

STABILITY OF FISH POWDER MADE FROM SAITHE (*POLLACHIUS VIRENS*).

Margrét Bragadóttir<sup>1,\*</sup>, Eyjólfur Reynisson<sup>1</sup>, Kristín A. Þórarinsdóttir<sup>1</sup> and Sigurjón Arason<sup>1,2</sup>

<sup>1</sup>Icelandic Fisheries Laboratories, Skúlagata 4, 101 Reykjavík, Iceland

<sup>2</sup>University of Iceland, Skúlagötu 4, 101 Reykjavík, Iceland.

The quality and stability of spray dried fish powder made by enzyme hydrolyzation of cut-offs and flesh from the backbone of saithe (*Pollachius virens*) was evaluated. The oxidative stability was monitored during storage by measuring changes in lipid content, free fatty acids (FFA), conjugated dienes and trienes, as well as by stability test in an Oxipres apparatus. Changes in functional properties were evaluated by monitoring color, viscosity, water-binding capacity and protein solubility. The results showed that the quality and stability of saithe powder was influenced by storage time and storage temperature. The powder did, however, exhibit slight antioxidant activity in a model system of linoleic acid emulsion.

Low lipid extractability in polar solvents and high FFA content (30%), were clear signs that the lipids of the powder were already oxidized in the freshly made powder. Further lipid oxidation and formation of FFA took place during storage experiments and little difference was observed between storage at cool storage temperature (0 °C) and elevated temperature (30 °C). Functional properties of the powder showed more changes at elevated storage temperature, as measured in more color changes (increase in yellowness and redness), more decrease in water-binding capacity, less viscosity and more increased protein solubility than powder stored at cool temperature.