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Calanus® Oil

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Zooca® Calanus® Oil is a Novel Food approved, sustainable, rich oil from Calanus (zooplankton), which contains a full spectrum fatty acid profile, Marine Policosanols and Astaxanthin, bound in a natural form called wax esters. This unique composition is supported by clinical research on metabolic health and healthy aging.

PRODUCT PROFILE SHEET

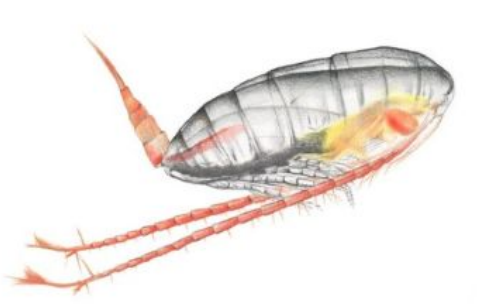
Calanus finmarchicus is a crustacean, small in size but huge in numbers: one of the most abundant species of zooplankton in the North Atlantic and one of the Norwegian Sea's largest renewable resources.

Calanus is 3-5 mm long and is nearly at the bottom of the food chain; it feeds on phytoplankton and obtains energy derived from photosynthesis lower down in the food chain.

Zooca® Calanus® Oil is a novel ingredient, beyond Omega-3. It is a liquid wax: a broad fatty alcohol and fatty acid composition with strong and synergistic metabolic and ergogenic effects between key bio-actives:

- **Omega-3 fatty acids:** Predominantly SDA (stearidonic acid), EPA, and DHA.
- **Omega-11 fatty acids:** Cetoleic acid.
- **More than 40 different fatty acids** are present in the novel oil.
- **Marine Policosanols:** The only commercially available marine source of Policosanols (nearly 40% as wax esters), mainly monounsaturated (eicosenol and docosenol). Research on Policosanols has shown to increase physical performance, reduce abdominal fat, and have anti-inflammatory effects.
- **Astaxanthin:** Highest content among all marine oils, making it the strongest antioxidant, natural marine oil on the market. The high concentration of Astaxanthin in Zooca® Calanus® Oil also serves as a natural safeguard, protecting the fatty acids from oxidation. This helps maintain the freshness and quality of the product.

Scientific research on Zooca® Calanus® Oil demonstrates that this branded ingredient supports overall **metabolic health**, helps maintain **lean body mass** and **healthy body composition**, and supports maintenance of healthy **insulin levels** and **insulin sensitivity**. This, overall, makes it an innovative ingredient for **healthy aging**.



Close-up of *Calanus finmarchicus*

Product Advantages

- ✔ **Unique 3-1 Natural Composition**
  Fatty Acids, Marine Policosanols and Astaxanthin bound in a natural, wax ester form
- ✔ **Bioavailable Source of Omega-3s**
- ✔ **More than 20 years of Science**
  (+20 publications)
- ✔ **Studied to Support Metabolic Health and Healthy Aging**
- ✔ **Delayed Release**
  Research shows wax ester form delays absorption in the digestive system
- ✔ **Eco-Friendly and Sustainably Sourced**
  Due to its abundance in nature and short life span (1 year)
- ✔ **Natural and Unrefined, Solvent-Free Extraction**
  Using gentle, low-heat process without any additives
- ✔ **Novel Food Approval**
- ✔ **Officially Approved by Codex Alimentarius**
  In the Global Standard for Fish Oils
- ✔ **Halal Certified**

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Research

Benefits on Glucose Metabolism and Insulin Sensitivity

A randomised, double-blind placebo-controlled study[1] on 43 adults (aged 40-75 years), taking 2g/day of Zooca® Calanus® Oil for a period of 12-16 weeks was carried out to evaluate the beneficial effects on glucose metabolism and insulin sensitivity.

Results demonstrated that after 12 weeks, the **Hepatic Insulin Resistance Index was reduced by 19%**, the HOMA-IR test (which determines the **level of insulin resistance**) was **reduced by 20%** and **fasting insulin was reduced by 18%**. Furthermore, the Omega-3 index increased by 20% in the Zooca® Calanus® Oil group[1].

A new randomized, double-blind, placebo-controlled trial[2] published in April 2025, was conducted on 266 participants over a 12-week period. The idea of this study was to further confirm the potential of Zooca® Calanus® Oil to **improve glucose homeostasis** in individuals with abdominal obesity and varying degrees of insulin resistance (IR).

