

SEAWEED & C^o.



Seaweed Nutrients to Aid Weight and
Blood Sugar Management

ADVISE, SUPPLY & ACCREDIT

SEAWEED

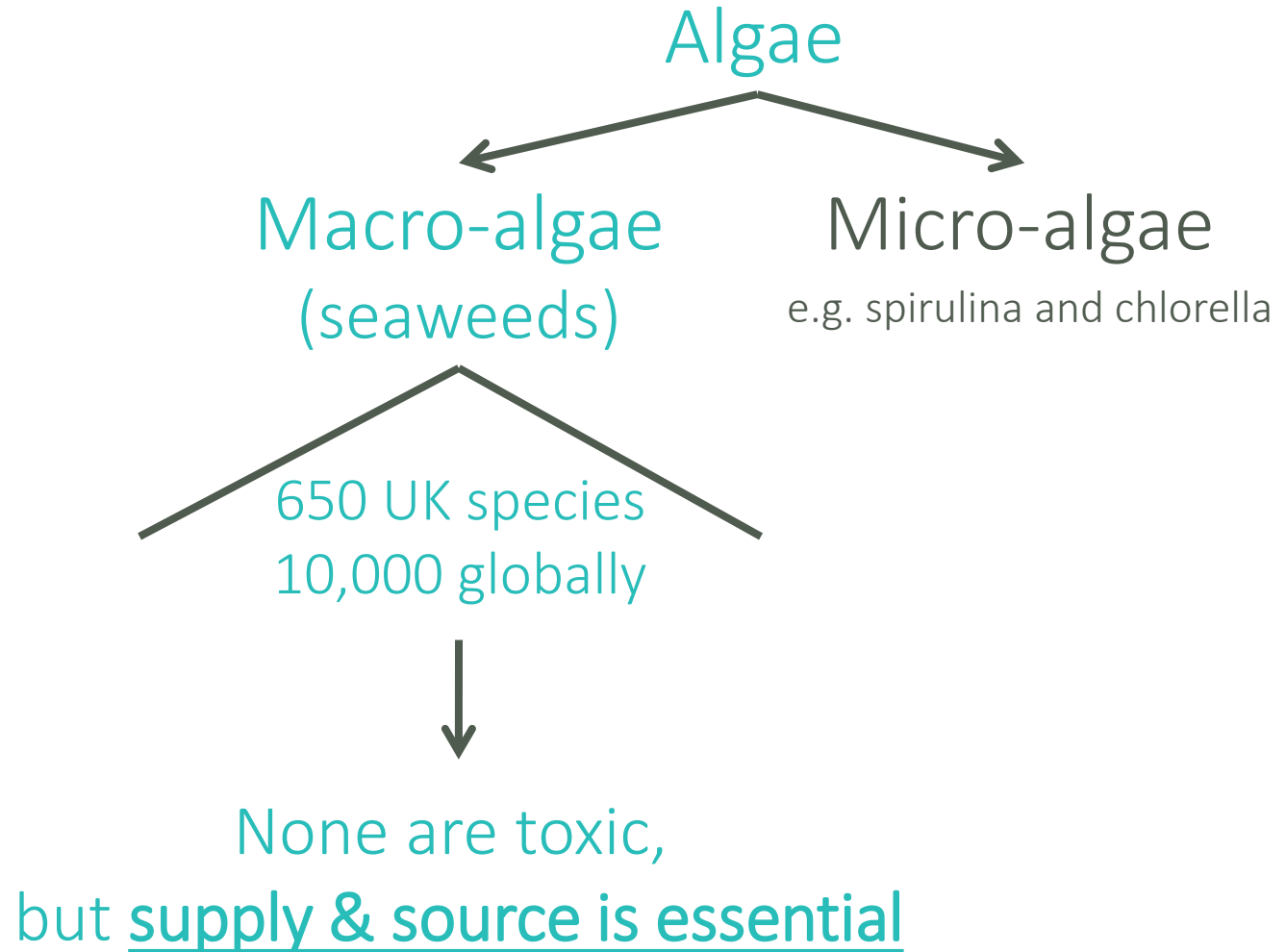
FROM SEA TO STORE

food matters live...

