

UNLOCK YOUR SOIL'S BIOLOGICAL POTENTIAL

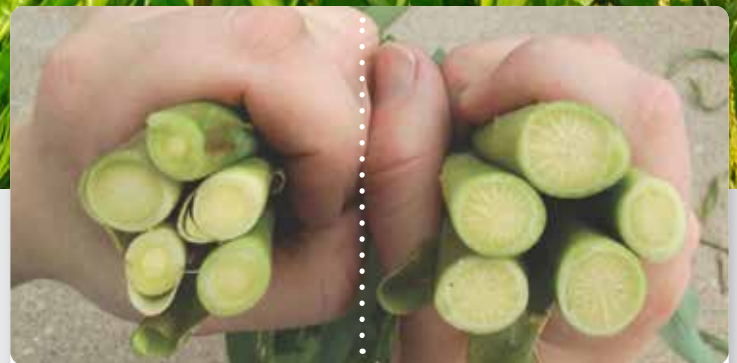
# CORN

Improve yield with  
next generation  
Endophytic Trichoderma

Field corn  
Sweet corn  
Popcorn  
Sunflowers



SWITCHES ON GENE PATHWAYS  
INCREASES NUTRIENT UPTAKE  
INCREASES MOISTURE UPTAKE  
INCREASES PHOTOSYNTHESIS  
REDUCES IMPACT OF SOIL PATHOGENS  
SEED TREATMENT



3 decades of research to find effective,  
robust strains



Control

Sabel-X

Endophytic Trichoderma | Live inside the plant, not in the soil

*Harness the power of nature*



### Sabel-X Trichoderma - how they work

They colonise inside the plant within 48 hours of seed germination and immediately begin communicating with the plant.

Sabel-X Trichoderma persist for the life of annual crops, playing a key role in signalling within the plant and to beneficial root zone microbes. This improves crop performance by initiating and interpreting signals from the plant to:

1. Upregulate genes involved in photosynthesis, increasing energy available to the plant by up to 30%. More energy for extra plant growth (& yield) in the form of root exudates to nourish soil microbes, releases previously inaccessible nutrients.
2. Attract beneficial microbes to the plant roots, coordinating the microbial activity to create a healthy root zone, reducing the effect of soil pathogens.

The signals and results produced by Sabel-X Trichoderma are in addition to those produced by the plant alone.

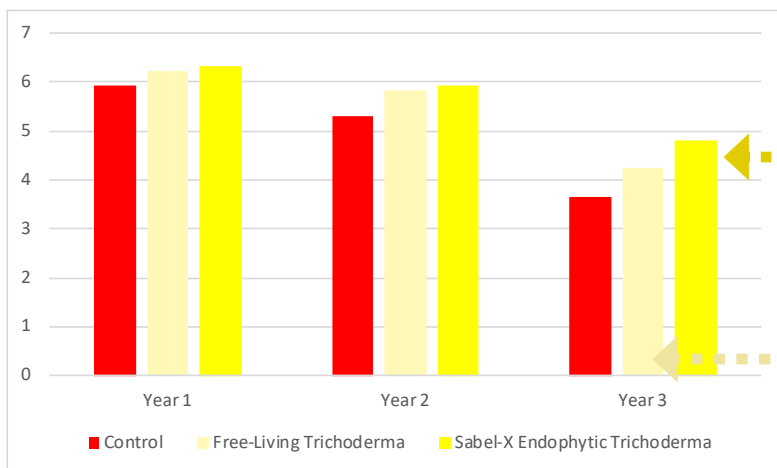


Control

Sabel-X

40 - 60% root volume increase

### Better growth & only 1 application/year over 3 years - Sabel-X



#### 3 year Trial Data

##### Sabel-X Endophytic Trichoderma

- +32%** Year 3 increase over control
- +12%** Year 2 increase over control
- +7%** Year 1 increase over control

