

# SOIL PRO™

Stimulating plant development.

## ¿WHAT IS IT?

**Soil Pro™** is a bio formulated agricultural soil improver, its microbiological components intervene in the nitrogen cycle, favoring nitrification and nitrate absorption; obtaining stronger and more productive plants. **Soil Pro™** contains 7 microbial strains of the genus *Pseudomonas* and *Citrobacteria*; of which the product has been reinforced with a strong concentration of *Pseudomonas fluorescens* and *Pseudomonas aeruginosa*, Plant Growth Promoting Bacteria (BPCP) at a final concentration of 700 million UCF / mL (See certificate of contents for more information) [1], achieving a double mode of action:

### 1. Stimulating plant development and

### 2. Improving soil microbiological conditions.

The formulation is complemented with essential elements of rapid assimilation as magnesium, sodium, potassium and phosphorus [2].

## USES AND APPLICATIONS



**BIO-ENHANCER**



**SOIL  
IMPROVER**

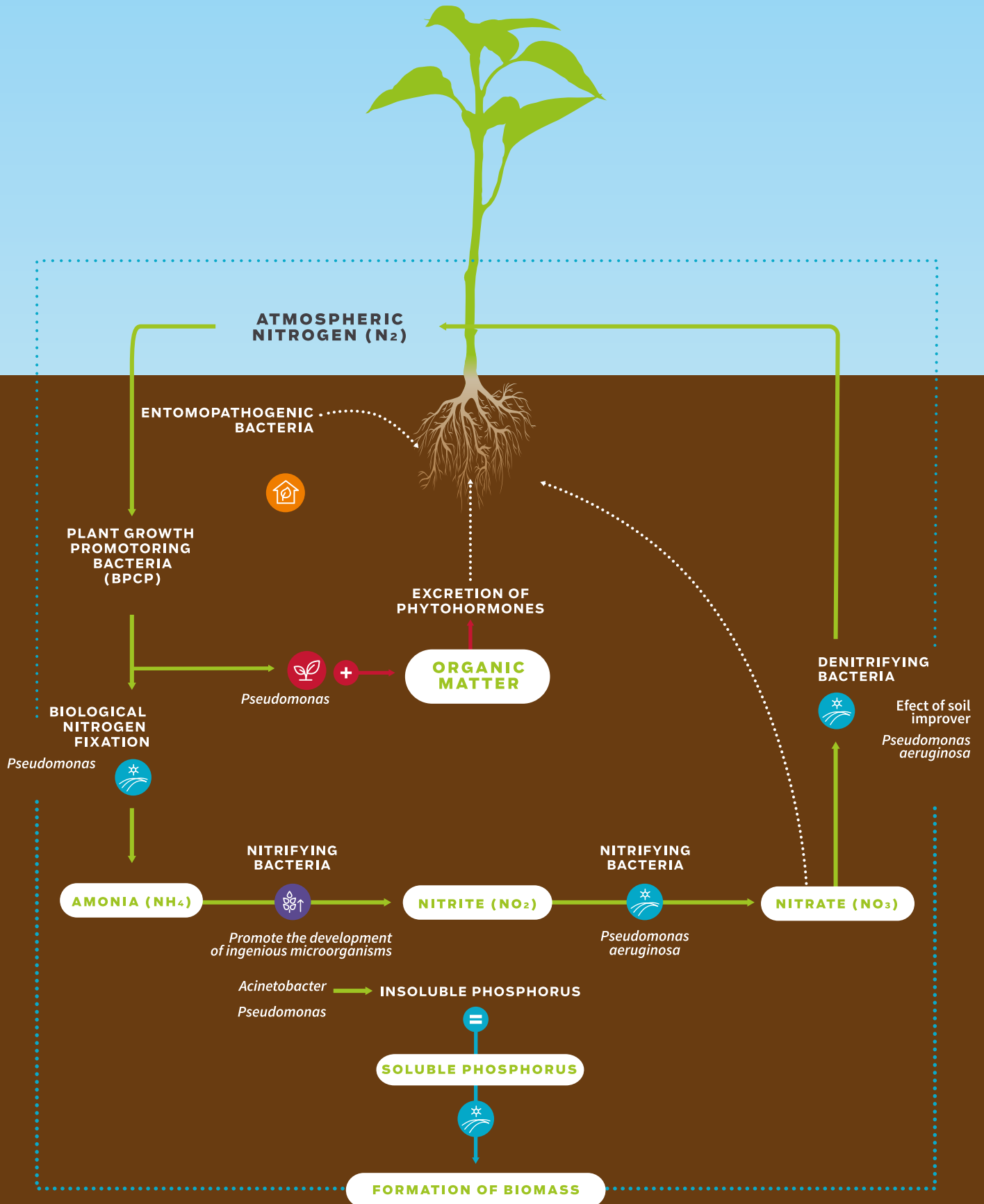


**EXCLUSION OF  
PHYTOPATHOGENS**



**PHYTO STIMULATOR**

# MODE OF ACTION



# ¿HOW DOES IT WORK?

## MECHANISM

### SOIL IMPROVER



### BIORREMIEDIATORY



### BIO-ENHANCER



### PHYTI STIMULATOR



## DESCRIPTION

Pseudomonas are bacteria involved in the biological nitrogen fixation process, transforming the atmospheric nitrogen into ammonium, so that it can be incorporated into the rhizosphere and in turn the nitrifying bacteria make it into nitrates (**NO<sub>3</sub>**) that can be assimilated to plants. It also improves the soil, through the bioconversion of organic solid waste, improving the availability of carbon sources [3].

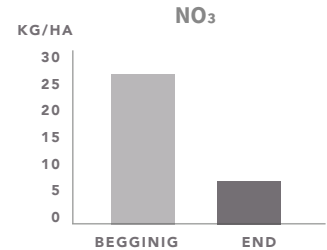
Pseudomonas solubilize phosphorus compounds and other elements, regenerate saturated soils due to the excessive handling of fertilization. Microorganisms are adjuvants in the administration of chemical or organic fertilization [4].

Help restore soil biology and stimulate the growth of species of native microorganisms [5].

Plant Growth Promoting Bacteria (**BPCP**), which form a symbiotic association with plants to promote plant development through mechanisms such as the excretion of phytohormones and the biological fixation of nitrogen.

