



High-Performance Protein Ingredient



**SylPro is a proven high-performance protein with key benefits for use in feeds designed for Recirculating Aquaculture Systems (RAS).**

SylPro is an optimal protein ingredient for use in RAS feed formulations thanks to its superior digestibility and lower nutrient load for RAS system operational performance.

SylPro is comprised of dried, inactive yeast produced from wood substrates in fermentation.

**Nutritional Performance**

- ✓ High protein content: +55% CP (DM)
- ✓ High digestibility
- ✓ Optimizes growth rates in feed up to 20% inclusion
- ✓ Bioavailable amino acid content
- ✓ Contains functional fibers known to promote gut health
- ✓ Free-from mycotoxins, contaminants and heavy metals



**SUSTAINABLE ALTERNATIVE PROTEIN SOURCE**

We compared SylPro to other protein ingredients in a Life Cycle Assessment (LCA) study, measuring climate change impact of protein ingredients.

**SylPro shows the lowest impact on climate change, supporting its viability as a sustainable new source of protein to feed the future safely and sustainably.**



Nutritional



Economical



Traceable



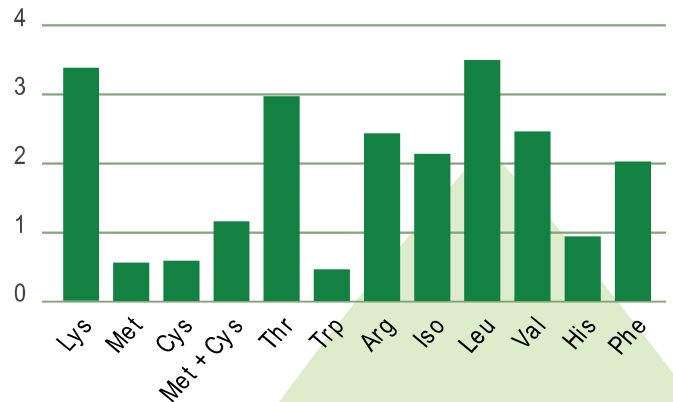
Sustainable

**Typical Compositional Analysis (% As is)**

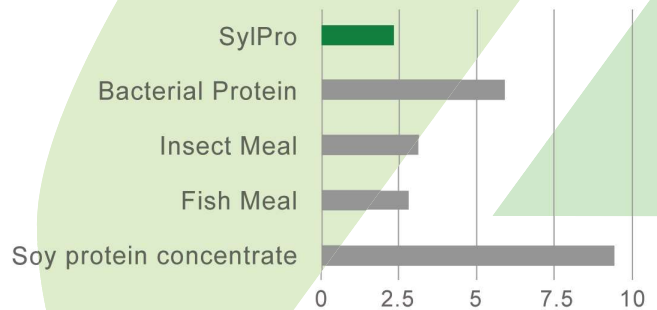
Crude Protein	> 55	Ash	10
Crude Fat	< 1	Ca	*
Crude Fiber	< 1	P	1.5
Moisture	7	Beta Glucans	8.5

\*Not a significant source

**Essential Amino Acid Content (% As is)**



**LCA study results comparing SylPro to proteins in terms of climate change impact (kg CO2 eq/kg protein)**





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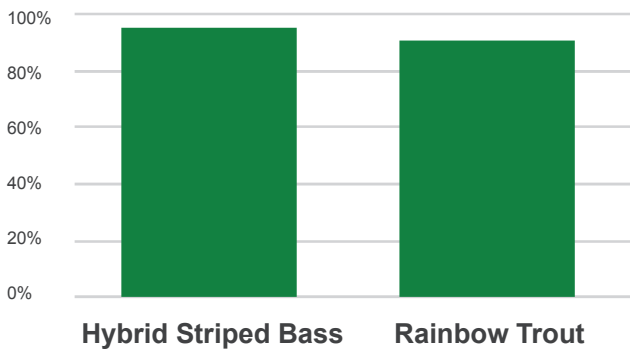
### Functional Performance

- ✓ Performs well in range of extrusion conditions
- ✓ Low solubility for improved pellet water- stability
- ✓ Flowable and low-dust material handling
- ✓ Product is available for commercial trials, with commercial order volume available in 2024

### Traceability

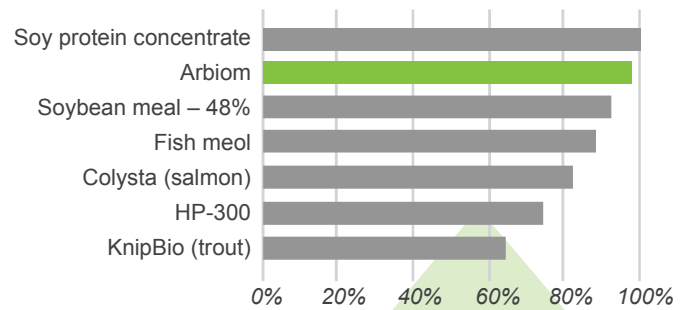
- ✓ Controlled production process ensures consistent product quality and minimal batch-to-batch variations
- ✓ Complete visibility of supply chain, from feedstock sourcing, production facility and delivery

### Apparent digestibility coefficients: SylPro CP ADC in hybrid striped bass & rainbow trout diets (ADC, %)



### Comparison of Crude Protein Availability in Carnivorous Fish (ADC, %)

Hybrid Striped Bass unless otherwise noted



\*Apparent digestibility values obtained from USDA database (Farrows, FT, Gaylord, TG., Sealey, W, and S.D. Rawles. 2016. Database of Nutrient Digestibility's of Traditional and Novel Feed Ingredients for Trout and Hybrid Striped Bass.)

### Hybrid Striped Bass Trial Results

- ✓ No difference in mortality across all treatments
- ✓ No statistical difference in body weight gain or feed intake up to 20% inclusion.

### Atlantic Salmon Trial Results

- ✓ No difference in mortality across all treatments
- ✓ No statistical difference in body weight gain or feed intake up to 20% inclusion.

1) Chen, K. and D. Gatlin III. 2020. Evaluation of enhanced torula yeast with hybrid striped bass (Moronechrysops x M. saxatilis). Aquaculture America 2020. Honolulu, HI. Feb. 9-12, 2020.)



Atlantic Salmon trial was conducted as part of the SYLFEED Consortium with partial funding from the Bio-Based Industries Joint Undertaking under the European Union's Horizon 2020 research & innovation program, Grant agreement No 745591.

Additional trial results available upon request

2) Leeper, A., Knobloch, S., Varunjikar, M., Dubois, M., Ekmay, R., Berlin, A., Hornberg, A., Wallenius, A., Alriksson, B., Smarason, B., and J. Arnason. 2019. Growth performance and gut microbiome of juvenile Atlantic salmon, Salmo salar, fed diets replacing fish meal and plant protein blend with the yeast, Candida utilis. Aquaculture Europe 2019. Berlin, Germany. October 7-10, 2019.

Contact Arbiom to learn more about SYLPro for your feed formulation needs.

Amelie Drouault Europe  
[adrouault@arbiom.com](mailto:adrouault@arbiom.com)

Emily Glenn North America  
[eglenn@arbiom.com](mailto:eglenn@arbiom.com)



To learn more, visit [www.arbiom.com](http://www.arbiom.com)



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