafood Congress 2017 and the Icelandic Fisheries Fair to make its first public appearance.

"The choice for Iceland is two-fold: its fishing industry is very dynamic and the country is at the forefront when it comes to gender equality. At Icefair, the fisheries fair, WSI will disseminate this uncomplicated yet often untold story: women are essential workers in the seafood industry but they are often invisible," said Marie Christine Monfort, WSI president and co-founder. This will be the very first time that a women's association holds a stand at a professional fisheries fair.

Source: Undercurrentnews.com

Health effects of fish oil: Where do we stand?

The federal advisory committee that wrote the Dietary Guidelines for Americans 2015-2020 advises adults to eat about 8 ounces of a variety of seafood each and every week. This guideline is intended to provide you with healthy amounts of two essential omega-3 fatty acids: docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA).

Despite the plentiful options for adding DHA and EPA to our diet, many people prefer to hack the process by taking fish oil supplements, the same way you'd drink vegetable juice instead of eating actual veggies. "A lot of people don't know why they take fish oil," said R. Preston Mason, a faculty member at Harvard Medical School and president of Elucida Research, a biotechnology research company. "You take fish oil for the omega-3 content. ... People have heard it's good for you, so they take it. It's a booming industry."

In fact, fish oil is the third most widely used supplement in the United States. A National Institutes of Health study published in 2015 estimated that 7.8% of Americans used fish oils in 2012, though other studies put the number of Americans using fish oil as high as 23%, according to Adam Ismail, executive director of the Global Organization for EPA and DHA Omega-3s.

Though a simple swap appears to make sense to huge numbers of people, the underlying science suggests that fish oil supplements may not do justice to our physical need for omega-3s. And, over the years, opinion on its benefits has gone back and forth.

18th century (and earlier): Fish oil cures what ails you

Fish oils had been used as a cure for generations in Northern European fishing communities, according to the National Museum of American History. In particular, citizens of Germany and Britain used cod liver oil to treat rickets, rheumatism, gout and tuberculosis during the 18th century.

19th century: Fish oil is big business

Though the Vikings may have begun the disruptive technology of fish oil production, the commercial industry took flight at the beginning of the 19th century in northern Europe and North America, according to the Food and Agriculture Organization of the United Nations. Based mainly on surplus catches of herring, oil production activities found industrial uses in leather tanning, soap production and other non-food products.

20th century: Fish oil production becomes more refined

Some of the older traditions continue

unchanged into the 20th century, though the UN report notes that a number of options in the fields of energy saving, automation and environmental protection have increased in recent years. Unpalatable species of fish -- or so-called industrial fish, including menhaden, sand eel, anchoveta and pout -- are reduced into oil by standard methods -- essentially, heating, pressing and grinding.

2010: Fish oil supplements during pregnancy do not prevent postpartum depression

Fish oil supplements taken during pregnancy have no effect on postpartum depression and do not help babies' brains develop more quickly, according to a 2010 study published in the Journal of the American Medical Association.

2011: Fish oil eases ADHD symptoms and lessens baby colds

Fish oil supplements, particularly those with higher doses of EPA, were found to be "modestly effective" in the treatment of attention-deficit/hyperactivity disorder, according to a review published in the Journal of the American Academy of Child & Adolescent Psychiatry. A study published in the journal Paediatrics found that the babies of pregnant women who took fish oil supplements containing DHA had more fortified immune



INDUSTRY NEWS

systems.

2012: Fish oil might help the brain stay young and heal traumatic brain injury

Accelerated brain aging is more likely to occur in people who eat diets short on omega-3 fatty acids -- the kind found in fish oil, according to a study published in the journal Neurology. Lead author Dr. Zaldy S. Tan and his colleagues at the University of California, Los Angeles looked at circulating levels of DHA and EPA in the blood of 1,575 people. They discovered that those participants who scored in the bottom 25% on various mental tests had lower levels of omega-3 fatty acids in their blood and lower brain volumes -- what equates to about two years of brain aging.

2013: Fish oil supplements linked to increased the risk of prostate cancer

Eating a lot of oily fish or taking potent fish oil supplements was associated with a 43% increased risk of prostate cancer, according to a Fred Hutchinson Cancer Research Center study published online in the Journal of the National Cancer Institute. The researchers also discovered a 71% increased risk of aggressive prostate cancer among those consuming fish oil or large amounts of oily fish.

2015: Fish oil may transform fat cells

Fish oil may transform fat-storage cells into fat-burning cells, which may reduce weight gain in middle age, according to research conducted in mice and published in Scientific Reports. According to Kyoto University researchers, fish oil not only activates receptors in the digestive tract, it induces storage cells to metabolize fat.

