

# Ascophyllum nodosum: A Super-Seaweed Food for Companion Animal Health

By Gary Lynch, Ph.D., HORN Animal Nutrition

Seaweed and kelp products are not new for either animal or human foods. But as innovative pet food formulators continue to seek out natural ingredients that provide essential nutrients in a bioavailable and sustainable manner, the spotlight shifts on seaweed and kelp. These ingredients represent a wide range of marine-based macroalgae. Understanding the types of plant groups, processing methods and the final nutritional quality will help bring to light the quality products that offer real nutritional value.

“QUALITY MEASURES SEPARATE HIGH-NUTRIENT ASCOPHYLLUM NODOSUM PRODUCTS FROM SOIL GRADE SEAWEED AND KELP MATERIALS THAT ARE MASS PROCESSED AND USED AS FERTILIZER.”

- **Seaplant Advantage:** Seaweeds collect nutrients from circulating seawater, which provides a powerful and consistent source of minerals and phytonutrients. Thus, the nutritional profile of seaweeds is more extensive than what is offered by soil-grown crops. Seaweeds also provide essential nutrients, including trace minerals and vitamins in an organic and highly bioavailable form.
- **Micronutrients:** These are dietary nutritional components that animals require in very small quantities. Conventional land-grown crop ingredients provide little of these nutrients; so, foods must be supplemented with synthetic or chemically derived vitamin and mineral ingredients. The forms of vitamins and trace minerals of these natural, organic seaweeds are highly bioavailable, as opposed to inorganic forms like sulfates and oxides.
- **Ascophyllum nodosum:** Seaweed can refer to any marine macroalgae. There are hundreds of species and each have their own nutrient profile. *Ascophyllum nodosum*, also known as rockweed, is considered the premier macroalgae product for nutritional applications. It is found in the tidal zones of the North Atlantic, from New England through Canada and into northern Europe. Growing location is critical, since seaweeds get their nutrients from the ocean. The more pristine the water, the higher the quality of the nutritional composition.



- **Sustainable Production:** While seaweeds grow naturally, proper management of seaweed beds is essential to ensure healthy regrowth for future harvesting cycles. Proper techniques include using specially designed equipment to remove only the top portion of the frond. Care must be taken to not adversely affect the reproductive quality of the plant by cutting too close to the base, enabling regrowth and future harvesting.

- **Processing to Protect Nutritional Value:** The high nutritional value of *Ascophyllum nodosum* can be rapidly lost via negligent or mass production processing methods. While time is critical, material should be handled with a controlled process to prevent nutrient loss. This includes smaller batch sizes from the ocean itself, controlling dehydration and avoiding excess heat. This allows for both high nutrient content and helps eliminate post-harvest microbial contamination. Lastly, a fine grind size for the final product allows for both consistency in final product and ease of digestion.

Quality measures separate high-nutrient *Ascophyllum nodosum* products from soil grade seaweed and kelp materials that are mass processed and used as fertilizer. These measures include periodic testing to ensure nutrient composition; procedures to eliminate foreign materials; and verification that the product is free from microbial contamination. The micronutrient focus of *Ascophyllum nodosum* indicates that low levels are best used for efficacious results. Levels of 0.1% to 2.0% are generally recommended.

Marine plants, such as *Ascophyllum nodosum*, have long been highly regarded for the broadest spectrum of naturally occurring trace elements and vitamins of any plant, but more is yet to be discovered. Current research is testing its unique compounds including polysaccharides, terpenes, polyphenols and phlorotannins. Recent peer reviewed journals reported on a growing number of benefits from these bioactive compounds including heart health, immune health, osteoporotic health and metabolic health, among others.

The unique nutrient content of *Ascophyllum nodosum* makes this ingredient worthy of consideration for premium pet foods and nutritionally functional treats.



Mandy, the Golden Retriever as a puppy and a great grandmother. This vital companion animal has *Ascophyllum nodosum* as a regular part of her diet through every stage of her life.

For more than 20 years, Gary Lynch, Ph.D. has been contributing to the progression of the industry through a career in formulation, sales and marketing for the pet food and commercial feed markets. He is a senior project and account manager at HORN, a leading distributor of specialty products for more than 50 years. HORN represents world-class ingredient manufacturers, including SOURCE, a pioneer in micronutrient supplementation. Dr. Lynch is part of HORN Animal Nutrition, a specialty team with expertise in product formulation and the delivery of quality ingredients to the pet food industry.