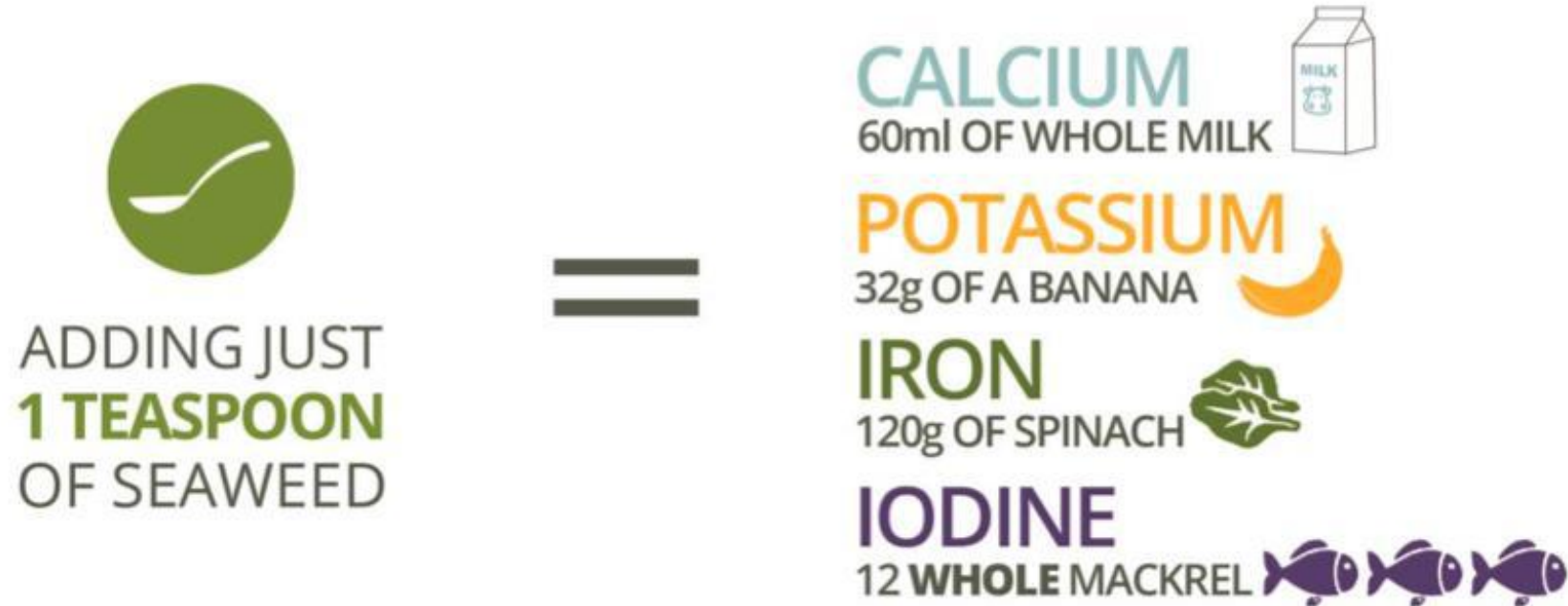
CONTENTS

- What is Seaweed
- Seaweed Nutrition
- Mechanisms for Weight and Blood Sugar Management
- Applying Seaweed Benefits

WHAT IS SEAWEED



SEAWEED NUTRIENTS



Minerals are key, with other nutrition being antioxidants, phenols, essential fatty acids, all the amino acids and vitamin groups