2016: Fish oil during pregnancy lowers risk of asthma in children -- but are the supplements all they claim to be?

Women who took fish oil during the last three months of pregnancy lowered the risk of their children developing asthma, according to a Danish study published in the New England Journal of Medicine. About 17% of children whose moms took fish-oil capsules had asthma by age 3, compared with nearly 24% of the chil-

dren whose mothers were given placebos. The doses were 15 to 20 times what most Americans consume from foods a day -- 2.4 grams per day -- yet no adverse effects occurred in either the mothers or babies.

2017: What's next for fish oil?

Looking to the future, Nancy Copperman, a registered dietitian and assistant vice president public health and community partnership at Northwell Health, reviewed the latest research. She recommends a simple -- if more expensive -- option for consumers who want to add fish oil to their diets: "pharmaceutical-grade fish oil supplements that tend to be purer."

At the same time, Copperman cautions consumers against believing every health claim, since most only hold true for a narrow group of people researched. In many studies of fish oil, she said, "the data waned and waxed." Though some people did well, others did not, and even worse, the scientists were unable to replicate the good findings from one study to the next.

One exception is people who have very high triglycerides and are at risk of cardiovascular disease, Copperman said. "Adding a marine oil supplement -- again, it needs to be ... pharmaceutical-grade -- it does lower triglyceride levels in that population," she said, based on all the research she's seen over time.

There may also be some benefit in using fish oil to reduce ischemic stroke risk among people who have atherosclerosis, or hardening of the arteries, according to Copperman. Since omega-3s are necessary nutrients, Copperman suggests that people stick with eating oily fish rather than taking supplements: When you're eating more fish, you are most likely eating less beef, including fatty hamburgers.

Fast food burgers, as well as other fatty foods such as cakes and cookies, contain lots of omega-6s, which in abundance may lead to an increased risk of cardiovascular disease, cancer and inflammatory and autoimmune diseases, accord-

ing to the American Heart Association. "You can't tell the omega-3 story without telling the omega-6 story," said Floyd "Ski" Chilton, a professor of physiology and pharmacology at the Wake Forest School of Medicine. Omega-3s and omega-6s come into our diet simultaneously and are metabolized by the same enzymes.

Over the past 50 years, the ratio shifted from two omega-6s for each omega-3 to what is now about a 10- or 15-to-one ratio of omega-6s to omega-3s, said Chilton. Working hard to metabolize omega-6s, our bodies cannot metabolize and effectively use omega-3s. Meanwhile, many people find it difficult to get enough omega-3s from the get-go. There's dramatic ancestry-based variation in our ability to transform ALA into EPA or DHA, according to Chilton. African-Americans transform ALA into EPA or DHA very well, Europeans not so much, and Native Americans not at all, with variability among individuals within each group.

When it comes to supplementation, then, "the one-size-fits-all model is likely not appropriate," Chilton said, adding that we have entered the "bold new world of precision nutrition." "Precision nutrition simply says that different individuals and in particular different ancestry-based populations, racial and ethnic populations may very well require -- when it comes to omega-3 and omega-6 fatty acids -- different recommendations," he said.

Admitting that all of this "is confusing for the general population, and it's understandable that it's confusing," Chilton said ultimately he is concerned by the shift away from the ratio that naturally evolved over an extended historical period: the two-to-one omega-6 to omega-3 ratio. Looking into the future, Chilton said, "From that perspective, the addition of omega-3s to almost any diet would make sense."

Read full article: CNN

Massive aquaculture shut-down in central China as government gets tough on pollution

China's aquaculture producers will have to modernize or quit: that's the stark warning from authorities in Hunan Province, who are closing down vast swathes of ponds in order to remedy a dire water pollution crisis. Freshwater aquaculture production of higher-value species like crab had soared in the central Chinese provinces of Hunan and Hubei in recent years, but that now looks set to slide due to action by Changde City Animal Husbandry and Veterinary Bureau, which says it's trying to improve water quality in the Dongting Lake region, where algal blooms have become a problem.

Pollution, including anti-microbials like malachite green, has been dumped into the area's lakes and rivers as a result of the periodic emptying and refilling of aquaculture ponds. "Thousands of aquaculture cages" have been seized from water in the lake, while almost 500 pig and poultry farms in the vicinity of the lake have been closed, according to a statement from the bureau. Notably, the bureau says it has thus far "only closed 26 percent of the intended targeted farms and ponds and closures of such

facilities will continue [until] 2018."

