dober.com/soltellus
info@dober.com
+1 (630) 410-7306

Soltellus™ 2000L

Increase Crop Yield While Improving Soil Health

Overview

Soltellus™ polymer is a multifunctional, biodegradable, water soluble polymer that improves nutrient retention and availability, soil health and water quality—increasing crop yields by up to 10%. Better for you, your soil and the environment, Soltellus is a powerful and sustainable tool in your agricultural arsenal.

Benefits

IMPROVES NUTRIENT UPTAKE

With Soltellus, important nutrients are more readily accessible to plants over an extended period of time.

IMPROVES SOIL HEALTH

Soltellus promotes microbial activity, increases organic matter and improves overall soil health.

IMPROVES WATER QUALITY

Soltellus chelates calcium, magnesium, iron and aluminum ions in hard water to reduce tieup, and provides a complimentary solution with other crop protection products.

STRESS MITIGATION

Soltellus increases stress mitigation and elevates crop resilience from both biotic and abiotic stressors.



10%

Up to 10% Yield Increases in Soltellus™ Treated Crops

2-6X

Return on Investment



Soltellus™ for Corn

Farmers intensively manage their corn crop to produce maximum yields. This involves not only key decisions like hybrid selection, placement, and population, but also crop protection programs to ward off pests like weeds, insects and diseases.

Of paramount importance is supplying the crop a balanced fertility program of all 13 crop essential nutrients supplied by either applied fertilizers or released from the soil. These include N, P, K, Ca, Mg, S, Fe, Mn, Zn, Cu. B, Mo and Cl. Let's investigate key corn growth stages to see how nutrient needs change and how Soltellus can help provide optimal feeding and other benefits to the corn crop.







Planting - Emergence

From planting through emergence, the corn seedling survives and grows almost exclusively on the stored energy and nutrients in the seed. Therefore, it is imperative to activate the soil microbes and reduce stresses to the developing corn seedling. An application of Soltellus at or around planting stimulates the soil microbiome via carbon and nutrient feeding, which in turn interacts with the seedling to biochemically boost stress tolerance. This leads to more uniform emergence and a more actively growing stand.

SPECIFIC BENEFITS

- Water retention/drought tolerance
- Enhanced protection from seedling rots
- More plants per acre emerging uniformly
- Positive growth effects (biomass, color, etc.)

Vegetative Stage

As corn establishes roots and begins more active vegetative growth, its nutrient demand increases dramatically. An application of Soltellus during the vegetative growth stages effectively chelates fertilizer and nutrient ions which reduces their potential for loss and increasing nutrient availability in the root zone. This is especially important if side-dress or broadcast fertilizer applications in season will occur.

SPECIFIC BENEFITS

- Increased nutrient availability at a critical time for corn development
- ~45 day half life of Soltellus supplies nutrients for exponential growth phase up to VT
- More biomass above-ground and bigger root systems; enhanced NDVI
- Increased root exudation further stimulates soil microbiome; more N-P-K cycling

Late Vegetative - VT

University data shows that up to 33% of N, K, Mg, B, Mn and Fe and up to 50% of P, S, Zn and Cu are taken up by corn AFTER the VT stage of growth. So making sure that the plant is supplied with balanced nutrition is critical to maximize yields even into the reproductive stages of corn. An application of Soltellus from late vegetative to tassel will aid in supplying these key nutrients in needed amounts to finish out the crop.

