

Benefits of Humic Substances versus Urease Inhibitors

Humic substances can provide a concentrated and economical form of organic matter that can replace humus depletion caused by salty fertilizers in conventional agriculture.

If there are sufficient humic substances present, up to 35% of the nitrogen applied to soils can be retained in an organic form for the entire growing season, converting the N to a stable, yet bioavailable form.

Humic substances will produce far greater benefits than the urease inhibitors that just stabilize applied nutrients.

Humic Substances Benefits:

- In heavy and compact soils, aeration of soil and water retention are improved; cultivation measures are facilitated. Humic substance products help the soil to loosen and crumble and thus increase aeration of soil as well as soil workability.
- Prevent soil cracking, surface water runoff and soil erosion by increasing the ability of colloids to combine and become more water permeable
- Increase soil water holding capacity of soil and thus help resist drought
- Feed the native soil biology rather than destroying it, facilitating breakdown of crop residues.
- Stimulate soil microbial activity for increased mineralization of nutrients
- Stabilizes applied nutrients for availability during the growing season
- Chelate soil nutrients and increases the uptake, especially with P, S, and N
- Reduce the availability and crop impact of toxic substances in soils
- Retain water soluble inorganic fertilizers in the root zones and reduce their leaching
- Increase soil nutrient holding capacity by extremely high (CEC) cation exchange capacities
- Promote the conversion of nutrient elements (N, P, K + Fe, Zn and other trace elements) into forms available to plants

Urease inhibitor product benefits are limited to stabilization of applied mineral nutrition.

- **They do not** modify soil structure to create better drainage and better water holding capacity.
- **They do not** promote soil microbial activity to increase decomposition of residues and release more nutrients to plant roots.
- **They do not** make available existing soil bound nutrients through chemical chelation and increased Cation Exchange Capacity.

Contact SoilBiotics to learn about how you can get more for your fertilizer dollars this year.

Article prepared by Rich Reineke, Midwest Regional Manager for SoilBiotics.

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