##### Free- living Trichoderma

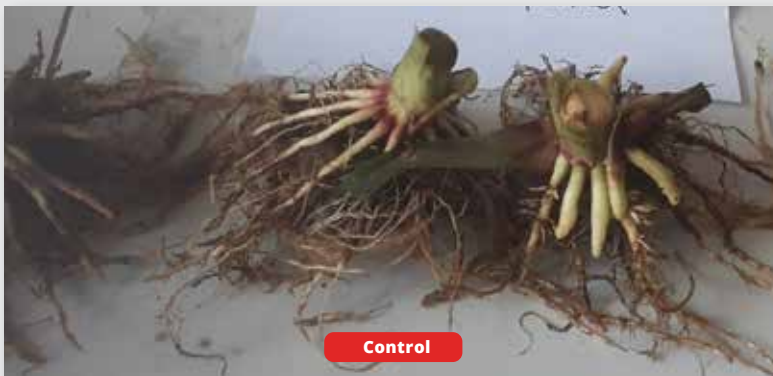
- +17%** Year 3 increase over control
- +10%** Year 2 increase over control
- +5%** Year 1 increase over control





BUNDABERG 2019-20 CORN RESULTS

1 x Seed Treatment at planting - photos 6 weeks post emergence



Control



Sabel-X Corn

Sabel-X have larger root and secondary root development



Sabel-X Corn

Sabel-X Corn Treatment - green indicates Trichoderma is alive inside root tissues confirming Sabel-X is an Endophytic Trichoderma living within the plant.



Sabel-X Corn

Treated corn already showing massive stem diameter and height at 1.6-1.8m

Trichoderma - 3 types

There are 3 very different types of Trichoderma with different functions:

FREE LIVING

Live in the general soil mass. They break down soil organic matter and help build soil health with long term benefits. They are subject to pH, waterlogging, heat etc and need regular applications.

- Fungicides kill them
- Require multiple applications

RHIZOSPHERE COMPETENT

Live in the rhizosphere with strains selected to outcompete fungal pathogens and colonise the plant root system more aggressively.

- Fungicides kill them.
- Require multiple applications

ENDOPHYTIC TRICHODERMA

Immediately enter the plant and produce metabolites which then induce different plant responses depending on what the plant needs.

Fungicides do not kill them because Sabel-X Trichoderma live between plant cells.

Typically one application because Sabel-X Trichoderma lives as long as plant does.

## BUNDABERG 2019-20 CORN RESULTS

### Pre-harvest assessment - moisture content < 18%



Sabel-X treated corn showing full ears and complete rows

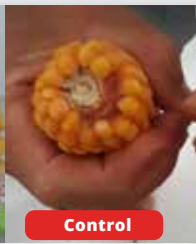


Control



Sabel-X Corn

Sabel-X treated 71 mm diameter with full rows  
Untreated 45mm diameter



Control



Sabel-X Corn

Sabel-X treated showing full ears and complete rows



Sabel-X Corn



Control

Sabel-X - filled ears to end of cob which reflects increased weight - 5 cobs 1400gms (control 5 cobs 840g)

### Final Results - extra 1.3T/ha - ROI extra \$650/ha



Sabel-X Corn treated crop - well presented for harvest due to zero lodging

#### Results

Extra 1.3T/ha  
32 fold ROI - Cost \$20/ha, extra return \$650/ha

#### Trial Details

Rate used: 30g per 25kg seed  
Treated: 16ha  
Untreated: 3ha  
Similar sites: all on sandy loam soil type

#### Comments

Dry season - between irrigations Sabel-X treated did not show signs of water stress, while non-treated showed stress on 4th-5th day. No rain events to assist with growth.

Harvest - treated crops easier to harvest with excellent stubble vs grain separation.  
Untreated - harder to separate grain from cob and much less stubble which lodged severely.

## What Endophytic Trichoderma do

### How to use

Sabel-X Corn contains live micro-encapsulated Trichoderma fungi.

#### Application rate :

30g Sabel-X Corn per 25kg seed.

#### Method:

Apply as a dry seed treatment prior to planting.

Depending on equipment:

1. Shake contents of pack across seed in plant box and mix, or
2. Sprinkle Sabel-X Corn onto seed in bag. Treat in one bag increments to ensure uniform coating of seed. Shake bag or mix until uniform coverage is obtained.
3. Can be applied on most fungicide treated seeds.

Plant treated seed directly after Sabel-X seed treatment has been applied.

4/02/21