

FISHERIES DIVERSIFICATION PROGRAM

Productivity & Product Enhancement

Project Summary: FDP 204

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Health Benefits of Seal Oil



Introduction

Commercial processing of seal oil products a major potential source of growth for Newfoundland and Labrador sealing industry. While the potential customer base is enormous, demand remains limited in the absence of continued research that provides proof of the value of seal oil as a nutraceutical and pharmaceutical agent. While success has been realized in the past, market

expansion is critical in order to achieve the goal of full utilization of the entire seal.

In an attempt to provide evidence of the health benefits of seal oil, the Department of Biochemistry, Memorial University of Newfoundland and Labrador, with funding from the Fisheries Diversification Program, began a research project dedicated to providing evidence of the effectiveness of seal oil in reducing symptoms of Arthritis.

Background

Since the early 1970's, extensive studies have focused on the effects of fish oil (Omega-3) on the risk of developing Coronary Artery Disease or Athrosclerosis. The majority of these studies have involved the use of fish oil supplements, leading to increased production and sales of fish oil products. There has, however, been limited research on the potential benefits of seal oil supplements. Scientific literature is limited to five or six publications for seal oil, compared to in excess of 1,000 for fish oils.

In order to expand commercial applications of seal oil, continued scientific research is critical. The Department of Biochemistry has conducted valuable research in the determination of the health benefits of seal oil and has used this project to provide further evi-

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dence of these benefits. The main objective of the research was to obtain empirical evidence that refined harp seal oil has a significant anti-inflammatory effect in mammals at levels of consumption that are acceptable to humans. The research focused on the possible effectiveness of seal oil supplements in reducing inflammation in patients suffering from Arthritis through testing of animals. Also evaluated were the quality, stability and consistency of composition of seal oil.

Methodology

Scientific research was conducted using refined harp seal oil, at levels of consumption that would be acceptable to humans, to evaluate the level of success in producing an anti-inflammatory effect in mammals. Seal oil samples from Newfoundland processors were analyzed, and animals were used to test the results of seal oil intake. Laboratory animals were placed on a standard diet, supplemented with seal oil, after which the fatty acid composition of their diets was estimated in addition to inflammatory response levels.

Results

Free fatty acid levels of Newfoundland and Labrador seal oil were below the maximum levels that are standard in fish products purchased by Asian markets. These results will have a positive impact on consumer demand and potential market expansion. High levels of Omega-3 Polyunsaturated Fatty Acids were identified after processing, without compromising the stability of the seal oil, which is very important in Asian markets. The animal testing supported anecdotal reports from individuals suffering from Arthritis, that consumption of two or three capsules of harp seal oil over a three-month period resulted in symptomatic relief.

Conclusion

The preliminary research, using animals to evaluate the anti-inflammatory effect of harp seal oil supplements in patients suffering from arthritis, has been successful. The unique characteristics of seal oil over other marine oils is based on Omega-3 content and resultant health benefits. This is critical for expansion into Asian markets for seal oil. The United States and European markets also offer great potential, as the health benefits become widely known. Other scientific research, promoted in conjunction with the results of this project, provides a framework for continued growth of the Newfoundland and Labrador seal oil industry. These positive results have increased awareness of the health benefits of seal oil, leading industry away from bulk industrial oil production, into value-added seal oil encapsulation. These benefits translate to creation of new jobs in the processing sector and extension of the seal processing season.



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