Participants were divided into four intervention arms: Zooca® Calanus® Oil at 2g/day, 4g/day, 2g/day combined with a lifestyle intervention (LI), and placebo. All participants exhibited varying degrees of insulin resistance but were otherwise healthy.

The main finding of the study was that Zooca® Calanus® Oil significantly **improved insulin sensitivity, primarily in individuals with mild insulin resistance**. This study also provides new clinical evidence that Zooca® Calanus® Oil may positively influence insulin sensitivity and metabolic regulation, particularly when used preventively in the early stages of insulin resistance[2].

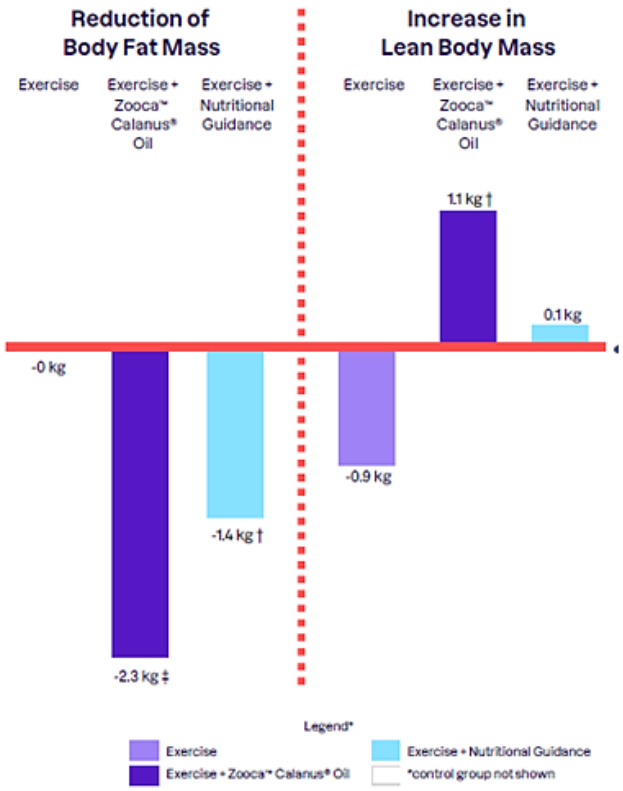
A recent pilot study[3] published in September 2025 demonstrated **improved heart relaxation and metabolic balance** in women with obesity and prediabetes. This 12-week trial involved 20 middle-aged women with obesity (BMI ≥ 28) and occasional blood sugar irregularities—conditions that increase the risk of cardiovascular disease and diabetes. Participants received 4 g/day of Zooca® Calanus® Oil. The main result was a **significant improvement in cardiac diastolic function**, measured by the E/A ratio—a key indicator of how efficiently the heart relaxes and fills with blood between beats. Additional findings included an improvement in the TyG-WHtR index (a composite measure of triglycerides, glucose, waist, and height), suggesting **enhanced insulin sensitivity and reduced metabolic stress**[3].

Benefits on Fat Mass & Lean Body Mass

A randomised, controlled clinical study with a moderate exercise intervention on 134 healthy untrained participants (aged 50-70 years), taking 2g/day of Zooca® Calanus® Oil for a duration of 12 weeks, demonstrated a significant reduction in fat mass as well as a significant **increase in lean body mass** (+2%).

Omega-3 index significantly increased by 21.5%, and Omega-6 levels decreased. The group taking Zooca® Calanus® Oil **showed the greatest decrease in triglyceride levels**[4,5].

Table 1
Fat Mass & Lean Body Mass



Benefits on Exercise Training

Scientists wanted to assess the effects of Zooca® Calanus® Oil together with an exercise training program. They compared this combination to dietary recommendations, exercise alone, and no intervention on nutritional, metabolic, and sports performance parameters.

For this purpose, data from the 4-arm, randomised, controlled clinical study with a moderate exercise intervention on 134 healthy untrained participants (aged 50-70 years) taking 2g of Zooca® Calanus® Oil per day for a duration of 12 weeks was analysed.[4-6]

The results showed that all four study groups had a reduction in fat mass, **with a significant reduction in fat mass** in the Calanus intervention group (-8.5 %) as well as a **lean body mass increase** (+2 %).

The three intervention groups all significantly up-regulated the capacities of **SIRT1** and **SIRT3** (two sirtuins that are central to the control of metabolic processes) with the **strongest increase** seen in the Calanus group with 36% and 64%, respectively.

