



From wood to fish

A feed concept ready to commercialize!

Project main findings

- Single cell protein (SCP) with a **crude protein content of 57% of dry matter** was successfully produced in the Swedish Biorefinery Demo plant (scale of 10 m³).
- The **amino acid profile of SCP is quite comparable to soy** in percent of protein, with similar levels of two limiting amino acids (methionine and lysine).
- Processing design matters. Extrusion changed the protein structure and larger protein aggregates were formed. Feed containing **pre-extruded SCP improved digestibility and clearly indicated a positive effect on growth**.
- Replacing all soy protein concentrate with SCP showed **no reduction in growth, feed intake, feed conversion or protein composition in rainbow trout** after 12 weeks feeding trials.
- Life cycle assessment of the novel feed formula produced at pilot scale indicates **reduced carbon footprint and land occupation** but at the cost of slightly higher energy demand.

The SALMONAID project in short

RISE- Research Institutes of Sweden, RISE Processum, the Swedish University of Agricultural Sciences and the Biorefinery Domsjö Fabriker AB have developed a fish feed formula replacing soy with single cell protein (SCP) grown on forest-based residual streams.

In close dialogue with industry representatives (from forestry, fish farming and feed manufacture), the project has for 3 years evaluated SCP production, processing techniques and material properties for feed manufacture, effects on fish health and growth and environmental sustainability.

CONTACT

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