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U.S. agencies focus on fishmeal in feed

Wednesday, 1 July 2009

By Chris Botnick

NOAA, USDA form Alternative Feeds Initiative



Trimmings from seafood processing join various plant products and even algae as protein and oil alternatives to fishmeal and fish oil in aquaculture feed. Photo by Cindy Bower.

Rising global demand for fishmeal and fish oil and a renewed push to maintain the sustainability of the pelagic fisheries that supply these products to the global swine, poultry, pet and fish-farming industries are driving the need for alternatives to fishmeal and fish oil.

In the United States, experts in federal agencies, universities and private industry are developing a variety of alternative protein and oil sources, including soybeans, barley, rice, peas, canola, lupine, wheat gluten, corn gluten and other plant products. Researchers also are examining the use of trimmings from seafood processing, waste from bioenergy production, insects grown on waste materials and algae as potential alternatives.

“The biggest challenge for our researchers is to develop alternative ingredients that fish will eat, that supply the nutrition fish require to grow and that can become commercially viable,” said Dr. Michael Rubino, Aquaculture Program manager at the National Oceanic and Atmospheric Administration (NOAA), one of the key federal agencies working on alternative feeds. “Ultimately, these research efforts will lead to the commercialization of alternatives that will reduce dependence on marine fish resources by feed manufacturers and seafood farmers worldwide.”

Alternative feeds initiative

The two U.S. federal agencies with ongoing alternative feeds research programs, NOAA and the U.S. Department of Agriculture (USDA), joined forces in late 2007 to form the NOAA-USDA Alternative Feeds Initiative. The goal of the initiative is to identify alternative ingredients that will reduce the amount of fishmeal and fish oil in aquaculture feeds while maintaining the human health benefits of seafood. USDA’s Agricultural Research Service and Cooperative State Research, Education and Extension Service are the USDA agencies involved in the initiative.

The NOAA-USDA initiative got off to a fast start in early 2008, when the agencies convened a panel of U.S. and international researchers to gauge the state of alternative feeds research and identify new research priorities. At the same time, the agencies solicited ideas and suggestions through a public comment process.

In April 2008, the agencies convened the NOAA-USDA Alternative Feeds Initiative Stakeholder Meeting to provide a forum for open communication among stakeholders and interactive dialogue focused on current and best-available knowledge of promising alternative feed ingredients.

Feedstuffs session

In mid-February, NOAA, USDA and the independent Plant Products in Aquafeeds (PPA) Working Group co-sponsored a joint technical session titled “Alternative Feedstuffs for Aquaculture” at the Aquaculture America meeting in Seattle, Washington, USA, the largest annual aquaculture conference and exposition in the United States.

At the all-day session, over 100 participants from the U.S., Norway, Central America, Spain, Nigeria, Japan and Australia listened to the presentations and participated in panel sessions on everything from new studies addressing the use of alternative animal and plant proteins and animal by-products to digestibility, genetics, enhancing nutritive values and diet formulation.

Feed workshop

Also in February, Dr. Michael Rust of the NOAA Northwest Fisheries Science Center hosted a workshop on alternative feeds at the annual Seafood Choices Summit in San Diego, California, USA. The workshop, which featured speakers from EWOS and Troutlodge, attracted a cross section of representatives of the seafood marketing and processing industries, aquafeed manufacturers, environmental NGOs and seafood retailers.

“There are a wide variety of meals available that can provide what is needed by fish from a nutritional standpoint,” Rust said. “The key to getting these materials from the fish nutrition labs to the feed mills is making sure that they are economically competitive, have an acceptable environmental footprint and maintain the taste, texture and healthful nutrients that seafood is famous for.”

The next step for the NOAA-USDA initiative will be the release of a draft white paper summarizing the results of the researcher and stakeholder meetings and highlighting recent research advances.

(Editor's Note: This article was originally published in the July/August 2009 print edition of the Global Aquaculture Advocate.)

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