Humic DG™
Air Drill Ready

Humic DG is a powerful soil conditioner. Its patented dispersing granules are the perfect match for an air drill seeder. The uniform particles provide precise placement of humic acid into the seed bed. It can also be blended with fertilizer.
Humic DG™ and Air Drill Seeders – A Perfect Match

Air drill seeder technology is the easiest, most efficient and cost effective method for incorporating humates at the time of seeding. Humic DG’s combination of superior handling characteristics with Dispersing Granule (DG) technology make it the ideal humic acid delivery method for your crops.

Efficient
Humic DG features patented Dispersing Granule technology. Upon contact with water, Humic DG granules disperse into tens of thousands of microparticles which greatly increases surface area and allows for faster breakdown and availability of the humic materials.

Compared to conventional screened humates, Humic DG provided equal to, or better results at 1/4 the rate, based on a 2013 rate study conducted at Ohio State University (chart on left).

Cost Effective
Humic DG is a highly concentrated product delivering 70% humic acid. This high concentration, combined with precision placement next to the seed, allows for lower application rates, typically in the 5-10 lb. per acre range, depending on crop and soil type.

A 5 lb. per acre rate of Humic DG provides 3.3 times more humic acid than 1 gallon of a typical 12% humic acid solution.

Easy to Use
Humic DG’s uniform granules are clean, dust free and easy to handle and apply. They can be applied directly, or can be easily blended with fertilizer.

Greater leaf count in wheat treated with 25 #/A Humic DG compared to those treated with 100 #/A screened humate.

Humic DG Offers More Benefits Than Liquids

Most liquid humic products contain only humic and/or fulvic acid, but do not contain the humin fraction—the least soluble fraction—which has high carbon content and significant nutrient holding capability.

Humic DG contains all three humic fractions: fulvic acid, humic acid and humins. Humic DG also contains 10% humic acid precursor, a plant based carbon source. Below is a description of each fraction and the benefit it provides.

• HUMIC ACID PRECURSOR is the highly soluble portion of Humic DG that quickly releases into the soil upon contact with water. Beneficial soil microbes feed on humic acid precursor, transforming it into soluble fulvic and humic acids.

• FULVIC ACIDS, which are highly soluble, can be absorbed by roots and provide hormone-like stimulation to the plant, while also aiding in plant metabolic functions.

• HUMIC ACIDS chelate nutrients and stimulate soil microbes.

• HUMINS are large, high carbon, insoluble molecules that last longest in the soil and have great nutrient holding power.
The Benefits of Humic Acid

Humic acid is a natural soil conditioner, organic chelator and microbial stimulator that provides the following benefits to your soils and crops:

- Provides an oxidized, soluble carbon source, affecting the soil both chemically and physically, leading to improvement in long term pH
- Chelates soil micronutrients, increasing their availability to the plant
- Adds cation exchangeable material to the soil and improves productivity of low organic matter soils
- Retains soil moisture and enables better water penetration in the soil, resulting in reduced water requirement
- Enhances efficiency of applied nutrients and increases availability of soil phosphorus
- Chelates soil micronutrients, increasing their availability to the plant
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- Enhances efficiency of applied nutrients and increases availability of soil phosphorus

Why Humic DG?

What makes Humic DG superior to other humic acid products?

- Humic DG is an ultra dry, spherical, dust free granule
- Humic DG is easy to handle and spread
- Humic DG contains all 3 fractions of humic substances, including humins (liquid humic acid products do not)
- Humic DG increases P uptake while enhancing N efficiency and micronutrient availability
- Humic DG can be blended with all fertilizers, including urea
- Humic DG improves water penetration and improves soil structure

Humic DG provides more than 3X the humic acid content at half the cost, resulting in a 6.5X better value versus typical liquid humic acid products.

<table>
<thead>
<tr>
<th>Product</th>
<th>% Humic Acid Content</th>
<th>Actual Humic Acid Per Unit**</th>
<th>Typical Rate/Acre</th>
<th>Product Cost Per Unit</th>
<th>Applied Cost/Acre</th>
<th>Actual Humic Acid Per Acre</th>
<th>Humic Value Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>6% Liquid Humic Acid</td>
<td>6%</td>
<td>0.54 lbs. /gallon</td>
<td>2 gallons</td>
<td>$5 /gallon</td>
<td>$10</td>
<td>1.08 lbs.</td>
<td>1X</td>
</tr>
<tr>
<td>12% Liquid Humic Acid</td>
<td>12%</td>
<td>1.08 lbs. /gallon</td>
<td>1 gallon</td>
<td>$10 /gallon</td>
<td>$10</td>
<td>1.08 lbs.</td>
<td>1X</td>
</tr>
<tr>
<td>Humic DG</td>
<td>70%</td>
<td>0.70 lbs. /pound</td>
<td>5 pounds</td>
<td>$1/lb.</td>
<td>$5</td>
<td>3.50 lbs.</td>
<td>6.5X</td>
</tr>
</tbody>
</table>

** Humic acid per unit calculated using 9 lbs. per gallon weight.
### Humic DG™ - Physical Characteristics

<table>
<thead>
<tr>
<th>Product</th>
<th>Available SGN</th>
<th>Packaging</th>
<th>Bulk Density lb/cubic ft</th>
<th>UI</th>
<th>Moisture Target</th>
<th>Moisture Maximum</th>
<th>Resistance to Attrition</th>
<th>Humic Acid Content (A&amp;L Method*)</th>
<th>Humic Acid Precursor Content</th>
<th>Total Humic Acid + Humic Acid Precursor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humic DG</td>
<td>75</td>
<td>40 lb bag 2000 lb bulk bag</td>
<td>40</td>
<td>40+</td>
<td>7%</td>
<td>9%</td>
<td>90%</td>
<td>70%</td>
<td>10%</td>
<td>80%</td>
</tr>
</tbody>
</table>

*A&L method, for states that utilize the California testing method

### ALSO AVAILABLE IN OUR LINE OF HUMIC PRODUCTS

#### Black Gypsum DG™ – Gypsum + Humate

Black Gypsum DG is a unique bio-amendment that combines natural, dihydrate gypsum and humate in a patented homogenous dispersing granule.

- Delivers calcium, sulfur and humate (a rich source of carbon) directly to the soil utilizing Dispersing Granule (DG) Technology
- Humic substances enhance the plant’s ability to take in essential nutrients and improve soil structure
- Gypsum acts as a soil conditioner, loosening hard packed soils and enhancing the flushing of harmful salts and excess sodium

#### UltraMate® LQ – UltraConvenient. UltraFlexible.

UltraMate LQ is a highly concentrated (12%) sulfonated potassium humate in a unique, liquid formulation.

- Mixes readily with a wide range of liquid fertilizers
- Dilutes rapidly in a wide range of fertilizer solutions and water based tank mixes ranging from pH 2-12
- 12% humic acid concentration
- Up-front availability of humic acid and fulvic acid
- Stabilizes nitrogen, reducing volatility while increasing utilization of nutrients

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