SEAWEED IN WEIGHT AND BLOOD SUGAR MANAGEMENT

Four mechanisms to discuss

1. Satiety

- Increased feeling of fullness due to polysaccharides

2. Fat Absorption

- Specific polysaccharides (alginates) limit fat uptake

3. Blood Sugar Release

- Specific polyphenols reduce rate of carbohydrate digestion

4. Iodine

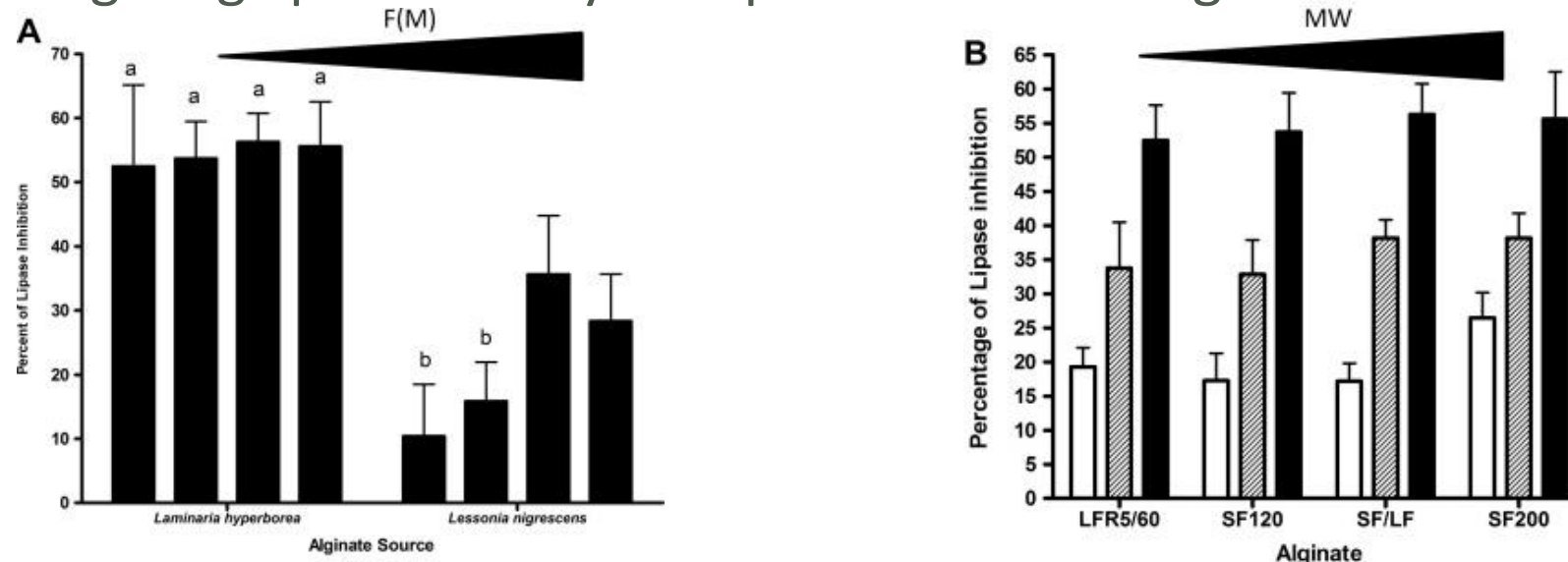
- Normal thyroid function and metabolism – addressing an insufficiency

1) SEAWEED & SATIETY

- Sheffield Hallam University study
- Increased feeling of fullness
 - 16.4% lower energy intake in subsequent meal after eating seaweed enriched bread as compared to the control bread
- Theory that polysaccharides increase satiety due to natural gelling
- Flavour was deemed acceptable
- Limitations: small scale study, with subjectivity possible

