Spicing up your fish fillets with science

August 14 2013

The health benefits of consuming omega-3 long chain polyunsaturated fatty acids such as EPA and DHA are well established. The primary sources of these fatty acids in the human diet are through fish and seafood. Researchers at the University of Saskatchewan, Department of Animal and Poultry Science are studying new methods of improving the fatty acid composition of farmed fish.

As wild fish stocks decline, the aquaculture industry has become one of the fastest growing animal production sectors; this growth has increased demand for aquaculture feed production, which has caused further demand for fish oil. Historically, fish are fed fish oil to increase levels of EPA and DHA. However, the fish oil supply is static; cost has increased and the industry is seeking low cost alternatives such as vegetable oils.

In this paper just published in the *Canadian Journal of Animal Science*, authors investigated strategies to increase long chain polyunsaturated fatty acids in rainbow trout. They looked at the addition of coriander oil to vegetable oil-based diets to increase the bioconversion of alpha-linolenic acid to EPA and DHA.

Their research showed that coriander-fed fish had increased concentrations of EPA and DHA in the whole fillet. They also found that there were no negative effects on the health or growth of the fish.

"Our study shows that the addition of coriander oil to vegetable oil diets has the potential to improve the fillet fatty acid composition of farmed fish," says Dr. Murray Drew, a Professor at the University of

Saskatchewan's College of Agriculture and Bioresources and co-author of the study. "This discovery will contribute to the overall sustainability of aquaculture."

In addition to finding alternative ways to increase the levels of EPA and DHA in farmed fish, innovative methods such as the use of coriander oil creates a new market for spice growers in Canada.

More information: The article "Effect of dietary coriander oil and vegetable oil sources on fillet fatty acid composition of rainbow trout" was published online today in the Canadian Journal of Animal Science: pubs.aic.ca/doi/abs/10.4141/cjas2013-001

Provided by Canadian Science Publishing (NRC Research Press)