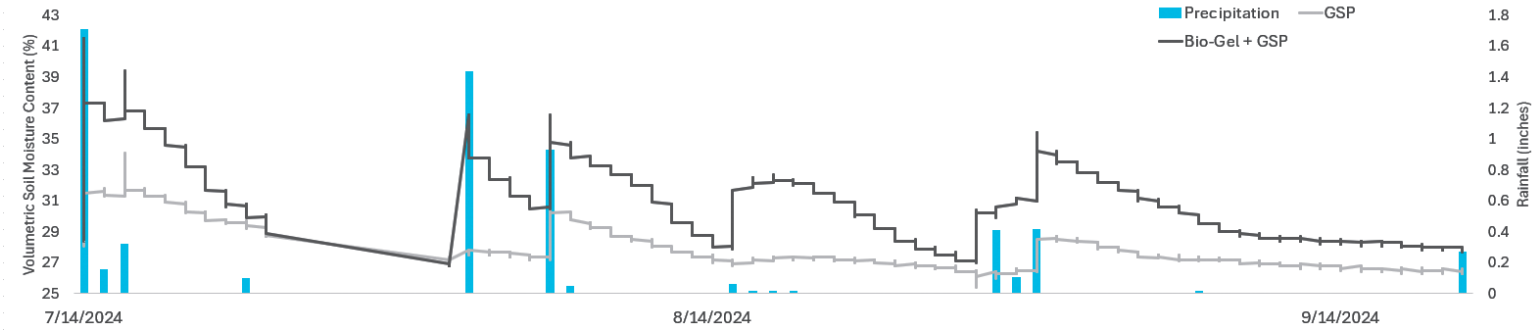
Bio-Gel® Technology

A simplified mode of action: Bio-Gel®

Unlike any other product on the market, Bio-Gel is an innovative carbohydrate-based hydrogel solution ensuring that more nutrients stay in the soil and available to fuel crop growth effectively.

Bio-Gel technology is a carbohydrate-based hydrogel that helps retain soil moisture and nutrients, stimulating soil biology and promoting healthy root development. As a tank mix additive, it encapsulates mobile nutrients, preventing loss through leaching. When applied directly to plant roots, Bio-Gel acts as a protective barrier, safeguarding plants against abiotic stressors such as drought and salinity.

Impact of MBA Corn In-Furrow Starter Fertilizer Program on Volumetric Soil Moisture Content at the 3" Soil Depth



Boost your water utilization, nutrient availability and yields with Bio-Gel®

- Bio-Gel technology increased mid-season short – medium term available nitrate nitrogen 44% when applied urea ammonium nitrate (UAN).
- Bio-Gel drives farm returns by increasing yields through water-efficiency and nutrient availability.
- Bio-Gel increases soil organic carbon.

Bio-Gel as a tank mix partner with liquid in-furrow starter treatment has shown corn harvested yield increases up to 17%
Replicated randomized complete block design yield data shows Bio-Gel when tank mixed with biologicals, biostimulants, and conventional grower standard liquid in-furrow starter fertilizers increases yield in corn and soybeans.

Midwestern BioAg™

Bio-Gel® NSurge™

Contact an Expert Today!

Drive Farm Returns with Bio-Gel® Technology, a Simplified Mode of Action

Unlike any other product on the market, Bio-Gel NSurge brings a cutting-edge nitrate loss reduction technology that safeguards your UAN investment. This innovative solution protects against nitrogen loss, ensuring that more nutrients stay in the soil and available to fuel crop growth effectively.

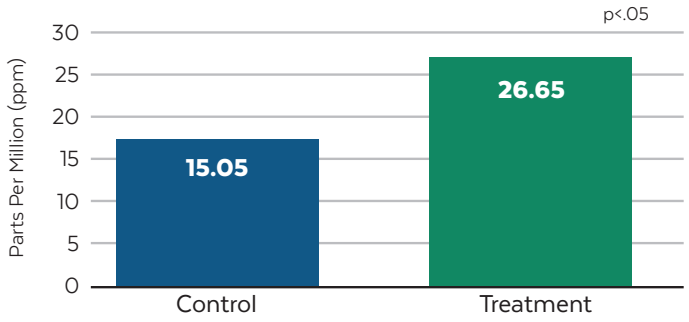
Bio-Gel NSurge applied via sprinkler pivot reported up to a 77% increase in available nitrate nitrogen

UAN Via Sprinkler Pivot Reports an Increase in Nitrogen

- Bio-Gel applied with UAN via sprinkler pivot reported a 77% increase in nitrate nitrogen at the Kansas experimental site
- The reported increase was equivalent to 23 pounds per acre nitrogen in the upper eight inches of the soil profile
- Bio-Gel dry granular was tank mixed with each pass of UAN fertigated via overhead pivot

Data suggests grower could position Bio-Gel as an expense reduction strategy lowering the applied rate of UAN with the inclusion of Bio-Gel.

Impact of Bio-Gel on Soil Nitrate Nitrogen When Applied with UAN Via Pivot on Corn



Mean nitrate nitrogen concentrations (mg/l: ppm) from soil samples collected from the Bio-Gel Kansas experimental site. Bio-Gel increased soil nitrate nitrogen concentrations 77% in the soil samples collected. Samples were collected at V10-V11.

2024 Corn Trials: Bio-Gel Boosts Nitrogen Use Efficiency and Yield Potential

In 2024 corn trial results, Bio-Gel demonstrates notable improvements in both soil nitrate nitrogen levels and soil organic matter mid-season. These findings indicate a potential boost in nitrogen use efficiency, which could lead to an increase in yield potential by over 30 bushels per acre while maintaining current nitrogen input rates.

The Corn Nitrogen Demand and Nitrogen Use Efficiency (NUE) calculations were derived from the University of Nebraska's nitrogen demand algorithm. This algorithm estimates nitrogen requirements based on two key factors:

- Soil nitrate levels
- Organic matter content

By enhancing these factors with Bio-Gel, the trials suggest an optimal nitrogen environment that improves both uptake and efficiency, ultimately benefiting corn growth and yield.

Such results could represent a significant development in agricultural practices, as optimizing nitrogen use can reduce input costs while improving environmental sustainability by minimizing nitrogen losses to the environment.

EXPENSE REDUCTION

Input Requirements for UNL Nitrogen Demand Algorithm				Nitrogen Fertilizer Required to Meet Expected Yield		
	Expected Yield	*Soil Nitrate (ppm)*	*Organic Matter (%)*		*Pounds Per Acre*	*Nitrogen Use Efficiency*
Control	230	4.42	2.86	Control	183.5	0.80
Bio-Gel	230	6.39	3.13	Bio-Gel	159.1	0.69

REVENUE POTENTIAL

Input Requirements for UNL Nitrogen Demand Algorithm				Nitrogen Fertilizer Required to Meet Expected Yield		
	Expected Yield	*Soil Nitrate (ppm)*	*Organic Matter (%)*		*Pounds Per Acre*	*Nitrogen Use Efficiency*
Control	230	4.42	2.86	Control	183.5	0.80
Bio-Gel	262	6.39	3.13	Bio-Gel	183.5	0.70