



**BRANDT**<sup>®</sup>

# Unique Combo of Seaweed, Humic Acid and Amino Acids

BRANDT<sup>®</sup> Seaweed Max





## BRANDT Seaweed Max

A unique combination of North Atlantic seaweed concentrate and humic acid

### Why Seaweed for Turf?

The chemistry of seaweed (*Ascophyllum nodosum*) is complex. It has a very high content of organic carbon (particularly carbohydrates such as alginic acid, laminaran and mannitol), but yet very low in NPK, making it an excellent and highly flexible addition to a turf nutritional program as no allowances need to be made for NPK content.

North Atlantic Seaweed is well known for its trace mineral content and the presence of a range of biologically active, growth promoting substances.

### How Seaweed Max does the Work for Turf Management

Naturally occurring compounds in BRANDT Seaweed Max, include both cytokinins and auxins as well as high concentrations of amino acids.

**Cytokinins** plant hormones are active in promoting cell division, shoot development and are also involved in cell growth, differentiation, and other physiological processes.

**Auxins** are a class of substances often called phytohormones. Auxins play an essential role in coordination of many growth and behavioral processes in the plant life cycle and are often used to initiate root growth and uniform flowering. On the cellular level, auxins are essential for cell growth, affecting both cell division and cellular expansion.

### Cytokinin and Auxin Compounds Presented in BRANDT Seaweed Max Assist in:

- Stress resistance
- Cell division
- Cell differentiation (shoot, root or flower initiation)
- Enhancement of uptake across living membranes



## Amino Acids from Seaweed

Contained in the North Atlantic seaweed concentrate in BRANDT Seaweed Max are the following amino acids and some of their plant active functions:

**Root development:** Methionine and arginine

**Resistance to stress conditions:** Proline, valine, serine, lysine, glutamic acid and cysteine

**Nitrogen reserve:** Glutamine, asparagine, aspartic acid, glutamic acid, arginine and proline

**Hormone precursors:** Tryptophan and methionine

**Color Development:** Phenylalanine

**Increase of germination rate:** Proline and glutamic acid

**Photosynthesis and chlorophyll reinforcement:** Alanine, glycine, lysine, glutamic acid and proline

**Complexing capacity:** Glycine, glutamic acid and aspartic acid

**Stomatal opening:** Alanine, glutamic acid, lysine, proline and methionine

**Antioxidant capacity:** Histidine, cysteine, tryptophan, lysine, methionine and threonin

## Humic Component

BRANDT Seaweed Max also contains our Uptake brand of humic matter, derived from North Dakota leonardite. Humic matter or "humates" are a major constituent of soils, which occur in almost all terrestrial and aquatic environments formed from the chemical and biological degradation of plant and animal residue and from the activities of microorganisms.

Humates function by increasing the water-holding capacity of the soil, making treated soils more drought resistant. Humates also tend to increase soil particle aggregation and consequently provide better soil aeration and workability.

