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New U.S. black soldier fly innovation facility is Innovafeed's first step into North America

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By Lauren Kramer

France-based company will test corn byproducts on *Hermetia illucens* before deciding on a larger footprint



Performance at the \$10 million black soldier fly innovation and research center in Illinois will help Innovafeed determine direction on a new continent. Photo courtesy of Innovafeed.

If you build it, they will buzz. A new black soldier fly facility – the first in the United States – is now online but any aquaculture business springing from it might take a while.

Innovafeed's January launch of the Innovation and Research Center for insect-based ingredient production in Decatur, Ill., marked the company's first step in industrial production in North America.

The \$10 million pilot plant is located next to the Archer-Daniels-Midland company, a large corn processing facility whose byproducts Innovafeed will feed to its black soldier flies (*Hermetia illucens*, BSF) to produce BSF meal and oil. But for Innovafeed, the lure to America was not really about aquafeed sales – at least not yet.

"The availability of these corn byproducts is what brought us to North America, not the aquaculture market, which is much smaller in North America than it is in Europe," said Maye Walraven, Innovafeed's general manager for North America. "We turn the insects into two types of ingredients: a protein meal for aqua feed or pet food, and an insect oil, which is rich in lauric acid and has positive digestive benefits for swine and poultry."



(<https://link.chtbl.com/aquapod>).

Innovafeed's strategy of co-locating its plants next to large agricultural processors is not new. In France, the company uses wheat stillage, a byproduct, and wheat bran from a starch factory to produce 10,000 tons of insect protein annually. Since corn byproducts are more readily available than the wheat

byproducts Innovafeed uses in Europe, the company could potentially produce four times more in the United States each year.



Black soldier fly larval production in a stacked production system

Study describes development and evaluation of an “all-in-one” stacked system for indoor production of black soldier fly larvae.



If its pilot phase in Decatur is successful, the company will build a large-scale processing plant that would supply insect protein to land and sea-based aquaculture companies in Canada and Alaska, Chile and possibly shrimp farmers in Ecuador. Its main markets in North America are pet food and livestock feed for poultry and swine.



Black soldier fly (*Hermetia illucens*) larvae. Photo courtesy of Innovafeed.

Its black soldier fly colonies will feed on corn gluten and steep water, raw material with low nutrient concentration. By processing the larvae, Innovafeed will create high-quality ingredients for animal and aquaculture feed.

“The innovation center is a research facility where we can test how the insects react to the corn byproducts, and tweak and optimize technology before we invest capital into a larger site,” Walraven said. While the test period duration will depend on the challenges the company experiences during testing, in France its innovation center conducted 18 months of testing before a full-scale site was launched.

A full-scale processing plant would take up to 24 months to build. Walraven said that in terms of insect production capacity, the United States is three to four years behind Europe, where legislation to permit insect meal in aquaculture was passed in 2017.

Insect producers are working collaboratively through North American Coalition for Insect Agriculture to effect legislative changes that will lead the way for these new ingredients to be adopted. Currently, black soldier fly larvae ingredients like BSFL meal and oil have been granted approval by the Association of American Feed Control Officials for adult dogs, swine and salmonids. Black soldier fly oil for poultry is under review, according to Walraven, while approvals for cat food and other finfish feeds is expected sometime this summer.



In terms of insect production capacity, the United States is a few years behind Europe, where legislation to permit insect meal in aquaculture was passed in 2017. Photo courtesy of Innovafeed.

“Feed formulators are increasingly facing challenges with getting conventional protein sources like chicken meal or fishmeal,” she said. “There’s a concern that we’ll have a shortage of 20 million [metric tons] by 2050 . That’s fueling our development because we can definitely make a difference. Our insect meal will increase the diversity of ingredients that formulators can use to address this shortage, as well as bring the benefits of insect meal.”

“Our goal is to improve the sustainability of food supply chains,” she added. “We think of insect ingredients as delivering impact in four ways: We can produce protein at a lower carbon footprint, we can reduce the impact on biodiversity, we can build our plants in areas with lower economic dynamics, and we can use our industry to build resilient food systems and create more food security for the future.”

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