

CÂR-Y-MÔR

BIOSTIMULANT DATASHEET

DECEMBER, 2023



Overview

If you are a farmer, grower, market gardener or landowner our organic, 100% seaweed-based biostimulant can help you profitably produce, high-value, nutritious crops and pastures. It will help you adapt to increasingly unpredictable and extreme weather conditions and unlock new cost effective ways to make a measurably positive climate and nature impact.



The origin of seaweed and the production of biostimulant

At Câr-y-Môr we're pioneering the creation of a new, nature-based, home grown plant/crop nutrition industry for Wales. In doing so we will create rewarding, purposeful and meaningful jobs for local rural coastal communities.

Working to support the success of all those working in the agricultural sector our [organic], 100% seaweed-based biostimulant is:

Formulated so as to act as a **broad-spectrum biostimulant** that enhances root growth and resistance to weather and climate-related stresses such as flooding, frosts and droughts, while improving yield of a wide range of crops from pasture land, wheat and potatoes, to lettuce and tomatoes*

Prepared using an **innovative**, low temperature, low pressure, zero chemical and zero raw material waste processing technique that creates a low volume, highly concentrated, zero preservative, liquid non-microbial seaweed-based biostimulant with a shelf life of >5yrs

Produced at our **energy efficient** processing facility, just outside of St Davids, less than 5miles from our regenerative ocean farm

Grown at our regenerative ocean farm, in the **Grade A** waters of Ramsey Sound, in Pembrokeshire, Wales.

*A 2022 analysis of yield effectiveness field trials, consisting over 80 studies and more than 450 comparisons, concluded that the use of **seaweed-based biostimulants increased crop yields by a range of 15.6-18.6%** (Li et al, 2022).

Source: [Li J, Van Gerrewey T and Geelen D \(2022\) A Meta-Analysis of Biostimulant Yield Effectiveness in Field Trials. Front. Plant Sci. 13:836702. doi: 10.3389/fpls.2022.836702](#)

Application rates & Usage instructions

The Câr-y-Môr biostimulant is suitable for all crops and pastures. It can be applied as a foliar spray, root/soil drench, through irrigation lines or as a seed treatment or root dip during planting. It can be used throughout the year from early growth. Continue to apply in conjunction with other sprays during the season when support is required. Recommended foliar application rate is 1.0-2.0 litres per hectare depending upon crop and frequency of application (typically up to 5 times per year).

Tir-a-Môr is 100% miscible and is expected to be compatible with all known nutrients and plant protection agents, however, mixtures with strong alkali's or mineral oils should be avoided. A compatibility (jar/bucket) test with mixes with multiple partners is always recommended before practical use.

For more information on individual crop rates contact the Câr-Y-Môr team
biostimulant@carymor.wales

Biostimulant Composition – Plant Nutrients, Minerals & Organic Compounds

Appearance	Câr-y-Môr 100% seaweed-based plant bio-stimulant	
Form	Liquid	
Colour	Brown	
Odour	Marine	
Organic Certification	Pending	
Specific Gravity	TBC	
Concentration	11.25%	
Total Suspended Solids	TBC	
Organic Matter	TBC	
Total Organic Carbon	TBC	
Inorganic Matter	TBC	
Solubility	Complete	
pH	5.3 - 6.0	
Shelf Life	60 Months	
Preservatives	None as not required	
MACRONUTRIENTS	Oarweed* Laminaria digitata	Sugar kelp* Saccharina latissima
Carbon (C)	34.2% of dry mass	36.2% of dry mass
Hydrogen (H)		
Oxygen (O)		
Nitrogen (N)	1.37% of dry mass	1.21% of dry mass
Phosphorous (P)	2850 ppm	1670 ppm
Potassium (K)	34560 ppm	39460 ppm
Calcium (Ca)	3160 ppm	8670 ppm
Magnesium (Mg)		
Sulphur (S)	0 ppm	0 ppm
MICRONUTRIENTS	Oarweed* Laminaria digitata	Sugar kelp* Saccharina latissima
Iron (Fe)	210 ppm	120 ppm
Manganese (Mn)	10 ppm	70 ppm
Boron (B)		
Molybdenum (Mo)		