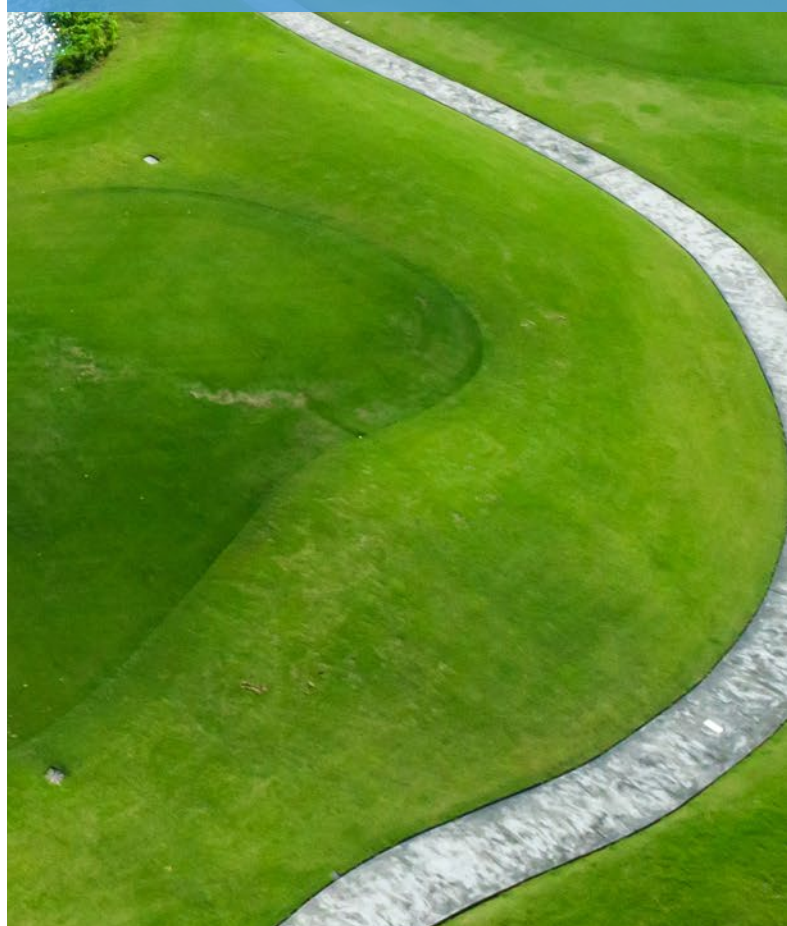
Humates also play a role in the management of excessive sodium. It can reduce salt damage by buffering sodium excesses while simultaneously solubilizing those excesses to help remove them from the scene.



## Observable results using BRANDT Seaweed Max:

- Increased root mass
- New root and shoot formation
- Enhanced uptake of nutrients into both roots and leaves
- Resistance to disease and pests

Promotes early season root growth and enhances the establishment of overseed by stimulating photosynthesis and increasing microbial activity.





## Guaranteed Analysis and Directions for Use

### BRANDT Seaweed Max

0-0-2

Derived from: Kelp Extract (*Ascophyllum nodosum* and Potassium Hydroxide\*)

\* Potassium Hydroxide as an extraction agent.

This product is not intended for use on food crop sites.

### Rate Recommendations

For professional use, apply every 7-14 days, as needed.

#### Fine Turf (Warm or Cool Season Turfgrasses)

##### Putting Greens and Tees

*Maintenance:* 1.5-3 fl. oz. per 1,000 sq ft or 0.5-1 gallons per acre

*Overseeding:* 2-4 fl. oz. per 1,000 sq ft or 0.75-1.25 gallons per acre, applied every 7-21 days after germination and plants have reached the 3 tiller phase. Most effective when used as part of an overall overseeding nutritional program.

##### Fairways, Sports Turf and Lawns

*Maintenance:* 1.5-3 fl. oz. per 1,000 sq ft or 0.5-1 gallons per acre.

*Overseeding:* 2-4 fl. oz. per 1,000 sq ft or 0.75-1.25 gallons per acre, applied every 7-21 days after germination and plants have reached the 3 tiller phase. Most effective when used as part of an overall overseeding nutritional program.

#### Foliar Application

Apply a foliar spray early in the morning or late in the day for best results. Allow foliar sprays to dry thoroughly before irrigation to insure even foliar uptake.

#### Ornamental Plants

Apply 1-2 fl. oz. per 1 gallon of water as a foliar spray. Tree and shrub maintenance: For deep root feeding inject 1 gallon per 100 gallons of water per inch of trunk diameter at chest height. Apply 1-2 gallons per 100 gallons of water as a drench. Apply drench throughout the year or during drought stress conditions.

#### Fertigation

Inject into irrigation at 1.5-3 fl oz per 1,000 sq ft or 1-2 gallons per acre 3-6 times during the growing season.

Optimum rate of application will vary depending on treatment interval, soil properties (such as pH, organic matter content, texture), weather conditions, time of year and plant species.

#### Literature Cited

- 1) R.E. Schmidt, Ph.D.; E.H. Ervin, Ph.D.; and Xunzhong Zhang, Ph.D. Questions and answers about biostimulants.
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- 3) O'Donnell, R.W. The auxin-like effects of humic preparations from Leonardite.
- 4) T.L. Senn Ph.D. Seaweed and Plant Growth

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