

# AllTurf Management

## Seaweed Products - Technical Information

### Goëmar Special Grass - High Performance Liquid Seaweed

#### Ingredients

Goëmar GA14 Base plus nutrients to the following final content;

4% Nitrogen (N)

3% Magnesium (MgO)

Trace elements

Produced by the latest method of processing fresh seaweed. After harvesting, the seaweed is washed and then flash frozen to a temperature of -50°C. The deep frozen seaweed is then thawed, squeezed and micronized to a liquid and the cellulose extracted. Trace elements are then added to the material.

#### ***Benefits of Goëmar:***

Goëmar has been found to contain molecules called 'elicitors'. These molecules are indicators which tell the plant to grow, flower, fight off certain diseases, with the plant responding in kind. Key enzymes are stimulated in the cell which lead to improved growth and disease resistance.

#### **1. Growth effects of elicitors:**

- **THE PUMP EFFECT:** Enhances the plant's ability to take up nutrients from the soil
- **THE REDISTRIBUTION EFFECT:** Assists the transfer of major and minor elements to sites of synthesis
- **THE VECTOR EFFECT:** The increased permeability of cell membranes allows a more rapid assimilation of trace elements contained in GOEMAR special formulations.

#### **2. Disease resistance initiated by elicitors:**

Grass is a living organism which must defend itself against other living organisms and competitors. Until now, we helped the turf to defend itself by killing its competitors with toxic substances. However it is possible to help the grass to defend itself by natural means. Goëmar helps to develop the grass defense system without the disease causing fungus being present.

#### **3. Increased assimilation of nutrients from the soil**

To assimilate nitrogen from the soil, the plant produces an enzyme: the nitrate reductase. Goëmar researchers have demonstrated the action of Goëmar extracts on this enzyme and measured an increase of three times the normal leaf content.

Goëmar researchers have also demonstrated a 2.8 increase in chlorophyll content of leaves after spraying with Goëmar seaweed.

- Denser turf with better tillering
- Increase in recovery rate after wear
- Prolongs growth during adverse growing conditions
- Aids the plant manufacture proteins and sugars

## Goëmar Liquid Seaweed – Properties

### Derived from *Ascophyllum nodosum*

Typical Analysis. As this is seaweed and subject to seasonal change, the analysis can only be approximate.

Mixture of seaweeds, pulverised. Stable under all normal storage conditions and not phytotoxic

### Physio-Chemical Properties:

Form	Liquid
Density	1.04
pH	3.5
Solubility;	
Water	Soluble
Etoh 95°	Soluble

### Phytohormones

Gibberellins  
(GAa1, Ga2, Ga3)  
Auxins, (A1A, A1B  
ANA)  
Cytokinins (Kinetin)  
Abscissions  
Chlorophyll  
Alginate  
Laminaria

### Amino Acids

Omithine, Arginine  
Citroline, Lysine  
Histidine, Proline  
Aspartine, Glutamine  
Alanine, Glycine  
Threanine, Valine  
Methionine, Isoleucine  
Leucine, Tyrosine  
Phenelalanine, Serine

### Trace elements in P.P.M.

Iodine – 2100    Manganese – 260  
Boron – 70      Iron – 1500  
Molybdenum – 1      Copper – 12  
Zinc – 40      Strontium – 50  
Cobalt – 2

### Vitamins

A      (Carotene) 80-100,000 UI/kg  
C      50-80,000 UI/kg  
B1      1-5 mg/kg  
B2      5-10 mg/kg  
PP      10-20 mg/kg  
K      5 mg/kg  
B12      mg/kg

Present also: Bromine, Nickel, Aluminium, Silver, Chromium, Fluorine, Titanium, Barium, Tin.

## Titan Seaweed Organic Topdress & Soil Conditioner

Titan Topdress is 100% pure top quality *Ascophyllum nordosa* seameal, harvested from the Atlantic coast by Arramara Teoranta. Titan is manufactured using modern drying technology which preserves the biostimulus status, trace elements, alginates and other valuable growth and health promoters.

The minerals and vitamins in Titan Seaweed Meal are sequestered (chelated) and easily absorbed by the grass plant. While some of the ingredients are in small amounts, they are essential triggers (catalysis and synergists) that fill the missing requirements of all plants.

### Ingredients

#### Major Trace

Elements	mg/kg	Minerals	Av %	Vitamins	mg/kg	Amino Acids	%
Biotin	26	Potassium	2.5	Vit-K Hetrazeen	10	Agrinine	0.1
Iron	150	Phosphorus	1.1	Ascorbic acid Vit C	1,000	Aspartic Acid	1.15
Zinc	150	Magnesium	0.8	Carotene Vit-A	50	Cystine	0.12
Copper	25	Calcium	2	Tocopherols Vit-E	200	Citrulline	0.05
Magnesium	12	Sodium	3.5	Folic acid	0.3	Glycine	0.28
Iodine	900	Chlorine	4	Niacin Vit-B3	25	Histidine	0.07
Cobalt	0.6	Sulphur	3	Riboflavin Vit-B2	8	Leucine	0.07
Bromine	2			Thiamine Vit-B1	3	Lysine	0.13
Selenium	0.08	<b>Carbohydrates</b>		Vit-B6 Pyridoxine	0.9	Methioine	0.06
Vanadium	2	Manitol	4.2	Vit-B12 Cobalamine	0.004	Ornithine	0.05
Flourine	25	Alginic Acid	26			Tryosine	0.07
Chromium	U	Methyl pentosans		<b>Components</b>	<b>%</b>	Glutomis Acid	0.33
Molybdenum	1.5	(complex sugars)	7			Alanine	0.25
Barium	35	Laminarian		Protein	7	Valine	0.12
Nickel	3	(polysaccharide		Oil	2.6	Phenyialamine	0.13
Arsenic	33	emulsifiers)	9			Proline	0.44
Antimony	0.35	Others	11			Serinc	0.11
						Theonine	0.08
						Trypophane	0.13

Apply Titan Top Dress in Spring and Autumn to stimulate root development and create a more dense grass sward all year round.

#### **Benefits of Titan Seaweed Meal:**

1. Greener, more resilient amenity turf throughout the year on sports fields, golf courses, race tracks, parkland and home lawns.
2. An organic fertiliser for fruit and vegetable production.
3. On marginal lands to offset trace element deficiencies.

## Physiolith Granulated Calcified Seaweed

Physiolith is derived from dead sea plant material called Maërl. It is a true soil conditioner with bioactive 'prebiotic' activity. It actively increases the amount and activity of the microbial factories, making their output greater and as a result making more otherwise unavailable nutrients available for uptake by the plant. Ideal for ryegrass based sports pitches.

### Ingredients

Major Elements	%	Major Trace Elements	Variable mg/kg	Minor Trace Elements (in total over 50, selected)	mg/kg
Calcium	45	Copper	48	Bromine	9
Magnesium	4.5	Zinc	297	Boron	34
Sodium	0.47	Cobalt	4.8	Arsenic	11
Chloride	0.5	Potassium	138	Fluorine	928
Iron	0.54	Manganese	202	Biotin	0.4
Aluminium	0.15	Selenium	0.3	Chromium	0.5 p.p.m.
Sulphur	0.23	Nickel	1		
		Iodine	38		
		Phosphorus	0.08		

### ***Benefits of Physiolith:***

- Releases locked up nutrients into the soil solution
- Corrects low soil pH
- Increases efficiency of applied fertilisers