A recent plan published by the local government in Changde has overtones of a Western environmental program, with promises to "involve various sectors and stakeholders" and vows to ensure farmers who are forcibly or voluntarily retired receive adequate compensation retraining in other vocations. This may be the result of advice Chinese policymakers receive discreetly from American and European governments and NGOs on environmental management.

Changde's government is hoping that higher prices for better quality freshwater seafood product will pay for the environmentally friendly upgrade of the sector. "Backward production will be no more," it has warned. In Changde and other Chinese regions with aquaculture sites, pressure has increased on local officials to collect data as part of a central government initiative to calculate and monitor water pollution levels. Reluctant to shut down tax-raising businesses like pig breeding or shrimp farming, officials have nonetheless been even keener to avoid publishing data that shows severe pollution problems. They

have therefore rushed to close down or move the worst offenders in order to improve the data before a 2018 national deadline for preliminary publication.

Agriculture Minister Han Changfu told fisheries officials earlier this year that "inefficient" and polluting aquaculture operations will face major pressure from local governments as China seeks to implement its national data collection system for monitoring water pollution. Dryer Chinese cities will need to cut back on aquaculture and find alternative supplies, in order to avoid groundwater sources from being further eroded, Han said.

The inevitable squeeze on local supply has positive implications for importers. The overhaul, if expanded nationally, has the potential to radically reduce China's freshwater aquaculture output and will lead to supply squeezes and higher prices. Increases in output in recent years in the Dongtai/Hunan region had helped to keep seafood price inflation under control in major cities like Shanghai, where seafood consumption is highest.

Source: Seafoodsource.com

Blue whiting fishery regains IFFO RS approval



The Blue Whiting fishery has regained approval as compliant with the IFFO RS fishery assessment criteria. The previous termination of the IFFO RS Approval was supported by the EU

coastal states, Norway, Faroe Islands, Iceland and Russia, who failed to reach agreement on the management and quota of Blue Whiting. The lack of agreement between the coastal states resulted in the total catches of Blue Whiting in recent years being higher than that recommended by scientists.

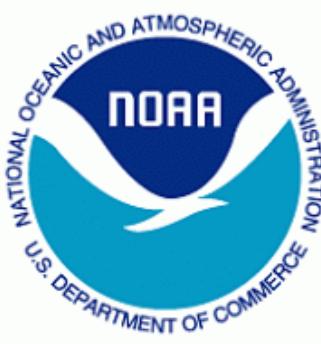
Seafood Norway is very pleased that the Blue Whiting fishery has been approved as it is the principal raw material that goes into fishmeal and fish oil products and can be sold to all markets. It provides manufacturers with flexibility in the choice of the market,

giving a reasonable provision for fishmeal and fish oil, says Kyrre Dale Seafood Norway.

The coastal states have agreed on a management plan for Blue Whiting and a total quota for fishing in 2017, which is in line with the recommended quota stated by marine scientists. The coastal states however have not agreed on the distribution of the total quota between themselves. In order to maintain the approval status during the coming years, it is important that the coastal states agree on the allocation of Blue Whiting.

Source: FiskeribladeFiskaren.no

NOAA aims to develop aquaculture in federal waters of the Pacific



The National Oceanic and Atmospheric Administration (NOAA) is creating a plan to

manage commercial fish farms in federal waters, the area of ocean from three to 200 miles offshore, around Hawaii and other Pacific islands. The US government sees aquaculture as a promising solution to feeding a hungry planet, and to address the threat commercial fishing is posing on fish populations worldwide.

The program is similar to one recently implemented by NOAA in the Gulf of Mexico. The initiative is worrying some environmentalists, who argue that industrial scale aquaculture farms could do more harm than good to fish stocks in general and to ocean health, according

to a report by Associated Press.

Besides, they say, modern aquaculture carries pollution risks and the potential for non-native farmed fish to escape and enter the natural ecosystem. According to former NOAA chief scientist and founder of ocean advocacy group Mission Blue, Sylvia Earle, there are more environmentally sustainable and economically viable options than open-ocean aquaculture, which uses floating net-pens or submerged cages.

Last year, NOAA and the Scripps Institution of Oceanography valued at USD 17 billion a year on the ocean off the west coasts of North and South America. That includes USD 4.3 billion from commercial and sport fishing and USD 12.9 billion for the capture of carbon. Michael Tosatto, NOAA's National Marine Fisheries Service regional administrator, explained that many foreign operations have US companies supplying the breed stock, so the fish are grown and sold back to the United States as imported

seafood.

