



Eat Like a Pig

A school of anchovies

Nikontiger

by Rowena Rae

If you like fish, eat like a pig. Really. Forget the potato peels and leftover lunch from the old days — factory-farmed pigs eat tonnes of little fish like anchovies, sardines, and herring.

These little fish are caught off the coasts of South America, northern Europe, and Alaska. Most are then ground up into fishmeal and fish oil to feed pigs and chickens, and, more often these days, farmed salmon.

Little Fish, Big Value

Daniel Pauly, a fisheries biologist at the University of British Columbia's Fisheries Centre in Vancouver, thinks that turning these little fish into animal feed is a terrible waste. They are tasty, nutritious, and valuable fish, he says.

The little fish are food for bigger fish like tuna and cod, for seabirds like gulls and puffins, and for marine mammals like seals and baleen whales. They're also food for people, and especially in developing countries, they are — or could be — a much-needed source of protein.

Little fish swim in dense schools so they are easy to catch. Fishing boats use nets to scoop up large volumes of them — about 30 million tonnes, or one-third of the world's fish harvest, every year. (That would be the same weight as 150 of the world's largest cruise ships.)

Because little fish are easy to catch, they can be sold at a

low price, making them attractive as animal feed for industrial livestock and fish farming. Dr. Pauly and his colleagues report that 90 percent of the little fish caught by the world's fisheries are destined to be fishmeal in a pig trough, a chicken coop, or a salmon net cage. Jennifer Jacquet, a researcher working with Dr. Pauly, would like to see our words and attitudes reverse. She says, "We should turn fishmeal into a meal of fish."

Discover the Anchovy

People elsewhere in the world agree. Patricia Majluf, a scientist at Universidad Peruana Cayetano Heredia in Peru, wanted more of her country's huge anchovy harvest to be eaten by people

Bugmeal

Pigs eat lots of different things, they don't need fish. But salmon are carnivores — they naturally eat other fish. So is it realistic that farmed salmon could be grown without fishmeal? Maybe.

Bugmeal might just be the new fishmeal. Lou D'Abramo at Mississippi State University is doing feeding trials with hybrid striped bass — also carnivorous fish — to see whether they can be successfully grown on an insect diet. So far, the fish fed bugmeal grow about 75 percent as well as the fish fed fishmeal. Dr. D'Abramo is encouraged by this result. The next step is to modify the insects' diet to increase the quality of the bugmeal (after all, you are what you eat!).

Once the bugmeal "recipe" is worked out, the next step is to try it out on a commercial scale. Stay tuned — you may soon see farmed salmon at the fish market labelled as "100% Bug Fed".



Sam Logan



Throw the Big Ones Back!


Most fisheries target big fish and leave the smaller ones behind. The thinking is that smaller fish are younger and need to have their fish babies before they are caught and killed. But Paul Venturelli, a doctoral candidate at the University of Toronto, says that's backward.

Venturelli and his colleagues studied data from 25 different marine fish, including cod, halibut, salmon, anchovy, and mackerel. They found that bigger, older females produce more offspring. Recreational anglers should throw the big ones back, says Venturelli, and commercial fisheries should avoid the big ones. Nets could be altered, for example, to leave the big fish behind.

in Peru, not by farmed animals and fish in other countries. Many people, though, can't stomach the thought of eating anchovies. So, Dr. Majluf teamed up with a chef and a graphic designer to promote the anchovy as a tasty fish. During "Discover the Anchovy" week in December 2006, about 18,000 people munched anchovies at restaurants all over Lima, Peru's capital city. Dr. Majluf even got Peru's president to eat a meal of anchovies on TV.

The campaign succeeded in raising the anchovy's once-lowly profile. Most people enjoyed the anchovy dishes they ate. Peru's economy was better off, too: a tonne of anchovy

fillets requires fewer anchovies and sells for more money than a tonne of fishmeal.

If fish harvesters make more money per tonne, the government can easily reduce the amount of fish they're allowed to catch. That way, Jacquet explains, marine ecosystems will also benefit by having more little fish available for the big fish, seabirds, and marine mammals. But the key is to stop making little fish into animal feed and to start making meals of little fish for people. Everyone can do their part to reduce waste and overfishing and eat the little fish like anchovies, sardines, and herring — as Jacquet says, "Eat like a pig!" 

Catch Shares: a Solution to Overfishing

Catching fish is a business, and without fish to catch, there's no business. Overfishing is bad for fish, and bad for business. A solution is out there — sharing.

Most fisheries operate on a quota, where a maximum number of fish can be caught. Think of it as a mad dash to get as much pie as possible before everyone else. The result is bad fishing practices.

Researchers have found that fisheries that use catch shares — where fishers receive an equal part of the quota — are more successful. Fishers take their time and fish carefully knowing they are entitled to catch their entire share. Fisheries in Australia, New Zealand, Iceland, and the Gulf of Alaska already use the catch share system.

Researchers at University of California, Santa Barbara, compared data from 100 types of fisheries and found that after 50 years, fewer catch shares had collapsed.