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The **Omega-3 Index significantly increased by 21.5%** in the Calanus group, and **Omega-6 levels decreased**, excluding the impact of exercise (exercise-alone group did not affect Omega-3 levels). No significant decrease in blood lipids was observed, however the Calanus group showed the greatest decrease in triglyceride levels among the 4 groups.[4-6]

Benefits on Metabolic Health and Healthy Aging

A double-blinded randomised clinical trial on 55 women (aged 62-80 years) with a BMI of 25 – 30 kg/m² was carried out for 16 weeks. The dose was 2g/day of Zooca® Calanus® Oil. The objective was to investigate the effects of Zooca® Calanus® Oil supplementation together with an exercise program in older women regarding metabolic health and adipose tissue inflammation[7-10].

Results showed an **improved body composition** with a 14% reduction in visceral fat area (cm²), **benefits on heart function** with an 8% increase in maximum stroke volume and maximum cardiac output and 2.7% increase in maximum heart rate.

Furthermore, there was a significant 12.5% increase in **whole-body insulin sensitivity** (measured as glucose disposal rate) and **significant improvement in functional strength** in the lower body by 25% (30-second chair stand)[7-10].

Table 2
Increase in Muscle Strength

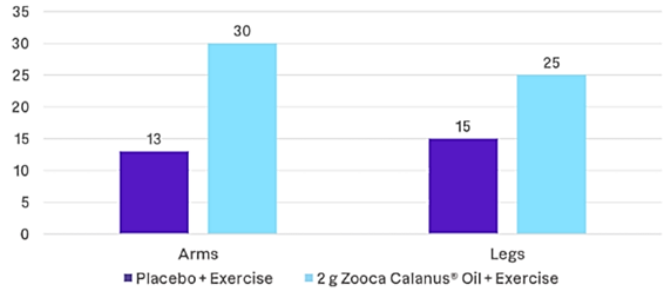
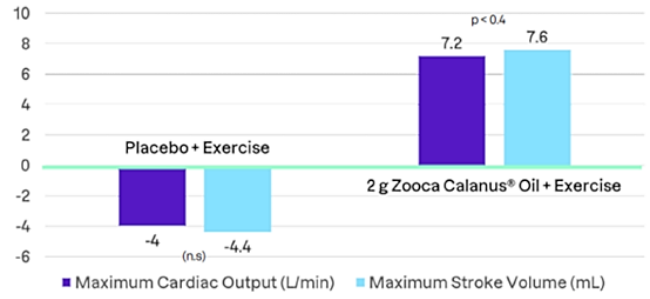


Table 3
Cardiac Function



Bioavailability

In a randomised, open-label, parallel-group study, Zooca® Calanus® Oil demonstrated to be well absorbed and bioavailable and was as effective at increasing the Omega-3 Index as other Omega-3 sources known to have good absorption[11]. A previous randomised, two-period crossover study confirmed that Wax Ester rich oil from Calanus is highly absorbed and is a bioavailable source of EPA + DHA suitable for human consumption[12]. The wax ester form allows for a delayed absorption process further down the digestive system. This sustained release mechanism helps key nutrients to interact with specialised nutrient receptors.

In Summary

Zooca® Calanus® Oil is a **highly absorbed, bioavailable** and rich oil, clinically studied to **support the five pillars of metabolic health:** Cardio efficiency, normal blood sugar, insulin support, lean muscle mass and muscle strength.

In the context of GLP-1 therapies and modern weight loss approaches, these benefits are increasingly relevant for long term weight maintenance, where preservation of lean mass and metabolic resilience become key challenges after initial weight loss. More information can be found in the Zooca® Metabolic Support in the GLP1 Era Document available on Resources.

Manufacturing Process

The manufacturer is committed to a minimum by-catch through technology development and capacity building. The catching method is a self-developed, patented, environmentally friendly towing system for scooping and harvesting of ***Calanus finmarchicus***. Once collected, the Calanus is immediately frozen on the boat to preserve nutrient profile, quality and freshness. The manufacturer has built the world's first processing plant for ***Calanus finmarchicus***, located in Sortland, Norway. This state-of-the-art facility is close to harvesting areas with a medium-term capacity of 10,000 tonnes and the possibility to expand to 15,000 tonnes.

Harvesting Calanus

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Quality Assurance

Because Calanus is such a small organism with a short life cycle, **it accumulates significantly lower levels of pollutants than other marine aquatic species.**

As such, it does not require a rigorous extraction process to ensure a high-quality and pure finished product. The oil is gently refined, without the use of chemicals, ensuring a natural and unprocessed product.