2) SEAWEED & FAT ABSORPTION

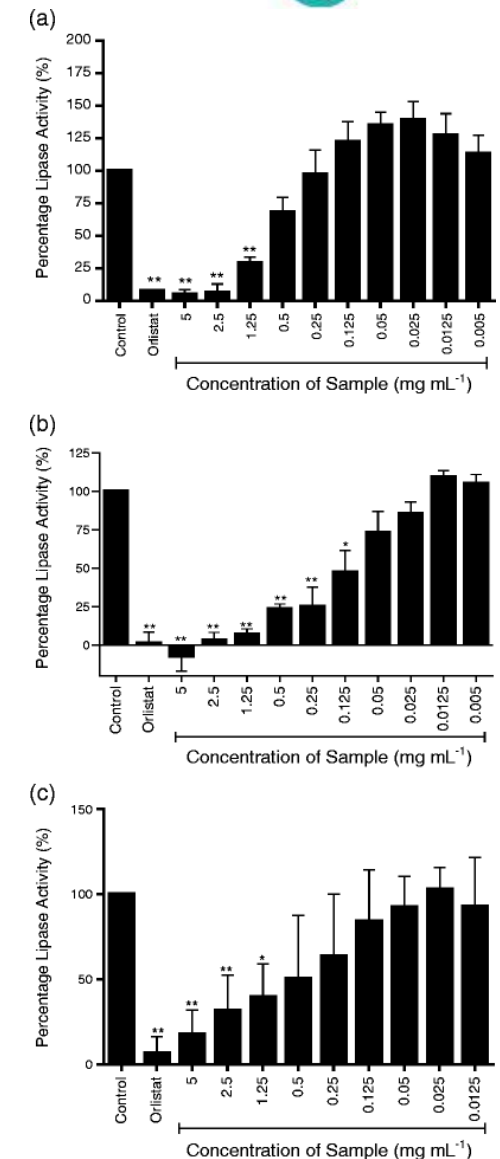
- Newcastle University study
 - On whole seaweed and extracts (alginates)
 - Investigating lipase activity – responsible for fat digestion



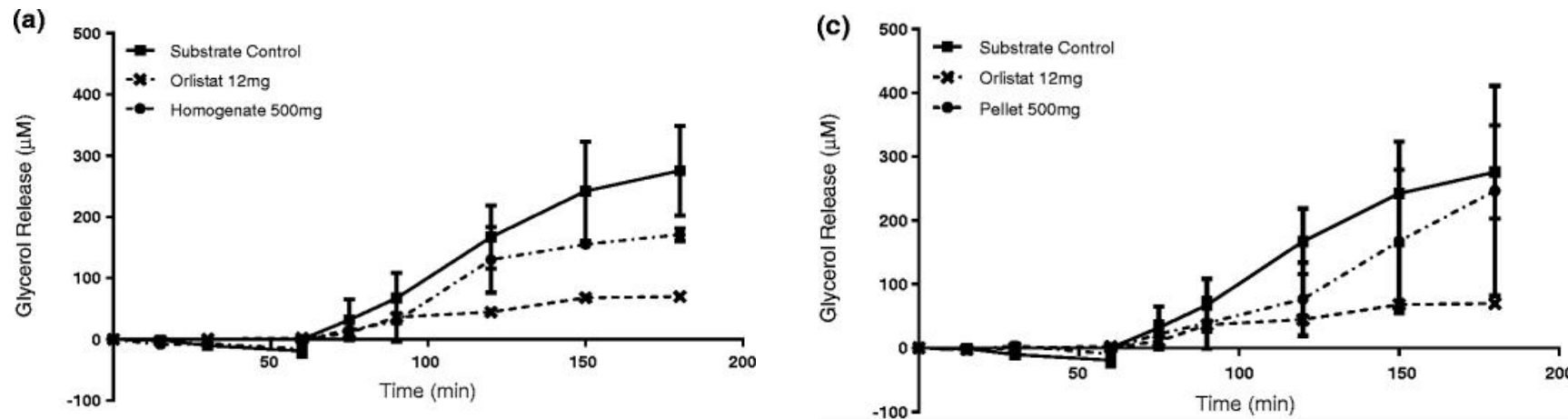
Differing alginate sources & fractions, & their impact on inhibiting lipase i.e. the more inhibition, the less fat is digested and so the less absorbed

2) SEAWEED & FAT ABSORPTION

- Differing seaweed species homogenised sources, and their impact on inhibiting lipase activity (i.e. the more activity, the more fat is digested and so the more absorbed)
- Activity may be alginates as well as polyphenols
- Compared to the drug Orlistat