Fish farmed in the United States in 2014 amounted to USD 1.3 billion, that is to say, 19% of the nation's seafood production, and only 1% of the global farmed product. NOAA has been trying to establish an aquaculture industry in federal waters for many years, but its attempts to get legislation to implement aquaculture on the high seas have failed. Marianne Cufone, executive director of the Recirculating Farms Coalition, based in New Orleans, which is developing fully-contained terrestrial aquaculture systems stresses that these types of farms are more sustainable than ocean aquaculture.

Earle agrees with that position, and argues that "Controlled systems are the most promising." Meanwhile, Michael Rubino, director of NOAA's aquaculture program, stressed, "All forms of aquaculture can be done responsibly or irresponsibly. We will need all the forms well done to meet the demand for

Here's Even More Evidence That Fish Oil Is Good for You



Doctors and health officials have long urged the public to eat more fish, since the healthy fats in fish—primarily from the omega-3 family—tend to lower risk of heart attacks and other heart problems. In fact, the most recent dietary guidelines recommend that

Americans eat more fatty fish per week. (About half of Americans don't eat any fish at all, or consume it only occasionally.)

But lately, there's been confusion over whether the benefits of omega-3 fatty acids from food or supplements actually

lead to healthier hearts and fewer cases of heart disease. For example, some studies suggest that fish oil supplements, which contain the active ingredients eicosapentaenoic (EPA) and docosahexaenoic acids (DHA), may not lower risk of having a heart attack, but

may lead to fewer fatal ones.

In a study published in the Mayo Clinic Proceedings, researchers reviewing 34 studies on EPA and DHA from food and supplements, as well as heart disease risk, found evidence of the benefits of omega-3 fats in reducing heart problems. There is a caveat, however: the study was funded by the Global Organization for EPA and DHA Omega-3s (GOED), a group of makers and marketers of fish oil products. According to the study authors, GOED did not play a role in the design or interpretation of the study results.

The analysis included gold-standard clinical trials—in which people were randomly assigned to take omega-3s or not, then followed for their heart disease outcomes—as well as

population-based studies, which looked for trends among people eating or taking omega-3s and those who did not over longer periods of time. Overall, those consuming more fish oil in the population studies lowered their risk by 18%.

Among the people participating in the clinical trials, those at higher risk of developing heart disease seemed to benefit more from the fish oil. In people with high triglyceride levels, coronary

heart disease risk dropped 16%, and 14% in people with high LDL cholesterol. While the results suggest that EPA and DHA may help to lower heart disease risk, experts point out that population studies may be biased toward finding benefit, since people who take omega-3 fatty acids may also engage in healthier behaviours like exercising regularly, avoiding smoking and eating healthy diets while avoiding high sodium foods. Ongoing clinical trials looking at the

effect of omega-3 supplements on heart disease risk—and taking into account the potential effects of things like exercise and diet—may provide a more definitive answer on whether fish oil pills are really worth the money. Until then, heart experts say it's best to stick with the natural sources by eating at least two servings of salmon, tuna or other fatty fish a week.

Source: Time.com

Danish fishery at consultation stage for MSC certification

In order to meet the increasing demand for MSC certified fish oil and fishmeal, the Danish North Sea, Skagerrak and Kattegat fishery is currently under assessment for MSC certification for sandeel, sprat and Norway pout. The assessment is run as a collaborative venture between the Danish Fishermen Producers Organization (DFPO) and the Danish Pelagic Producers Organization (DPPO). The assessment has reached the public consultation stage and it is hoped that the fishery will be certified by the summer.

A growing preference for ASC certification in the aquaculture industry has led to an increased demand for verified sustainable raw materials, which would be supplied by fisheries such as this one. It is managed under the EU's

Common Fisheries Policy, which includes a discard/slipping ban, annual TAC quotas, and technical rules concerning mesh size, catch composition and closed areas of the fishing grounds. ICES assist with annual stock assessments and advice, and the Marine Strategy Framework Directive provides advice on ecosystem initiatives. In 2015, Danish landings of sandeel totalled 171,207 tonnes, along with 277,288 tonnes of sprat and 13,803 tonnes of Norway pout.

If successful this will bring the level of MSC certified Danish reduction fisheries to 90 % (including the already certified Blue Whiting fishery).

MSC's requirements for certified fisheries can be grouped into three basic principles:

- The fish stock and the level of fishing must be sustainable.
- Damage to the ecosystem and marine environment must be minimised.
- The fishery must be managed effectively so that sustainability and ecosystem are safeguarded.

