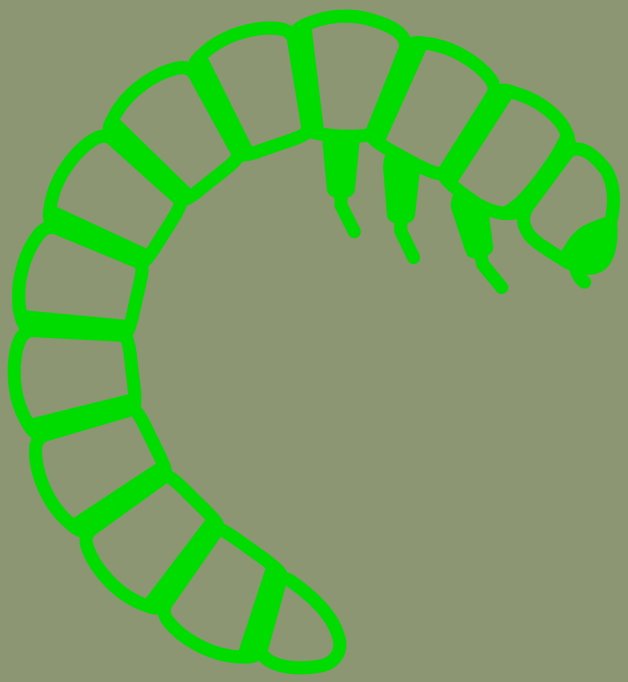
Mealworm Protein



Like a PRO

like-a-pro.eu

project-like-a-pro

LIKE-A-PRO is a EU-funded project aiming to facilitate sustainable and healthy diets by mainstreaming alternative proteins and products, making them more available, accessible and acceptable.

Excellent nutritional profile

Yellow mealworm stands out for its excellent nutritional profile and sustainable production potential. They are easy to breed and raise and have a stable protein content. For this reason, they have been produced industrially as feed for pets and production animals as the larvae contain high levels of protein (29–36% w/w, dry matter), 15% fat, along with essential vitamins, minerals, and fatty acids.

Their protein quality is comparable (or even higher) than conventional animal and plant sources.

YNSECT produces two complementary *Tenebrio molitor* ingredients:

YnMeal®, a dry, high-protein concentrate marketed for feed; while nutritionally strong, its particle size create a gritty/sandy mouthfeel, so additional milling and sensory optimisation are needed for human food applications.

WetMass™ is a minimally processed, whole-larva wet matrix designed for food processing routes such as texturization and extrusion (e.g., meat/fish analogues); its main limitations are high moisture and lower protein density, which affect life and may require further stabilisation or drying).

Funded by the European Union

Optimised Extraction Process

As part of LIKE-A-PRO project, **YNSECT** optimised both mealworm protein processes to improve their suitability. For **YnMeal®**, post-processing was refined through finer milling to reduce particle size and improve sensory quality. For **WetMass™**, mild processing conditions were optimised to preserve native protein functionality while ensuring safety and homogeneity.

Combined, these improvements delivered in the below characteristics for optimised ingredients:

High quality and digestibility

With a balanced amino acid profile and **strong digestibility**. YnMeal® reaches a Protein Digestibility Corrected Amino Acid Score (PDCAAS) of 0.86 out of 1, while WetMass™ achieves 0.72, supporting applications in high-protein foods, active-lifestyle nutrition and functional formulations.

Application-oriented

Produced through a mechanical, **solvent-free process** with **low energy use**, reduced environmental impact, and full traceability, delivering a **non-GMO**, **allergen-free** ingredient that supports clean-label products.

Sustainability and circular economy

Controlled mealworm farming, **valorisation of organic by-products** and **energy-efficient processing** (energy <3% of total cost) make this process circular and sustainable.

The market strategy for mealworm derived proteins YnMeal® and WetMass™ emphasises the dual-ingredient platform, enabling tailored solutions for **extrusion-based products**, **emulsified systems** and **structured foods**, prioritising B2B partnerships and co-development projects with food, feed, nutraceutical and functional nutrition manufacturers.

The current market context is highly favourable for this strategy as the edible insect protein market is projected to grow at a CAGR of approximately 44.8%, with Europe positioned as a leading region due to early regulatory approvals and policy support under the EU Green Deal, Farm to Fork Strategy, and EU Protein Plan. As current applications are dominated by animal feed and pet food, human food and functional ingredients represent a rapidly emerging growth opportunity, creating **strong market opportunities** for YNSECT products.

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