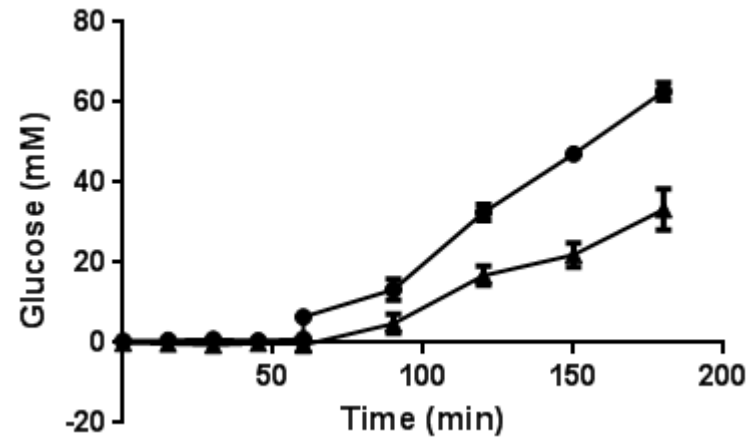


2) SEAWEED & FAT ABSORPTION

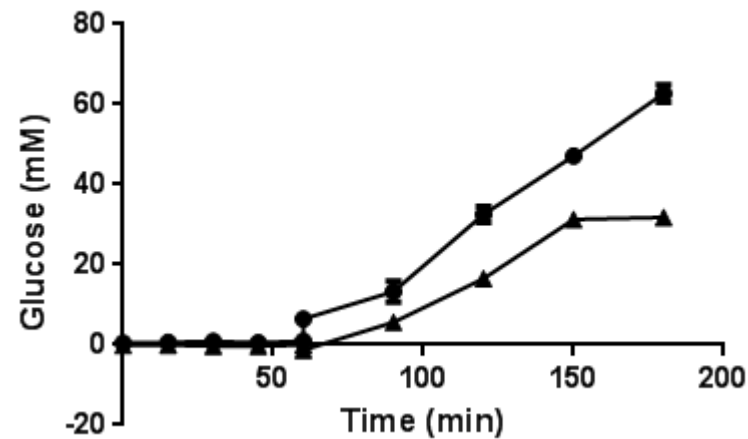


- Comparison of seaweed homogenate and drug Orlistat.
- When polyphenols were removed (pellet), the production of glycerol was higher than when present, therefore indicating polyphenols have an impact of the breakdown of fats, and thus production of glycerol (i.e. reduced polyphenols = more glycerol = more fat digestion)
- Can conclude polyphenols limit fat digestion and subsequent absorption as well as seaweed derived polysaccharides

