



BRANDT[®]

Ultra Concentrated Humic Matter

BRANDT[®] Uptake[®]

BRANDT Uptake

Visible Results – Systemic Action

What Are Humic Acids?

Humic acids are the water-soluble organic acids present in soil organic matter. They are the main component, the biological center, of natural humic matter. It is the collective term for both humic and fulvic acids.

Where Does Humic Acid Come From?

Humic matter is formed through the microbial breakdown of plant and animal matter. The main component of humic matter are the humic acids, which contain both humic and fulvic acids. Humic acids are a natural way to provide plants and soils with a concentrated dose of essential nutrients, vitamins and trace elements that are normally not provided by typical fertilization. These complex molecules exist naturally in soils, peat, oceans and fresh waters but considered the best source of humic acid is the sedimentary layers of a form of lignite which is 250-300 million years old, commonly known today as Leonardite.

Leonardite has not reached the state of coal and differs by its high oxidation degree, a result of the process of coal formation. Among the varieties of Leonardite available, North Dakota Leonardite is often thought to be among the richest in those essential nutrients providing the highest beneficial plant impact.

What Do Humic Acids Do?

Humic acids stimulate and promote plant development. The key features of its use are improvements to the structure of soil, improved water usage, seed germination and root growth. For soils to remain fertile, humus must either be replaced or added. Applying humic acids accomplishes this and increases the natural fertility of the soil.

The Effect of Humic Acids Plants and Soils

- **Nutrient Availability and Biological Stimulation:** Humic acids have been shown to have the ability to convert a number of mineral elements into forms available to plants as well as increasing the availability of phosphate. Humic acids also serve as a host for microorganisms, as well as direct plant stimulation by providing a slow release of auxins, amino acids, and organic phosphates.
- **Physical Modification:** By assisting in the retention of moisture, humic acids help to prevent water and nutrient losses in sandy soils. Humic acids also assist in increasing soil particle aggregation, making the particles larger and looser.
- **Chemical Change:** Humic acids chemically change the properties of the soil. They regulate the pH of the soil whether acid or alkaline, helps to retain water soluble inorganic fertilizers in the root zones and reduce their leaching, and improves the cation exchange capacity (CEC).



What Are Humates?

The sodium, potassium and ammonium extracts of humic acids derived through alkaline extraction are referred to as humates.

When organic matter decomposes to the point of becoming humus, we can classify it as:

Humic - the portion of humus which is soluble called humic acid.

Non-Humic - the portion of humus that is not soluble called humin.

Why Is BRANDT Uptake Special Among Quality Humic Products?

The raw material used to produce Uptake, is strictly North Dakota Leonardite.

Leonardite, though coal-like in appearance, differs from coal in that it is highly oxidized. Leonardite is organic material that has not become coal due to a high level of active bacteria in the sedimentation layer.

Leonardite has the highest content of humic acids of any natural source. Although humic acids can be extracted from other organic sources; none of these sources are as concentrated and abundant as Leonardite.

In North Dakota, a particular formation of this highly oxidized material was named Leonardite after North Dakota's first geologist, Dr. A.G. Leonard in recognition of his work and discovery.

BRANDT Uptake Formulations

BRANDT Uptake 12

0-0-3 12.0% Humic acid

Derived from potassium hydroxide. Humic acids derived from leonardite.

BRANDT Uptake 12 is an alkaline 12% humic acid liquid that supplies organic matter in a convenient, ready-to-use form. This product may be used on warm and cool weather grasses.

- Increase nutrient uptake
- Decrease toxins
- Increase water retention
- Improve microbial growth
- Better overall soil structure - more space for root growth and bacterial activity

BRANDT Uptake Advanced

6.0% Humic acids derived from leonardite ore

Humic acid analyzed by acid precipitation method.

BRANDT Uptake Advanced is a pure, high-quality, non-alkaline liquid humic acid. The patent pending, low pH formulation was designed for advanced compatibility and solubility with fertilizers and protectants.

- Compatible with most liquid fertilizers used in all types of fertigation systems, including:
 - NPK acid-based fertilizers
 - Different sources of Calcium such as CAN 17 and CN 9
 - Different sources of Magnesium
 - Different sources of micronutrients, including Chlorides, Sulfates and Nitrates

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