Certifications

Company and ingredient Certifications:

Throughout certifications and revisions, extensive audits of all operational aspects are conducted by objective third parties, confirming compliance, sustainability, and adherence to all quality standards. The company holds the following certifications:

- **ISO 9001 Certified since 2015:** Demonstrates Zooca®'s ability to consistently provide products meeting customer and regulatory requirements, with a commitment to continual improvement.
- **Marin Trust Certified since 2019:** A factory certification standard ensuring responsible manufacturing and raw material sourcing, aligned with the FAO Code of Conduct for Responsible Fisheries. Marin Trust certification allows Zooca® to demonstrate their commitment to being a responsible producer, where they recognise the importance of responsible fisheries management and ethical operation of their company.
- **Friend of the Sea Certified since 2020:** A project promoting seafood from sustainable fisheries, showcasing Zooca®'s commitment to sustainability and traceability.
- **Halal Certified since 2023:** Ensures adherence to ethical dietary and religious standards, allowing Zooca® to cater to diverse preferences and ethical practices.

Sustainability

Meeting the Need without Compromising the Future

Zooplankton is an eco-friendly, sustainable resource in the Norwegian Sea as the Calanus population regenerates every year. Approximately 290 million tonnes of Calanus are born every year.

Currently, of this number, only 0.0005% are sustainably caught and harvested annually to produce Zooca® Calanus® Oil.

About 10% of the total Calanus reproduced every year serves as food for a variety of fishes and animals. In early autumn, **80%** of Calanus make their way deep down into the dark ocean where the majority remineralises into the sea, providing nourishment for the marine ecosystem.

Only 10% hibernates through winter to restart the life cycle and, in late winter and early spring, make their way up to the ocean's surface to spawn and repeat the 1-year life cycle all over again.

Harvesting and Extraction

Zooca® Calanus® Oil adheres to the highest environmental standards in all aspects of its operations from harvesting to extraction. **Their engagement to minimise the effects on the marine environment** is implemented internally through a Policy for Sustainable Harvesting.

To support the sustainability of Zooca® Calanus® Oil, the manufacturer is committed to a minimum by-catch through technology development and capacity building. This is a carefully managed process to ensure that other species and habitats within the ecosystem stay healthy.

The manufacturer **uses fishing vessels (off-season) that would normally be used during summer** for standard fishing practices. Therefore, there is no need to build specialised vessels to harvest zooplankton.

The catching method is a self-developed, patented, environmentally friendly towing system. The production technology utilises 100% of the Calanus raw material. As such, the extraction process is a waste-free, fully integrated process.

Calanus finmarchicus flushed ashore

Product Safety

The ingredient is recognised as safe and is Novel Food approved in Europe at a **maximum level of 3.1g per day.** The ingredient is also GRAS approved (Self Affirmation) in the US, holds a Natural Health Product approval from Canada, FSSAI (Food Safety and Standards Authority of India) approval, and has TGA (Therapeutic Goods Administration) approval as permitted ingredient for use in listed medicines in Australia.

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Product Range

Product	Active / Ingredient	Delivery Form
Zooca Calanus Oil	*Calanus finmarchicus*	Oil
Zooca Softgels	*Calanus finmarchicus*	500mg oval softgel
Zooca D3 Softgels	*Calanus finmarchicus*+Vit D3	525mg+5µg Vit D3 oval softgel

Product Pack Size

Zooca® Calanus® Oil is supplied as 180kg drum (standard size) s or 23.5kg bags (for small trial runs).

Product Applications

Zooca® Calanus® Oil is mainly used in softgel capsules.

Typical Example of Calanus Oil

Product Dosage

The Daily Dosage (DD) recommendation for Zooca® Calanus® Oil is currently not established. **The daily dose (DD) vary from one to four 500 mg capsules (0.5g to 2g), the most common are two to four 500 mg capsules (1g-2g) per day.**

Food supplements are intended to complement a regular diet, and therefore, the DD may vary based on individual dietary habits, including normal consumption of foods containing omega-3s and astaxanthin. Personal factors such as age, body weight, sex, and other characteristics can influence the appropriate dosage, leading to a recommended daily dosage range.

The maximum level of Zooca® Calanus® Oil according to the EU Novel Food amendment (2025/1513) is 3.1 g/day (< 7.75 mg astaxanthin per day) for the general population older than 14 years of age.

