



**Soileos Manganese** is a soil-applied micronutrient that keeps nutrients where your crop needs them, enhancing yields, soil health, and resilience through improved bioavailability.

### Why Soileos Manganese?

Lucent Bio's patented process binds nutrients to cellulose fibers and imparts a novel mode of action that differs from conventional micronutrient products like sulfate salts or chelates.

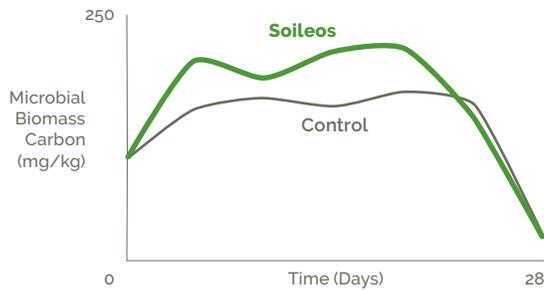
#### Manganese plays an essential role in:

- The proper functioning of photosynthesis, nitrogen assimilation, and respiration.
- Processes such as pollen tube growth, pollen germination, carbohydrate production, and root cell elongation.
- Pathogen resistance.



TREATED

UNTREATED



### Soil Health

Soileos uses nature to help nature. Studies with Soileos show that it improves soil health by increasing the microbial biomass in the soil by over 20%. The carbon in Soileos is fuel for your soil microbiome. As the cellulose is broken down, nutrients are released or ingested by microbes. The nutrients cycle through this natural process in a way that plants can access them throughout the growing season resulting in increased nutrient uptake and yield response.

### Proven Agronomic Performance

Soileos Manganese can be used on many different crops. Trials have shown a great response with broad acre crops such as corn, soybeans, and wheat. Ask our team for detailed trial results for your crop and region.



## Soileos Manganese



GUARANTEED ANALYSIS	
Manganese	9%
Sulfur	5%
Potassium	9%
Cellulose Fiber	60%

### Efficiency

Soileos Manganese is an excellent source of manganese for any fertility plan. Rates for Soileos Manganese can be based on at least a 2x efficiency factor compared to oxy sulfate.

### Low Salt

When the salt concentration is high near the seed, there is greater potential to draw water out of the roots, which can result in plant desiccation. Manganese sulfate has a salt index of 80+.

Soileos has a low salt index (22.04) and burn risk. Thanks to the mode of action, the risk of toxicity due to over application is reduced. The microbial community buffers the release of micronutrients in the plant root zone. Rate trials show that even 10x the recommended application rates have not induced phytotoxic response. Hence, Soileos can even be applied in-furrow and close to the seed.

### Ease of Use

The Soileos pellet is durable and easy to handle. The material does not break down with shipping or blending with other dry fertilizer, so there is very little dust when the material is moved from bin to bin. Farms and retailers have shared the following feedback:

“Did not bridge in the tank. Flows good. Not dusty.”

— Birg Farms, Wilcox, SK

“Product was delivered in a tote, makes it easy to convey into the tank. Soileos seems to stay dry inside my air cart compared to some granular inoculants which can start to sweat and attract moisture. The size of the product was favourable for my particular meter set up; the target rate was right on. So initial handling of the product was positive.”

— Ryan T., Marquette, MB

### Packaging Size

2,000 lbs. totes or bulk delivery (see photo).

### Field Application

Soileos Manganese is designed to work with existing fertilizer blending and field equipment. The pellet blends with other dry fertilizer and can be placed with air-seeders, strip-till, and side banding.

### Blending

When handled, the product has low dust and a high pellet durability index (PDI) of 95+, so it easily blends with standard dry fertilizer products without separation, settling, or breaking down.

### Application Timing

Apply at or pre-plant with other dry fertilizer.



Call or email to see if Soileos is a good fit for your operation. Ask about our performance guarantees. Contact [bryan@lucentbio.com](mailto:bryan@lucentbio.com) or 778-726-9544. To learn more about Soileos, visit [www.soileos.com](http://www.soileos.com).

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