SEAGREENS PET GRANULES **for use as food ingredient and in the mouth**

Using seaweed in the mouth as well as in the diet as a food or feed ingredient, may also be a natural way of preventing the build-up of dental plaque. “It is estimated that up to 85% of dogs and cats in Britain over two years of age suffer from some degree of dental disease” - the leading British animal charity PDSA (People’s Dispensary for Sick Animals).

“A specific strain of seaweed called Ascophyllum nodosum has been shown in studies to have a beneficial effect on plaque bacteria. The seaweed affects the way the bacteria form on the tooth surfaces, resulting in a healthier balanced bacterial mix which leads to the reduction of halitosis (bad breath) and levels of established plaque. This ‘shift’ in the bacterial mix and subsequent reduction in plaque levels means that less tartar forms and any that does form, is far less densely calcified and therefore, far easier to remove. If you want to try a natural approach to oral care, just look out for an oral hygiene preparation that contains Ascophyllum nodosum” - E. Tilling, Dental Hygienist, expert opinion in CAM Lifestyle magazine, Great Britain, October 2009.

Seagreens® PET GRANULES are 100% dried grains of certified human food quality Ascophyllum nodosum seaweed harvested and produced in line with EU and USA Organic Standards. Suitable for daily dietary inclusion in the animal’s food (typical amounts are suggested on the jar) and in addition can be rubbed or brushed around the teeth and gums.

The animal’s chewing and trying to remove such a granular material may help reduce dental problems, the physical action helping to remove the plaque biofilm from the teeth, increasing saliva production which helps clean the mouth. It has been shown that feeding dry food is associated with less dental disease than feeding wet food.

Extract from an unpublished scientific paper Ascophyllum nodosum in human dental hygiene

The systemic effect of a food additive on dental plaque and calculus

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Abstract

A food additive containing the brown algae Ascophyllum nodosum SW1313 was used in an eight-week clinical trial with the purpose to explore its possible effect on reducing supragingival plaque and calculus. 105 subjects were randomly assigned to one of three groups, each containing 35 subjects at baseline. Two groups received tablets of either a low (125 mg) or a higher (250 mg) concentration of the algae. A third group (control) received placebo tablets. Significant reductions in plaque levels compared to control were observed after eight weeks in both the low concentration (49 %) and the high concentration (66 %) algae groups ($P = 0.002$). Significant reductions in supragingival calculus levels were observed after four weeks ($P = 0.037$) improving after eight weeks ($P < 0.001$). The effect appeared to be dose-dependent. It is concluded that a food additive containing brown algae reduces the amounts of supragingival plaque and calculus in humans.

The negative cycle of plaque and gingivitis

Under normal circumstances, within hours of cleaning, a film formed from saliva and cell debris, attaches to the teeth. Bacteria attach to this, forming the plaque biofilm, which can spread down below the gum line. If allowed to develop, gingivitis and inflammation can cause halitosis or bad breath and lead to serious periodontal disease. If allowed to harden, the dental plaque will form the hard calculus known as tartar on the teeth. The rough surface of the calculus makes it easier for more plaque to attach, and so on. As a result, there are many modern oral care products which aim to reduce the formation of plaque. Many are expensive, with some formulations available only from vets costing around £30 a month. Alternatively you can find numerous remedies on the internet such as "a moist gauze bandage around your index finger, add commercial toothpaste, sea salt, baking soda, and a few drops of propolis, myrrh and a drop of thyme, with a few drops of cod liver oil in the pet's food every day".

PET GRANULES are pure wild Ascophyllum nodosum and a 200g jar costs XX.

Nutritional balance the foundation of health

Imbalances in the animal's daily nutritional intake can have the same effects as in humans. For example excessive vitamin A can cause skeletal disease in cats; high levels of calcium can reduce the absorption of copper and zinc; too much copper can also inhibit zinc; too little folic acid and they can't absorb thiamine to metabolize carbohydrate, and so on.

PET GRANULES are a complete whole food, providing a natural, comprehensive balance of all the nutrients, particularly the micronutrients missing because the animal does not roam and eat naturally and formulated pet foods may not provide the complete balance of these nutrients.

Nutritional profile

Seagreens® Ascophyllum nodosum as Pet Granules

Table 1: Typical nutritional profile per 1 gram

- Protein 75mg
- Carbohydrate / fibre 700mg (of which the non-starch polysaccharides Algin 230mg, Fucose and Fucoidan 90mg, Mannitol 65mg, Methylpentosans, Laminarin 40mg, Mannuronic acid 270mg) and essential fatty acids EFAs
- Vitamins A (antioxidant carotenoids beta carotene, and fucoxanthin, violaxanthin and chlorophyll) 178µg, B group (including absorbable B12* Cyanocobalamin 0.004µg, Bc Folic and Folinic acid 0.6µg, B1 Thiamine 0.3µg, B2 Riboflavin 7.5µg, Niacin (anti-pellagra) 20µg, Pantothenic acid, B6 Pyridoxin, Choline) 8.9µg, C (antioxidant) 1.25mg, D (Cholecalciferol)

0.01µg, E (antioxidant) including the complete set of isomers 0.23mg, H (Biotin) 0.30µg and K (Menadione) 10µg

• Minerals Calcium 20mg, Chlorine 35mg, Magnesium 7mg, Nitrogen 10.5mg, Phosphorus 1.5mg, Potassium 25mg, Sodium 35mg, Sulphur 30mg

• Trace elements include Antimony trace, Boron 0.06mg, Cobalt 5.4µg, Copper trace, Fluorine 0.2mg, Germanium trace, Gold trace, Iodine 700µg, Iridium trace, Iron 575µg, Lithium trace, Manganese 0.03mg, Molybdenum 0.65µg, Platinum trace, Rubidium trace, Selenium 0.15µg, Silicon 1mg, Silver trace, Tellurium trace, Titanium trace, Vanadium 2.3µg and Zinc 0.13mg

• Amino acids Histidine trace, Isoleucine 0.53mg, Leucine 5.3mg, Lysine 2.78mg, Methionine 0.68mg, Phenylalanine 0.83mg, Threonine 2.33mg, Tryptophan trace, Valine 2.63mg, Alanine 4.57mg, Arginine 11.17mg, Aspartic acid 4.88mg, Cysteine 0.90mg, Glutamic acid 5.18mg, Glycine 3.90mg, Proline 3mg, Serine 2.25mg, Tyrosine 1.05mg

• Betaines Glycine Betaine trace, Gamma Amino Butyric Acid Betaine trace, Delta Amino Valeric Acid Betaine trace, TML (Laminine) trace, L-Carnitine trace, Trigonelline trace ;

enzymes and valuable compounds which cannot be artificially formulated such as the phenolic compounds including free phloroglucinol, fucophorethols, and phlorotannin derivatives

1g = 1000mg = 1000000µg

*F. Watanabe, S. Takenaka, H. Kittaka-Katsura, S. Ebara, E. Miyamoto, Characterisation and Bioavailability of Vitamin B12 compounds from edible algæ, Journal of Nutritional Science and Vitaminology, 48(5): 325-331, October 2002.

Table 2: Typical nutritional values per 100 g

Protein	7.5g
Carbohydrate	55g
Sugars	5g
Fat	4g
Saturates	2g
Fibre	5g
Sodium	3.5g
Moisture	12-15%
Energy	309 kcal (1280 kJ)