More information about the MSC assessment can be found via the following:

- [MSC Fisheries](#)
- [Danish MSC Fisheries](#)



A precautionary tale



The ASC has defended its decision to propose lowering the marine ingredient threshold in salmon feeds as part of its updated Salmon Standard, despite conceding that marine ingredients in salmon feeds are often sourced sustainably.

The response follows criticism, by the IFFO earlier this week, of equating the standard method of calculating marine content – known as Forage Fish Dependency Ratio (FFDR) – with the sustainability levels of the feed. The IFFO also argued that lowering the FFDR further effectively excluded producers of niche premium salmon products, such as

those containing high omega-3 levels, from ASC certification, even if these salmon were fed diets that purely contained marine ingredients from sustainable sources.

Iain Pollard, ASC Standards & Certification Coordinator, explained to Fish Farming Expert that while there is a case for not setting a forage fish threshold in salmon feeds, they feel that it is required to ensure “a precautionary approach to the exploitation of marine resources”.

As he explained: “It is clear that stakeholder views around FFDR vary considerably around the value of a FFDR requirement and also around the need for one at all. The ASC accepts that there are strong arguments for eliminating the FFDR requirement if the wild fish being used to make feed is sustainable. And, that having a salmon industry dependent on wild fish is not necessarily a bad thing.

“In fact, there are benefits of encouraging responsible aquaculture

dependence on wild fisheries including maintaining leverage over promoting their sustainable harvest. And furthermore, without sustainable alternatives to marine ingredients switching from them to another source brings risks of unintended impacts to that source, be it soy, palm or something else.”

However, he does not feel that the time is ripe for removing a FFDR threshold and defends the need to lower it – at least for the time being.

“ASC will be continuing to work on this area as part of the fish feed standard under development. And aim to resolve these challenges to ensure a logical solution that meets ASC Theory of Change. However, in the meantime in order to take a precautionary approach to the exploitation of marine resources the ASC is proposing to reduce the FFDR level in the Salmon standard,” he concludes.

Source: Fishfarmingexpert.com

More info: IFFO Press Release on FFDR

ALTERNATIVES & INNOVATION

Global Algae Oil Market Estimated to Grow Strongly by 2016 – 2024

Algae oil is derived from marine algae and is a major source of omega-3 fatty acids. Marine algae is harvested and its oils are extracted and refined. Mostly Algae generally grow using photosynthesis while some algae grow in the dark using sugar starch. Algae oil is one of the most important segments within the omega-3 polyunsaturated fatty acid (PUFA) ingredients market. It consists of a range of components such as proteins,

carbohydrates, fats, and nucleic acids in different proportions. Algae oil is a substitute source for omega-3 PUFAs, whereas the traditional source for omega-3 PUFAs is fish oil. Algae oil is more expensive as compared to fish oil which is a major factor restraining the growth of the market. Hence various algae oil manufacturers are expected to reduce the prices of algae oil products during the forecast period.

The algae oil market can be segmented on the basis of grade and application of algae oil. On the basis of production type, the market is segmented into food grade, feed grade, and type III algae oil. Similarly on the basis of application, the global algae oil market is divided into infant formula, dietary supplements, food and beverage fortification, and animal feed. Dietary supplements segments holds maximum market share in market and



expected to remain dominant over the forecast period.

Geographically, the algae oil market can be divided into major regions which include North America, Latin America,

Western and Eastern Europe, Asia-Pacific, Middle East and Africa. North America is expected to be the largest regional market for the Algae Oil market. North America is closely followed by the Asia-Pacific algae oil market. U.S. and China are expected to dominate the global algae oil market in terms of revenue share and consumption. The developing economies are expected to depict increasing demand for algae oil with the rise in consumer awareness and health consciousness.

The global algae oil market is expected to be driven by factors such as rising health

awareness among people in both developed as well as developing economies. Another factor driving the algae oil market is rising algae research industries developed in the North American and European regions. Gradual lowering of consumer prices of algae oil is also expected to fuel the growth of the market across the globe. Algae oil is gaining market potential as it is considered as vegetarian source for omega 3- fatty acids and DHA. Increasing focus on child brain development, manufacture are focused on product launch for specific category.

Source: Newsmaker.com

Algae For A Healthy World: Researchers Team Up To Produce Food From Microalgae

The recently commenced project, Algae for a Healthy World, aims at producing bio-compounds with food applications from microalgae and developing biotechnological tools for improving production of aquatic biomass.