Copper (Cu)	0 ppm	0 ppm
Zinc (Zn)	20 ppm	30 ppm
Chlorine (Cl)		
Nickel (Ni)		
Cobalt (Co)		
Sodium (Na)		
Silicon (Si)	2800 ppm	0 ppm
ACTIVE AGENTS	Oarweed* Laminaria digitata	Sugar kelp* Saccharina latissima
Phytohormones (Auxins; Cytokinins; Gibberellins)	Yes	Yes
Polysaccharides (Alginic Acid (Algin); Laminaran; Mannitol)	65.3% of dry mass	73.0% of dry mass
Amino Acids (up to 18 including Betaines)	6.87% of dry mass	6.03% of dry mass
Fatty Acids	1.6% of dry mass	1.9% of dry mass
Vitamins		
Ash	27.8% of dry mass	20.9% of dry mass
OTHER MINERALS	Oarweed* Laminaria digitata	Sugar kelp* Saccharina latissima
(Inorganic) Arsenic (As)		
(Organic) Arsenic (As)		
Aluminium (Al)	120 ppm	0 ppm
Barium (Ba)		
Cadmium (Cd)		
Chromium (Cr)		
Iodine (I)		
Lead (Pb)		
Mercury (Hg)		
Selenium (Se)		
Tin (Sn)	30 ppm	10 ppm

*The composition is based on the source reference below, and we will be updating this in the Summer of 2024 once we've completed the analysis of our harvest.

*Source: [\(PDF\) Analysis of Seaweeds from South West England as a Biorefinery Feedstock \(researchgate.net\)](#)

TRIAL/TEST RESULTS

Based on recent research* there is growing consensus that:

- Seaweed-based biostimulants:
 - **have phytostimulatory properties** that result in increased plant growth and yields in several important crop plants
 - **encourage phytoelicitor activity** as their components evoke defense responses in plants that contribute to resistance to several pests, diseases, and abiotic stresses including drought, salinity, and cold and this is often linked to the upregulation of important defense-related genes and pathways in the plant system, priming the plant defenses against future attacks.
 - also **evoke phytohormonal responses** due to their specific components and interaction with plant growth regulation
- **Only the whole seaweed extracts have been consistently proven to be very effective**, which highlights the role of multiple components and their complex interactive effects on plant growth processes.

In 2024 we will be starting a comprehensive programme of glasshouse and field trials working with the UK's leading research organisations so as to explore the mode of action and efficacy of our seaweed-based biostimulant.

In the meantime for more detailed information on recent relevant studies and their conclusions see:

- Recent insights into the mode of action of seaweed-based plant biostimulants - [20230116-EN-Seaweed-WhitePaper-v11.pdf \(biostimulants.eu\)](#)
- [Current Insights into the Molecular Mode of Action of Seaweed-Based Biostimulants and the Sustainability of Seaweeds as Raw Material Resources \(nih.gov\)](#)
- [Frontiers | A Meta-Analysis of Biostimulant Yield Effectiveness in Field Trials \(frontiersin.org\)](#)

*Source: [Ali, O.; Ramsubhag, A.; Jayaraman, J. Biostimulant Properties of Seaweed Extracts in Plants: Implications towards Sustainable Crop Production. Plants 2021, 10, 531. <https://doi.org/10.3390/plants10030531>](#)

Precautions

This biostimulant is not harmful so no regulatory rules apply however if it is:

- Inhaled: move affected person to fresh air. If any discomfort continues it is advisable to seek medical attention.
- Ingested: if necessary, rinse mouth and provide fresh air. Seek medical attention if any discomfort continues.
- Skin contact: wash off with soap and water.
- Eye contact: Rinse immediately with plenty of water. Remove any contact lenses and open eyelids. Continue to rinse for at least 15 minutes. Seek medical attention if any discomfort continues.

KEEP OUT OF REACH OF CHILDREN AND PETS. Opened containers should be used up or be resealed immediately. This biostimulant can be stored in the unopened original container for up to five years. Store between 5°C and 40°C and avoid freezing. Dispose of container according to local recycling regulations.

Get intouch

We value your partnership in this journey and hope we have the privilege to collaborate with you. If reducing reliance on synthetic fertilisers, safeguarding your margins, and nurturing your land with nature's pure goodness aligns with your ethos, you belong with Câr-Y-Môr.

you can reach us at biostimulant@carymor.wales