3) SEAWEED & BLOOD SUGAR MANAGEMENT

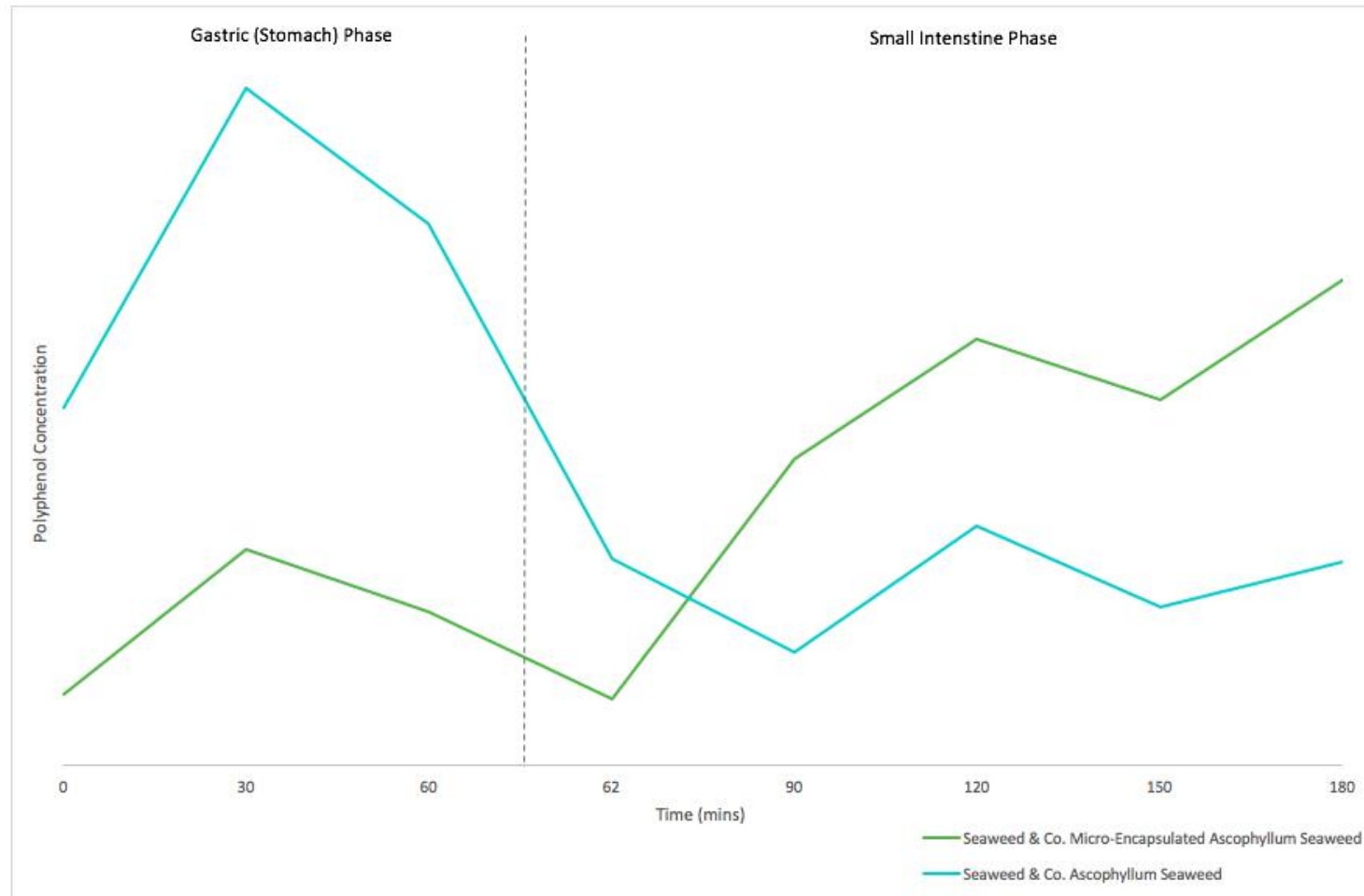


A: Hebridean Ascophyllum: 0.5%



B: Hebridean Fucus: 0.5%

3) SEAWEED & BLOOD SUGAR MANAGEMENT



Gut Model Results

4) SEAWEED IS RICH IN IODINE

- A natural good source of iodine
- UK is vastly iodine insufficient
(worse than South Sudan!)
- British Journal of Nutrition study
- Allows EU Approved Health Claims:
 - **Normal Energy Yielding Metabolism**
 - Normal Growth in Children
 - **Normal Cognitive Function**
 - Normal Functioning of the Nervous System
 - **The Maintenance of Normal Skin**
 - Normal Production of Thyroid Hormones and Normal Thyroid Function

76%

OF GIRLS IN THE UK ARE

IODINE

INSUFFICIENT

APPLYING SEAWEED BENEFITS

- Sustainable, scalable, well researched supply
- Easy-to-use formats
- Good/no flavour impact
- **SEAWEED & Hebridean Asco**
Organic Hebridean Ascophyllum Seaweed
- **SEAWEED & Smoked**
Naturally Oak Smoked Organic Scottish Seaweed
- **SEAWEED & Protect**
Micro-encapsulated Hebridean Seaweed Powder

WHAT SEAWEED CAN DO



SEAWEED SUMMARY

Functional Benefits

- **Weight & Blood Sugar Management**
- Salt replacement and flavours
- Broad nutrition
- Iodine & Health Claims

Key Messages

Organic Wholefood
Innovative
Sustainable Natural
On-Trend Proprietary
Clean-Label Kosher
Vegan Provenance