Algae for a Healthy World (A4HW) is a group project formed with an aim to manufacture bio-compounds with food application from microalgae. The group involves seven entities namely the Centre for Biological Research (CSIC-CIB),

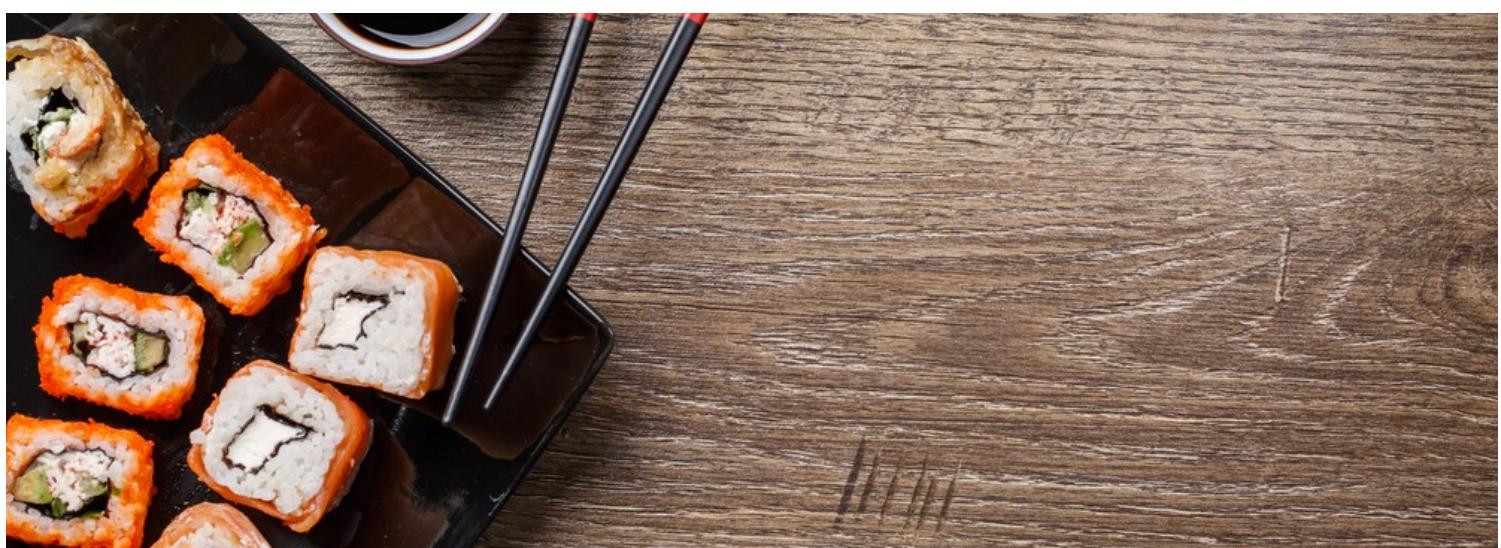
Novatec, AINIA, Mar Cristal Marilum, Endesa, Neoalgae Micro Seaweed Products and the University of Cádiz. All the seven bodies are from varied backgrounds and are leaders in their specific fields of research.

The seven partners assembled and officially declared the beginning of the project, with the main intention of developing the required biotechnological tools that would help in improving and optimizing the production of biomass of

marine origin.

"[The inaugural meeting was about highlighting the goals of the project as] to generate new products and to increase the profitability of microalgae cultivation technology on an industrial scale, and to establish Spain as a leader in the production of these bioproducts" as mentioned in Algae World News.

Source: Techtimes.com



BUSINESS



Aller Aqua Ghana is officially open for business. The inauguration was attended by many customers, business partners and industry officials. Amongst participants were

officials from the District Assembly, the Ministry of Fisheries, the Royal Danish Ambassador and members of the press. At the inauguration, speakers included Carsten Jørgensen (CFO, Aller Aqua Group), the Royal Danish Ambassador Tove Degnbol, Madam Abene Kyei (District Coordinating Director) and Niels Lundgaard (Commercial Director for Africa, Aller Aqua Group).

Fish feed for aquaculture, specifically Tilapia and Catfish, will be offered in Ghana by Emmanuel Ofosu and his team, consisting of 5 dedicated staff members. Aller Aqua Ghana Limited is strategically situated by the Volta River where many fish farmers have their farms. This, paired with positive statements from current customers, gets the company off to a positive start.

