algaeGreen®

OceanGlas

High quality cold process

Liquid Ascophyllum Nodosum - Kelp Extracts

BrettYoung™

TOGETHER WE TURF

100% derived from fresh *Ascophyllum nodosum*

Ocean KNOWLEDGE

"Understanding the gifts of the sea to enhance nature"

A culture of seaweed

Seaweed / Kelps have been used for centuries by coastal farmers to cultivate and protect their land. From the origin of the sport, golf course superintendents have also enhanced the quality of their turf using seaweeds. The benefits of seaweed as a nutritional additive have been extensively tested and are well established even though many researchers are still looking at all the mechanisms of action involved in it.

A 100% pure extract

Ocean Knowledge has developed a unique way of bursting the cells without using chemicals or high heat, but a pressure system to keep the extract as close to its natural properties as possible as well as 100% soluble.

This system was carefully designed in-house to obtain the freshest and purest extract from hand harvested *Ascophyllum nodosum* possible.

This technique enables Ocean Knowledge to retain as much as possible the bioactive molecules naturally present within *Ascophyllum nodosum,* we call it Gentle Extraction.

gentle extraction

Benefits naturally found in algaeGreen®

algaeGreen thus contains all the natural key compounds found naturally within fresh *Ascophyllum nodosum* that are beneficial to turf grass and soil

- Polysaccharides: Alginates, Fucoidans and Laminarans.
- Amino acids, Vitamins, antioxidants that help the plant in its basic physiology mainly to fight against oxidative stresses induced by osmotic or parasites.
- Natural Micro & Macro nutrients: a wide panel of more than 60 elements.
- Polyphenols, also antioxidants, help the plant during oxidative stress in coping with free radicals generated during abiotic and biotic stresses.
- Increases efficiency of other tank mixed products.
- **algaeGreen pH 4.2 - 4.6**

Foliar absorption

Macroelement, K

Micronutrients & trace elements: B, Cu, Fe, Mn, Mo, Zn, Ni, Co

Amino Acids: building blocks

Vitamin A, C & E: Helps plant fight against stress

Mannitol: reduces plant stress, caused by drought, frost, salt, poor air movement, lack of light or traffic

Improve consistency of color in turf grass

Increase plant strength

Soil absorption

Macroelements: Ca, Mg, S, Na, Cl

Antioxidants & Polyphenols play an important role in Nitrogen cycle

Benefit other nutrients uptake

Fucoidans and Laminarans are improving the plant defense

Improve soil structure, slow releasing Carbohydrate (Alginates)

Increase CEC (Cation Exchange Capacity): Influences the soil's ability to hold onto nutrients and provides a buffer against soil acidification.

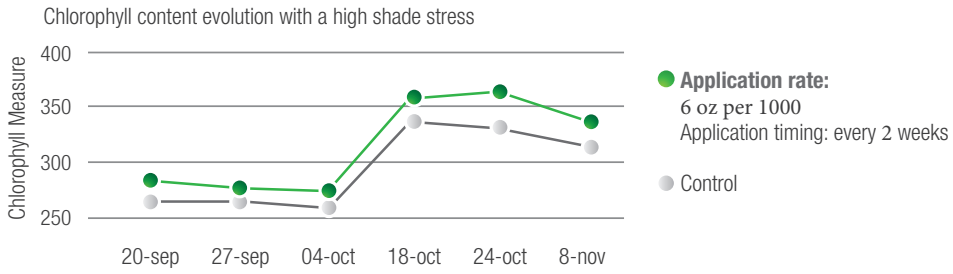
Improve microbial life within soil profile, therefore, reduce the symptoms of Nematode Stress

Enhances water retention around root zone

Increase root development

Shade management

algaeGreen increases Chlorophyll content in normal to high shade stress areas.

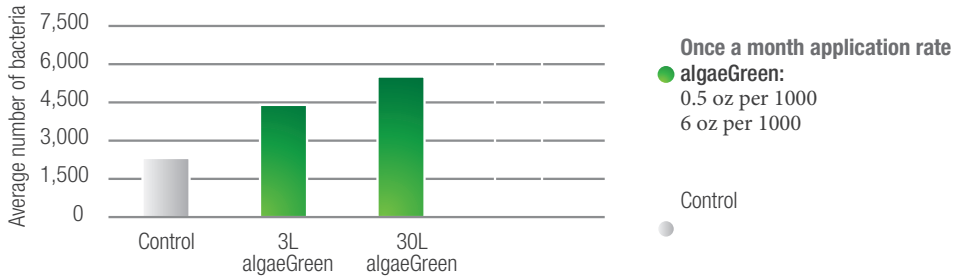


Drought Stress

Examples 1&2

Soil Microbial Life management

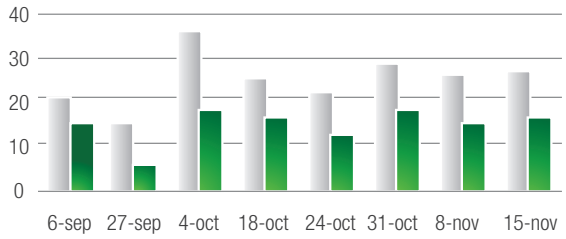
By increasing application rates of **algaeGreen**, this in turn improves the soil microbial life;