We recommend taking Zooca® Calanus® Oil with a meal, preferably one that contains dietary fats. This is because Zooca® Calanus® Oil is a supplement ingredient consisting of lipids (fatty acids), and taking it with food containing fats helps signal the digestive system to prepare for the digestion and absorption of lipids.

Labelling Considerations

Based on the Novel Food amendment (2025/1513) the labelling of food supplements containing ***Calanus finmarchicus*** oil shall bear a statement that those food supplements should not be consumed:

- If other food supplements containing astaxanthin esters are consumed on the same day.
- By infants and children younger than 3 years / children under 10 years of age / children and adolescents under 14 years of age depending on the age groups the food supplement is intend for.

For more details on the Commission Implementing Regulation (EU) 2025/1513, download here.

Approved Health Claims

In addition to the research studies, Zooca® Calanus® Oil also benefits from the EFSA approved health claims related to **DHA and EPA** (Commission Regulation EU 1924/2006 and 432/2012). We would like to highlight:

DHA and EPA

- Normal function of the **heart** (0.25 g per day)

DHA

- Maintenance of normal **brain function** (0.25 g per day)
- Maintenance of normal **vision** (0.25 g per day)

Allergen Information

Zooca® Calanus® Oil does not contain any common allergens such as dairy, soy, wheat, or nuts. However, it is important to note that the oil originates from a crustacean, specifically ***Calanus finmarchicus***, which is a type of shellfish.

While the production process reduces the allergenicity of the proteins through fragmentation into smaller segments such as peptides and free amino acids, it is still necessary to declare the presence of crustacean as a potential allergen.

About

zooca®
The Calanus® Company

Zooca® - The Calanus Company - are the pioneers and makers of the remarkable, nutritious Zooca® Calanus® Oil, derived from ***Calanus finmarchicus***, the key zooplankton in the Arctic Ocean. Their philosophy is to feed people and animals with sustainable, healthy, high-quality ingredients and finished products produced from the tiny crustacean ***Calanus finmarchicus***.

Factory in Winter

References

1. *Burhop et al. (2022).* Marine Oil from C. finmarchicus Enhances Glucose Homeostasis and Liver Insulin Resistance in Obese Prediabetic Individuals. *Nutrients 17;14(2):396.*
2. *Kerlikowsky et al. (2025)* Calanus Oil and Lifestyle Interventions Improve Glucose Homeostasis in Obese Subjects with Insulin Resistance. *doi.org/10.3390/md23040139.*
3. *Kerlikowsky et al. (2025)* Effects of 12 Weeks of Calanus Oil Supplementation on Cardiac Diastolic Function in Obese and Prediabetic Women—A Pilot Study. *doi.org/10.3390/metabo15090596*
4. *Wasserfurth et al. (2020)* Effects of Exercise Combined with a Healthy Diet or Calanus finmarchicus Oil Supplementation on Body Composition and Metabolic Markers – A Pilot Study. *Nutrients 12 (7), 2139*
5. *Wasserfurth, et al. (2020)* 12-weeks of Calanus finmarchicus oil intake improves omega-3-index in healthy older subjects engaging in an exercise program. *British Journal of Nutrition 1-8.*
6. *Wasserfurth et al.(2021)* Impact of Dietary Modifications on Plasma Sirtuins 1, 3 and 5 in Older Overweight Individuals Undergoing 12-Weeks of Circuit Training. *Nutrients.27;13(11):3824*
7. *Stepan et al. (2022)* Combined aerobic and resistance training with calanus oil supplementation improves central cardiodynamic function in older women. *29;14(1):149*
8. *Cizkova et al. (2020)* Exercise Training Reduces Inflammation of Adipose Tissue in the Elderly: Cross-Sectional and Randomized Interventional Trial. *J Clin Endocrinol Metab1;105(12):dgaa630.*
9. *Dadova et al. (2020)* Effect of Calanus Oil Supplementation and 16-week exercise Program on Selected Fitness Parameters in Older Women. *Nutrients.14;12(2):481.*
10. *Brezinova et al. (2020)* Exercise training induces insulin-sensitizing PAHSAs in adipose tissue of elderly women. *Biochim Biophys Acta Mol Cell Biol Lipids,1865(2):158576.*
11. *Vosskötter et al. (2023)* Equal bioavailability of omega-3 PUFA from Calanus oil, fish oil and krilloil: A 12-week randomized parallel study. *Lipids;58(3):129-138.*
12. *Cook et al. (2016)* Wax-ester rich oil from the marine crustacean Calanus finmarchicus is a bioavailable source of EPA and DHA for human consumption.