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 Aquafeeds

Larvae lunch, anyone? Insect-based feeds soon on aquafeed menu

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By Elizabeth Rushe

Starting in July, European fish farmers will be able to add insect meals to fish diets



European Commission regulations will soon allow insect-based feed ingredients, and companies like Ynsect, which produces mealworm in

France, are gearing up for expansion in the EU. Beginning in 2018, the company aims to produce 20,000 metric tons of mealworm protein per year.

This July, European Commission regulations allowing insect-based feed will be amended, and insect-farming companies like Agriprotein and Ynsect are gearing up for expansion in the EU.

Ynsect produces insect-based sustainable feed by farming mealworm, and is planning to build their its commercial factory, “Ynfarm,” in France in 2018, with planned production of at least 20,000 metric tons of mealworm protein per year.

Ynsect CEO Antoine Hubert shared with the *Advocate* how the epidemic of Bovine Spongiform Encephalopathy (BSE) – commonly known as ‘mad cow disease’ – more than 20 years ago, which led to an EU-wide ban of insect protein in animal feed, has been a major obstacle for the currently small insect-farming sector. Until now.

“After many years’ [discussion \(https://ec.europa.eu/info/law/better-regulation/initiatives/ares-2016-6396619/feedback/F851_en\)](https://ec.europa.eu/info/law/better-regulation/initiatives/ares-2016-6396619/feedback/F851_en) with the European Commission, the lobby association IPIFF (International Platform of Insects for Food and Feed), based in Brussels, managed to convince the EU and member states that insect farming and processing is safe,” explained Hubert, “as long as you feed insects with plant-based by-products and not waste or animal products.”

The amendments are currently in the signature stage in Brussels, so starting on 1 July 2017, the new regulations will allow the production of insect protein for the aquafeed market – but only applies to a select few insect species: two beetles, two flies and three crickets.

We know in aquaculture that fishmeal is a major product for fish growth and with serious issues in terms of steady supply and steady prices. Insect protein is very similar to fishmeal protein, so we could provide another supply that competes with fishmeal.

The new amendments affect Regulation **999/2001** (<http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32001R0999>), which will have a new paragraph allowing insect meal, similar to the allowance for fishmeal after the feed ban relating to animal protein.

“It’s really important to understand EU legislation, that insect meal has never been banned in Europe – it has however, not been allowed,” explained David Wilco Drew, an executive director of Agriprotein, which is a founding partner of IPIFF. “The EU works on the basis that you have to give permission for something to be used, this is new and they’ve opened up all sorts of things at very efficient speed, and I must say – not bad.”

EC regulation **142/2011** (<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32011R0142>) is also due to be amended, which relates to rules for animal byproducts and derived products which are not intended for human consumption. This amendment will convey the required conditions for production, covering species, feed-stock, and building requirements, such as production, which can only take place in a building dedicated to insect farming and processing.

Agriprotein operate a waste supply chain and fly egg and juvenile larvae production and launched its commercial site in Cape Town, South Africa, in 2014. Products include MagMeal™, which is dehydrated larvae, and MagOil™, a “nutty smelling, meaty tasting” oil extracted from the larvae.

Agriprotein takes in factory waste, working with global corporations, including feed producers and food producers. Supermarket waste and other feed producers and restaurants are its big targets, according to Wilco Drew, one of the company’s three executive directors.

“One of our big goals is one of the world’s biggest potato chip manufacturers,” Drew said. “Their offcuts. They spin crisps out, and there’s very, very fine bits that they don’t use, that for us is an ideal waste stream because it’s very big and very clean, and because it comes from a food factory.”

Agriprotein claims to have full traceability back through all its suppliers.

“We take in waste but we don’t feed waste to our larvae,” Drew said. “We call it ‘larvae lunch,’ that’s basically chopped up, blended and prepared waste.”

The pH of any waste product is a key factor in what the Agriprotein larvae eat. “It could be you get a whole load of apples one day, and a whole load of restaurant waste another day,” Drew explained. “Those will have a different pH, and you’ll want to blend across a little bit of those two.”

Currently, Agriprotein are rolling out licensing agreements for factories in North America, South Africa, Australia, Asia and Europe.

“Our site in Cape Town has capacity to receive 100 [metric tons] of waste per day,” Drew explained. “From that we can make six [metric tons] of MagMeal™ and about 3,000 liters of MagOil™. At the moment we are running at about 35-40 percent capacity of that.”

When asked if Ynsect was gearing up to be ready to sell insect-based aquafeed from July 1 this year, Hubert of Ynsect gave a modest prediction: “We won’t see significant volumes of insects for aquafeed before two years, I would say,” he explained.

“It’s not so easy to scale and produce capacities for a huge market like aquafeed – the ideas of insect producers is to provide high quality protein competing with fishmeal, because we know in aquaculture that fishmeal is a major product for fish growth and with serious issues in terms of steady supply and steady prices. Insect protein is very similar to fishmeal protein, so we could provide another supply that



AgriProtein makes MagMeal™ and MagOil™ – a natural protein meal and oil for use as a growth facilitator in agricultural feed preparations.

competes with fishmeal.”

There are virtually no insect proteins on the market or in aquafeed, and just very small amounts in pet food, Hubert added.

“So we won’t reach millions of tons like this,” he said. “Investors and financial bodies are ready now to invest and bring money in the sector, because one of the major barriers is now off with this regulation green-light.”

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