SPECIFIC BENEFITS

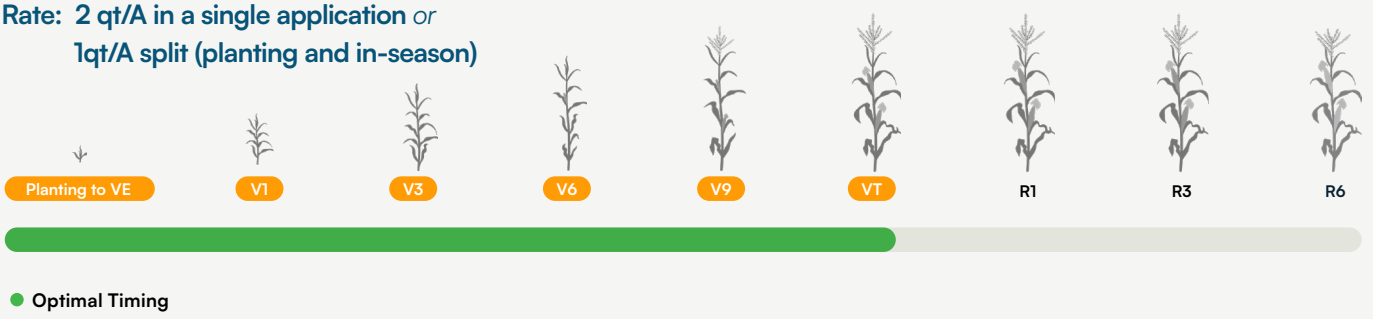
- Less tipback
- Bigger ears, more rows, kernels, test weight and yield
- Soltellus completely biodegrades by end of season
  - » No residues
  - » No microplastics
  - » Total nutrient release

Yield Performance History

- Soltellus™ demonstrated a 90% win rate, an average yield increase of +7.1 bu/ac, and an average ROI of $21.44 per acre, with an 86% chance of profitability.

Optimal Timing: Planting to VT

Rate: 2 qt/A in a single application *or*
1qt/A split (planting and in-season)



Soltellus™ for Soybeans

Soybeans have a higher nutrient demand per bushel than corn for the following nutrients: P, K, Ca, Mg, S, B, Cu, Fe, Mn and Zn, and Na. This means that balanced and metered feeding of nutrients is essential throughout the soybean's growing season to maximize yield. Thus applications of Soltellus are critical to chelate and release these key nutrients as soybeans move from vegetative to reproductive cycles. Let's examine how nutrient needs change and how Sotellus can positively impact soybeans during key growth stages.







Planting - Emergence

Soybean seedlings rely on stored seed reserves for early growth, but soil microbes still play a key role in stress tolerance and root development from the start. Soltellus supports this by feeding beneficial microbes while chelating Ca^{2+} and Mg^{2+}, keeping these cations soluble and preventing them from tying up phosphorus (P).

About a week after emergence, nodulation begins and increases into the reproductive stages, requiring adequate P, Ca, and micronutrients such as Mo and Co. By improving the availability of these nutrients and maintaining a more favorable root-zone environment, Soltellus enhances early nodulation success and supports stronger nitrogen fixation.

SPECIFIC BENEFITS

- Better emergence, uniformity and stands
- Improved stress tolerances
- Successful nodulation and better N fixation
- Early season growth advantages

Vegetative Stage

Adding Soltellus to an early post-emergence herbicide application can enhance nodulation and nitrogen-fixation success as the plant transitions into rapid vegetative growth. During vegetative stages, soybean nutrient demand increases sharply, and microbial activity around the root system remains a key driver of nutrient cycling and nodule function.

Just as important, Soltellus provides strong chelation and nutrient-release benefits at this stage. By binding Ca^{2+}, Mg^{2+}, and critical micronutrients, Soltellus prevents precipitation and reduces tie-up with P, keeping these nutrients soluble and accessible as roots expand and metabolic activity rises.

SPECIFIC BENEFITS

- Balanced and optimal nutrient supply
- Ability to temporarily bind heavy metals, reducing root toxicity and stress
- Reduces antagonism for more consistent crop protection product performance

R1-R3/Fungicide

Unlike corn, soybeans can still add yield through filling pods and developing seeds late in the season. As a result, continued nutrient supply is critical. Applying Soltellus with a reproductive stage fungicide spray, for instance, can help extend nutrient supply all the way to harvest.