"The opening day was a result of months of hard work, and we are glad to be able to start offering fish feed to the Ghanaian aquaculture sector from our local company, Aller Aqua Ghana Limited. Aller Aqua essentially help the farmers grow their businesses by providing high quality fish feed which leads to faster growth, healthier fish and thus a better end product. This is our aim in all the countries we are represented in, and was a key parameter in our decision in starting Aller Aqua Ghana Limited," explains Niels Lundgaard, Commercial Director for Africa, Aller Aqua Group. Source: Aller Aqua



BAP Program Grew 47% In 2016. The number of Best Aquaculture Practices (BAP)-certified facilities jumped 47% in 2016, the Global Aquaculture Alliance announced. The third-party aquaculture certification program ended 2016 with 1,559 BAP-certified processing plants, farms, hatcheries and feed mills, up from 1,058 BAP-certified facilities at the end of 2015. The BAP program has

more than doubled in size in the past two years, surpassing the 1,500-facility milestone at the end of November, a testament to the industry's commitment to responsible aquaculture.

At the end of 2016, there were a total of 358 BAP-certified processing plants, up from 308 processing plants at the end of 2015. Collectively, they produce 2.27 million metric tons of shrimp, salmon, tilapia, pangasius and other farmed seafood species annually. There were a total of 967 BAP-certified farms at the end of 2016, up from 606 farms at the end of 2015. The number of BAP-certified hatcheries and feed mills stands at 162 and 72, respectively. Source: [GAA](#)



Pesquera Diamante expects to double fishmeal production. The improvement of sea conditions after the impact of the El Nino phenomenon, and the changes in fishing regulations introduced by the Peruvian government, allow managers of a major fishmeal company to be optimistic this year.

Manuel Salazar, general manager of Pesquera Diamante, expects that his company's sales and turnover will improve this year, from production of about 77,000 tonnes of fishmeal to about 150,000 tonnes in 2017. Production foreseen for this year is similar to levels reached before the El Nino phenomenon. "For this year we should return to the almost USD 300 million in billing," the executive predicted.

The El Nino phenomenon had a strong negative impact on the Peruvian fishing industry, due to the fact that it caused anchovy to be diverted from the Peruvian coast. This situation forced Pesquera Diamante to temporarily close three of its eight processing plants. Now, the company plans to make a strong investment in machinery this year, in order to improve its productive capacity.

In order to increase sales, it will strengthen its main fishmeal and fish oil unit and put more emphasis on the direct human consumption unit, which represents up to 25% of the business sales. Although he acknowledged that they have evaluated investment opportunities in aquaculture in the south of the country, Salazar assured that for now they will not venture into this activity. The company also expects 2017 to be a good year for its Frescomar canning brand, which could increase its sales from 80,000 boxes annually to 140,000. Source: [FIS.com](#)

COUNTRY



American Seafoods has named Mikel Durham its new CEO, bringing in an executive with

significant food and beverage experience but no background in the seafood industry. American Seafoods is a leader in the harvesting, processing, preparation and supply of quality wild-caught seafood, with operations concentrated in Alaskan waters. The company is a major quota holder for offshore pollock, as well as Pacific whiting and Pacific cod, and produces fillet, surimi, roe and block product sold worldwide. Its current CEO, Bernt Bodal, who has led the company since 2000 and served in executive positions at American Seafood since 1991,

will remain with the company in the role of chairman.

"I am delighted to welcome Mikel Durham to the American Seafoods family. Mikel is a talented food service and consumer products executive with a proven track record of strong performance. I look forward to working closely with her to build greater awareness and demand for the healthy and sustainably-harvested wild seafood products we produce," Bodal said. "Out of the many candidates we considered, Mikel distinguished herself as a consummate professional with a deep understanding of global food markets. She is a team builder who understands the importance of setting and achieving goals together," Bodal said. Source: Seafoodsource.com

COUNTRY



Peru to boost its tuna landings by 80% due to new measures. The Peruvian ministry of production seeks to spur the development of the country's tuna industry, having implemented a new regulation and sorted out the opening of two more docks for tuna fishing. The new

measures introduced by the Peruvian government are expected to increase tuna catches by 80% compared with 2016 levels to 36,000 metric tons this year, according to the minister of production, Bruno Giuffra.

