

Nutrition Benefits of Fish Consumption

Corilee Waters

Consumption of fish, our primary source of long-chain omega-3 polyunsaturated fatty acids EPA and DHA, is associated with numerous health benefits including improved infant cognitive and visual development, reduced risk of cardiovascular disease, reduced risk of non-alcoholic fatty liver, and reduced inflammation and positive clinical outcomes in inflammatory disease.

Increasing fish consumption is an easy way to improve the health of Hawaii's residents. Work Dr. Watters has done with Hawaii State Department of Health indicates the median intake of fish in Hawaii is 5.3 ounces per week, which is below the recommended intake level of 8 oz per week by the American Heart Association. Healthy Seafood Hawaii is a project funded by the National Oceanic Atmospheric Administration to take seafood nutrition, culinary education and culinary education information into the homes of consumers. To achieve this goal Dr. Watters has been studying the topic of locally available fish from the following perspectives:



Nutritional Enhancement of Long-Chain Omega-3s in Tilapia

Tilapia can be grown with feeds low in EPA and DHA, but this results in low EPA and DHA in the fish for consumption. In this study we changed the EPA and DHA of tilapia feed to increase the level of these beneficial fatty acids in the flesh of the fish.

Collaborators: Dr. Clyde Tamaru, MBBE, and Dr. Adrian Franke, UH Cancer Center

Cost of DHA and EPA in Farmed versus Wild Fish

In 2010 we collected data from Honolulu supermarkets looking at all available sources of EPA and DHA. We have been analyzing the data to look at the cost to consumers in terms of all available products, and in terms of farmed or wild-caught fish.

Collaborators: Dr. Christopher Edmunds, UH-Center on the Family, and Dr. Ping Sun Leung, UH-Department of Natural Resources and Environmental Management

Cost analysis of EPA and DHA from fish, supplements and foods (poster)

<http://www2.hawaii.edu/~cwatters/Cost%20analysis%20of%20EPA%20and%20DHA.pdf>

Fatty acid composition of aquaculture products in Hawai'i

With the expansion of aquaculture production and the introduction of numerous new species, nutritional data for many local aquaculture products is lacking. We have obtained and have been analyzing over 25 different local aquaculture products for their fatty acid, mercury, and selenium contents.

Collaborators: Dr. Adrian Franke, UH Cancer Center, and Dr. Alfred Asato, Hawaii Department of Health

Dr. Watters and research assistant Lee Rosner have also summarized this information in consumer friendly fact sheets available on Dr. Watters' website.

Healthy Seafood Hawaii

<http://www2.hawaii.edu/~cwatters/healthyseafoodhawaii.html>

Splash of Aloha

This soon-to-be-published comprehensive guide to Hawaiian seafood contains nutritional information, safety information, background on local fish species, cooking techniques and recipes from local chefs.

Collaborators: Ron Takahashi and Daniel Leung, Culinary Arts Department-Kap'iolani Community College, and numerous contributing authors and chefs. Scott Iwamura, past UH senior dietetics student worked on the nutritional analysis for the recipes.

Article content is the sole responsibility of the author. For more information about this article, contact Dr. Corilee Waters, email: WattersC@ctahr.hawaii.edu.