SPECIFIC BENEFITS

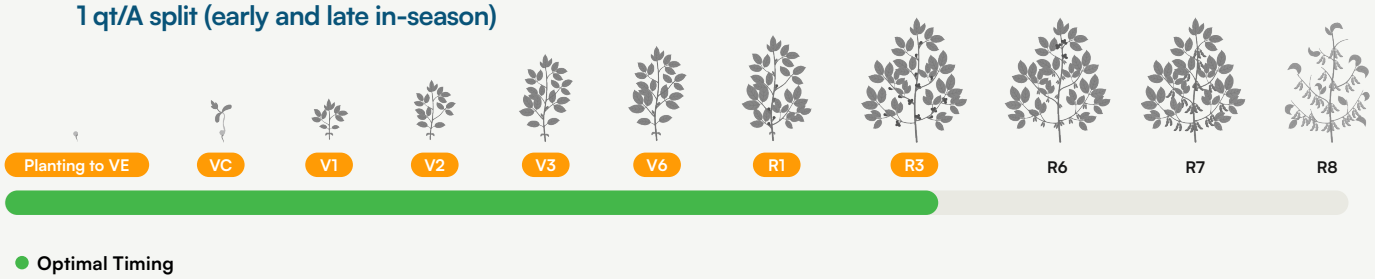
- Extends nutrient supply to adequately fill pods late-season to pods maximize yield
- Total biodegradability of Soltellus polymer leaves no residues
- Stress mitigation

Yield Performance History

- In-furrow use at planting (0.5 gal/A) was shown to enhance root and nodule establishment vs. untreated plants.
- Foliar applications showed less leaf scorch from crop protection products and quicker recovery.
- Application at early pod-fill (R1—R3) or combined with foliar micronutrient blends maximized chelation and nutrient uptake efficiency.
- Yield increases of 2-4 bu/A are common with occasional 5-10 bu/A increases seen. The 2-6X ROI has been confirmed in past field studies.

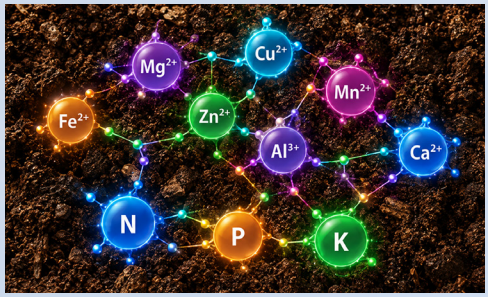
Optimal Timing: Planting to R3

Rate: 2 qt/A in single application *or*
1 qt/A split (early and late in-season)



How Soltellus™ Works

Soltellus™ is a complexing agent that is strong enough to attract and hold nutrients and moisture in the root zone to feed the soil microbiome and plants when needed. In the soil, in the tank or on the leaf.



Helps Keep Nutrients Available

Soltellus™ carries negatively charged sites that attract and chelate, or hold, positively charged nutrient ions directly on the polymer surface. Soltellus™ holds about three times more nutrients than a typical soil can. Its cation exchange capacity (CEC) is 100, compared with 5 to 30 for most soils, so it grabs nutrients before the soil can lock them up. Phosphorus stays available too. In the soil, calcium, iron, and aluminum tie up phosphorus and lock it away from the plant. Soltellus™ holds onto those minerals first, leaving phosphorus free for the roots. Because Soltellus™ holds nutrients loosely, they can be released back into the soil water where roots can take them up.



Feeds Soil and Plant Microbes

Soltellus™ is biodegradable and remains functional for up to 90 days. As it breaks down, it becomes a food source for soil microbes and returns carbon, nitrogen, and any held nutrients to the soil. With a 4 to 1 carbon to nitrogen ratio, it feeds the soil rather than robbing it. The result is greater microbe species and diversity, improved soil health and better plant-microbe interactions. The stronger root systems and root exudation that follow are what build soil organic matter over multiple seasons.



Increases Stress Mitigation

A thriving microbiome contributes greatly to crop success through NPK cycling, biotic and abiotic stress reduction, and maintaining and building productive soils. Soltellus™ is also hygroscopic, holding onto water molecules and this helps hold moisture around root and root hairs enhancing nutrient exchange and benefiting plants and the microbiome.



Improves Foliar Spray and Mixes

Hard water carries calcium, magnesium, and iron. In the spray tank, these hard water minerals bind to many crop protection products, such as glyphosate, and reduce how well they work before they ever reach the leaf. Soltellus™ ties up those hard water minerals first, so the products you add can perform as intended. On the leaf, Soltellus™ keeps sprayed nutrients in a form the plant can take up. Growers using Soltellus™ in the tank report cleaner tanks after application and more consistent weed control, especially where water quality is a known problem.

Family Owned, Farm Focused
Soltellus™ is made in the USA

