MycoGold® Shield ST

Biological Defense for Corn

15 Beneficial Microorganisms. Multiple Defense Mechanisms. One Simple Application at Planting.

Protect Your Yield Potential From Day One.

Corn faces biological challenges long before visible symptoms appear. Soilborne pathogens, root-feeding insects, and environmental stress can compromise root development, weaken plant vigor, and ultimately reduce yield potential.

MycoGold® Shield ST is an advanced dry planter-box biological seed treatment designed to complement MycoGold Corn Blend by delivering a comprehensive consortium of 15 beneficial microorganisms directly to the seed at planting.

At the center of Shield ST is **PPFM technology,** supported by 14 additional microorganisms selected for their complementary roles in plant defense signaling, root-zone health, microbial competition, and biological insect activity.

Proven Yield Performance

+4.0 - 6.1 BUSHELS PER ACRE

In reported 2026 MycoGold corn field trials, adding Shield ST to MycoGold Corn Blend produced a **+4.0 -** 6.1 **bushel-per-acre yield advantage compared with Corn Blend alone**.

At a corn price of $4.30 per bushel, that represents **$21.50 per acre in additional gross crop value**, before subtracting the cost of Shield ST.

PPFM Technology: A Key to Biological Plant Defense

Pink-Pigmented Facultative Methylotrophs (PPFMs) are beneficial bacteria capable of establishing close associations with plants and utilizing naturally occurring plant-released compounds.

Research involving selected PPFM strains has demonstrated their potential to:

- Influence plant defense signaling and natural resistance responses.
- Support plant growth through beneficial plant–microbe interactions.
- Produce or influence plant-growth-regulating compounds.
- Colonize plant tissues and interact with developing root and shoot systems.
- Support plant resilience under certain environmental stresses.

The Shield ST Advantage: PPFM technology is combined with 14 complementary microorganisms, creating a broader biological approach than relying on a single microbial function.

A Comprehensive Biological Defense System

1. Root and Crown Defense

Beneficial microorganisms:

Pseudomonas chlororaphis, Pseudomonas fluorescens, Bacillus subtilis, Bacillus amyloliquefaciens, Bacillus pumilus, Streptomyces albidoflavus, Streptomyces griseus, Trichoderma harzianum, and *Trichoderma viride*.

These microorganisms include strains known for producing antifungal metabolites, competing with soilborne pathogens, colonizing root surfaces, and stimulating plant defense pathways.

Together, they provide a strong biological foundation for supporting root and crown health under pressure from soilborne fungal pathogens.

2. Natural Plant Defense and Stress Resilience

Beneficial microorganisms:

Methylobacterium extorquens, Serendipita indica, and *Rhodopseudomonas palustris*, supported by other plant-associated bacteria in the consortium.

Selected strains of these organisms can contribute to beneficial plant signaling, root development, nutrient acquisition, and stress responses.

Serendipita indica, formerly known as *Piriformospora indica*, is particularly interesting for its ability to colonize roots and support plant development under certain stressful conditions.

This complementary biology may help plants establish greater resilience as they encounter challenges throughout the growing season.

3. Biological Insect Defense

Beneficial microorganisms:

Beauveria bassiana, Metarhizium anisopliae, and *Bacillus thuringiensis*.

These organisms are recognized for insect-related biological activity against susceptible pests.

Their inclusion expands the functional diversity of Shield ST and provides opportunities for supporting integrated management of early-season insect pressure, subject to strain-specific efficacy and applicable product registrations.

Designed Around Major Corn Production Challenges

Crown and Root Rot

Shield ST places beneficial microorganisms close to developing roots, where microbial competition, antagonistic metabolites, and plant–microbe interactions may help support root health under soilborne disease pressure.

Tar Spot

Certain beneficial bacteria and fungi can stimulate induced systemic resistance (ISR), making early biological defense priming a promising area for investigation. Shield ST-specific tar spot suppression requires disease-specific validation.

Southern Rust

The consortium includes microorganisms capable of influencing natural plant defense pathways. These mechanisms contribute to plant resilience against rust.

Early-Season Insect Pressure

The combination of *Beauveria*, *Metarhizium*, and Bt provides complementary biological functions against susceptible corn pests.

THE MYCOGOLD CORN FOUNDATION PROGRAM

MycoGold Corn Blend + Shield ST

MycoGold Corn Blend — Establish the Foundation

Provides mycorrhizal fungi, beneficial bacteria, micronutrients, and biostimulants to support root development, nutrient availability, and early crop vigor.

MycoGold Shield ST — Expand the Biological Defense

Adds PPFM technology and a diverse microbial consortium to complement the established biological foundation, support plant resilience, and provide additional root-zone biological activity.

Together: A comprehensive planting-time biological program designed to support healthier plants and greater yield potential.

Simple, Convenient Planter-Box Application

APPLICATION RATE: 1 OUNCE PER BUSHEL OF CORN SEED

Apply MycoGold Shield ST as a dry planter-box seed treatment alongside MycoGold Corn Blend, following approved application instructions.

- Applied at planting.
- No additional field application required for the planting-time program.
- Designed to integrate into existing MycoGold Corn Blend seed-treatment practices.

A BioArsenal Seed Treatment

MycoGold Shield ST combines PPFM technology with 14 additional beneficial microorganisms to deliver a comprehensive biological approach to corn health and yield potential.

Proven incremental yield response in reported field trials. Broad biological functionality. Simple planting-time application.

Start Strong. Defend Your Foundation. Grow More.

MycoGold® Biologicals
www.mycogold.com