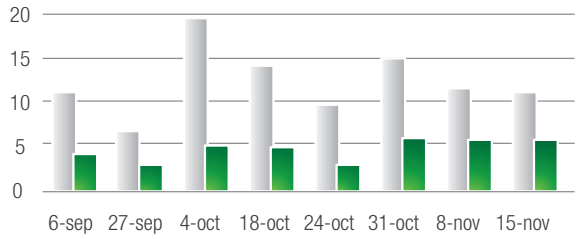
Drought stress management

Ryegrass is more susceptible to drought stress than Red Fescue. **algaeGreen** enables you to limit greatly the stress on both species. Increasing the application rate does not necessarily bring a better stress relieve. The higher the stress level, the better the stress relief effect by applying **algaeGreen.**

% Dry Patches on Ryegrass upon **algaeGreen** treatment in medium drought stress (2013).



% Dry Patches on Red Fescue upon **algaeGreen** treatment in medium drought stress (2013).



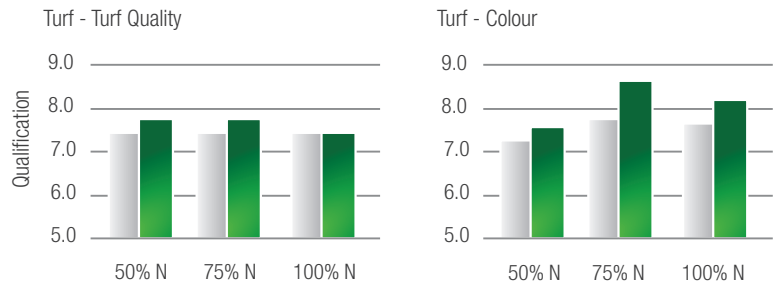
Application rate:
6 oz per 1000
Application timing: every 2 weeks.

Control

*See Examples 1&2

Nitrogen reduction

algaeGreen maintains a high turf quality and colour even when reducing the Nitrogen input by half its dose.



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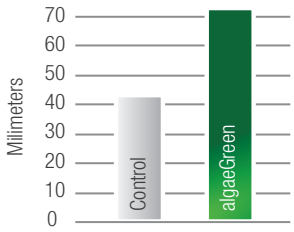
Root Length

Root Length at the end of the trial.



Application rate:
4 oz per 1000
Application timing: every 14 days

Control

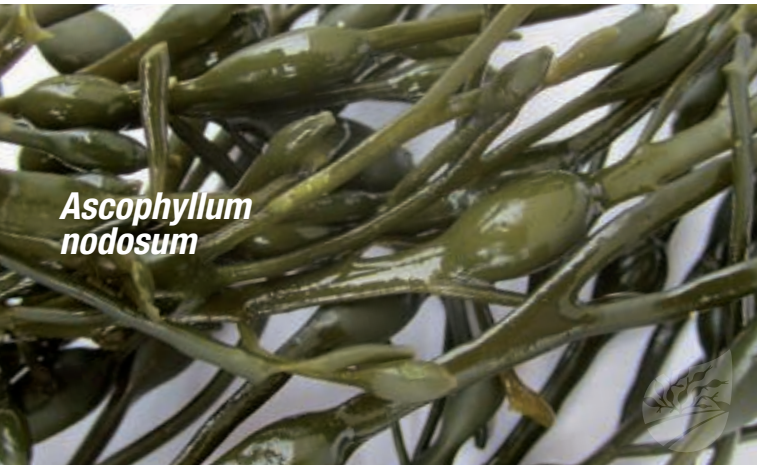
Nematode management

Before treatment, there is a clear effect of the high nematode infection on the turf colour (chlorosis); after the regular application of **algaeGreen**, the effects of the high nematode infection are greatly reduced.

Pictures courtesy of Dr. Colin Fleming from Queen's University in Belfast, U.K.

Pre-treatment

2 weeks after treatment algaeGreen
(Untreated areas showed no recovery)



Located on the mountainous west coast of Ireland in County Donegal, and nested beneath the shadows of Sliabh League, Europe's highest sea cliffs, our company Ocean Knowledge is perfectly placed to take full advantage of the abundance of the natural resource of Ascophyllum nodosum which grows in the unpolluted cold waters of the Irish west coast.

Ascophyllum nodosum is a brown macro algae growing between the low and mid-inter tidal zone in the North Atlantic Ocean. This species is traditionally cut by local harvesters and careful rotation of harvesting areas are setup to ensure sustainable management of the resources. Ocean Knowledge monitors all our harvesting sites to ensure that all our macro-algae comes from pristine unpolluted locations.

Ocean Knowledge Ltd
Kilcar Business Park, Kilcar, Co. Donegal,
Ireland
Tel: +353 74 9738712
info@oceankl.com

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