Better climatic conditions, driven by the end of El Niño, should also contribute to increase tuna catches, Giuffra also said. On Dec. 29, the Peruvian ministry of production modified the country's fisheries regulations, with the aim of developing its tuna fishing industry and stimulate investments in the country. It introduced a new provision, which requires foreign fishing vessel fishing in Peruvian waters to deliver at least 30% of its catches to ports in the country during the length of the permit and at each renewal. In order to energize the industry, overcoming commercial barriers, Peru has also allowed trading companies to buy tuna, an option previously been only open to processors. Source: Undercurrentnews.com



Argentine anchovy fishery proves it's sustainable. The Argentine anchovy fishery has achieved re-certification to the Marine Stewardship Council (MSC) Fisheries Standard. This science-based standard is the world's most credible and recognized standard

for environmentally sustainable wild-caught seafood. The Argentine anchovy fishery has been certified to this standard since 2011. This fishery, which operates in the waters of Argentina and Uruguay, was the first anchovy fishery in the world to achieve MSC certification. When originally certified to the MSC standard in 2011, there were two companies, Delicias S.A. and Centauro S.A., operating five vessels, representing 10%-15% of the total catch of the assessed fishery. As of January, 13 companies operating 24 vessels have been assessed for the recertification. Source: MSC.org

NEWS IN BRIEF

COUNTRY



India could stop being the world 2nd largest fish producer. A dwindling catch from capture fisheries and tougher quality inspection in importing countries are deeply affecting India's seafood

exports. During financial year 2015-16, India exported 945,892 tonnes of seafood worth USD 4.7 billion against 1,051,243 tonnes valued at USD 5.5 billion in fiscal year 2015. Today, India is the second largest fish producer in the world after China, and accounts for nearly 6% of global fish production.

"The EU commission has passed a motion to increase the number of shipments of Indian aquaculture products stopped for checks at the borders to 50% from 10% earlier. A vannamei shrimp export consignment to South Africa was rejected following the detection of vibrio cholera in the shipment. The issue has not been sorted so far and the delay is affecting exports," Anwar Hashim, managing director of Abad Fisheries and former president of the Seafood Exporters Association of India, stressed.

The EU, which has been strengthening its import regulations by increasing its environmental and health standards, is the third-largest destination for Indian seafood with a share of 20% of

the total volume of exports. India and other countries have had to attach catch certificates to all their seafood shipments from 2010 to help reduce illegal, unreported and unregulated (IUU) fishing. Source: FIS.com



Peru makes big plans for aquaculture development with \$40m World Bank loan. The World Bank's \$40 million loan to Peru for its program of fishery and aquaculture innovation will allow the country to

become a strong player in aquaculture, Bruno Giuffra, of the country's ministry of production, said. "[Thanks to the said loan] we will enhance Peruvian fishery and aquafarming value chains and lessen dependence on fish catching, as well as work with the vision to turn our country into a reference in aquaculture," he said, according to Andina. The program aims at boosting fishery and aquaculture innovation by funding activities, as well as research and technical assistance projects. A total of 1,984 research, development and innovation projects will be financed through the program, Giuffra reportedly said. Source: Undercurrentnews.com

RESEARCH

Fish fraud: A new study verified the DNA of the fish ordered at 26 Los Angeles sushi restaurants from 2012 to 2015 and found that 47% of sushi was wrongly labelled. Scientists at UCLA and Loyola Marymount University, who conducted the research, determined that what was presented as tuna sushi was almost always tuna and salmon was mislabelled only about one in 10 times. However, out of 43 orders of halibut and 32 orders of red snapper, DNA tests showed they were always a different kind of fish.

After a year-long sampling of high-end grocery stores, the researchers found similar erroneous labelling rates, suggesting

that the change may occur earlier in the supply chain than the point of sale to consumers. "Fish fraud could be accidental, but I suspect that in some cases the mislabelling is very much intentional, though it's hard to know where in the supply chain it begins. I suspected we would find some mislabelling, but I didn't think it would be as high as we found in some species," said Paul Barber, a UCLA professor of ecology and evolutionary biology and senior author of the study that was published in the journal Conservation Biology. Source: FIS.com





2017

7-9 March	12th North Atlantic Seafood Forum (NASF)	Bergen, Norway
23-24 March	4th IFFO/JCI Fishmeal and Fish Oil Conference	Sanya City, Hainan Province, China
25-27 April	Seafood Expo	Brussels, Belgium
1 May	IFFO Board meeting	Barcelona, Spain
2-3 May	IFFO Members' meeting	Barcelona, Spain
31 May—4 June	World of Seafood - Thaifex 2017	Bangkok, Thailand
5-7 June	SeaWeb Seafood Summit	Seattle, U.S.A.
27-30 June	World Aquaculture 2017	Cape Town, South Africa
3-6 October	GOAL 2017	Dublin, Ireland
11 October	Humber Seafood Summit	Grimsby, U.K.
23-25 October	IFFO Annual Conference	Washington DC, U.S.A.

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