

New insights could mean better fish feeds

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A better understanding of what happens in a fish's body when it eats could lead to the production of better fish feeds. Researchers at the University of Gothenburg, Sweden, are hoping to contribute to more energy-efficient aquaculture. In the long term, this could increase the supply of farmed fish and so provide more food for the Earth's burgeoning population.

Studies of fish by researcher Henrik Seth from the University of Gothenburg's Department of Zoology have helped to increase our understanding of what happens in parts of the body after one of its most frequently recurring activities: eating.

It has long been known that a number of changes take place in the body following [food intake](#), including an increase in blood flow to the stomach and intestines. This happens in humans and other [mammals](#) as well as in fish. However, we still know relatively little about the signals that trigger these changes and how they are regulated. Both the volume and the chemical composition of food play a role in how the body reacts.

Chemical composition affects energy consumption

"It's not just blood flow that is affected by its chemical composition, but also energy consumption in the stomach and intestines, and these factors are believed to be interlinked," says Seth.

If energy consumption in the stomach and intestines rises, an increased blood flow will be needed to supply the active tissue with [oxygen](#) and

nutrients.

"Increased [blood flow](#) is also important for carrying away absorbed nutrients so that they can be used to nourish different parts of the body and to build up and repair different tissues."

The results of Henrik Seth's research also show that parts of a fish's [nervous system](#) are involved in this regulation, and that a number of hormones (including cholecystokinin) can affect this regulation depending on the composition of the food.

It is primarily here that an increased understanding of this field could make it possible to produce fish feeds in the future that require less energy to be broken down and absorbed.

"It might then be possible to enhance the growth of farmed fish, which would greatly increase the efficiency of fish farming with less wastage of energy," says Seth. "Using nutrients as efficiently as possible may prove increasingly important as the global population continues to swell."

Provided by University of Gothenburg

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