It has a direct effect on the root zone of the plants, promoting a greater volume and generation of absorbent pellets [6].

## BENEFITS



NITRATE NO<sub>3</sub> AT THE BEGINNING AND END OF TREATMENT.



UP TO 20% MORE PRODUCTION.



AT HIGHER CO<sub>2</sub>, HIGHER CONCENTRATION OF MICROORGANISMS IN SOIL.



APPLICATION OF SOIL PRO FOR CHILI SEEDING.



STEREOSCOPE VIEW OF TREATED ROOTS.

## MECHANISM

### EXCLUSION OF PHYTOPATHOGENS



## DESCRIPTION

Bacterial colonization of the rhizosphere avoids the establishment of phytopathogenic species, and the strength gained by the plant makes it less vulnerable to predatory attacks.

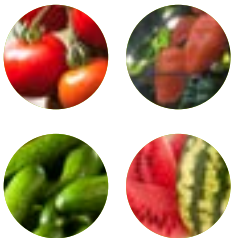
## BENEFITS



INCREASED RESISTANCE TO PREDATOR ATTACKS.

## ¿HOW IT IS APPLIED?

### CROPS AND DOSES:



CROP	CYCLE	APPLICATION L/HA	WEEKLY	TOTAL L/HA
<i>Red tomato</i>	6 months	1.25	24	30
<i>Chilli pappers</i>	5 months	1.25	16	20
<i>Cucumber</i>	4 months	1.25	12	15
<i>Pumpkin</i>	4 months	1.25	12	15
<i>Watermelon</i>	4 months	1.25	12	15

### WORKING RANGES:

PARAMETER	RANGE	DESCRIPTION
<i>Metabolism</i>	Anaerobic facultative	They can be grown in environments with limited oxygen availability.
<i>Ecology</i>	Saprophyte facultative	Contributing to the decomposition of organic matter and maintaining soil fertility.
<i>Osmorregulation</i>	Halotolerant, < 3 electric conductivity	They are stable in highly saline soils, or in saturated nutrient solutions.
<i>Temperature maximum desarrollo</i>	35 ± 2 °C	They remain viable even at temperatures of 45 to 60 °C [6].
<i>PH</i>	Neutrophils, pH 6 to 8	PH outside this range generate loss of microbial viability.

## PREPARATION:

1. Wear suitable protective clothing and eye protection.
2. Use suitable measuring tools such as graduated cups, graduated cylinders and scales to dispense the required amount of product.
3. Before opening the product, shake the container for 30 seconds.
4. Adjust the pH of water to use at 7.
5. Pour into a container the required amount of product, the amount of water depends on the area to be treated (1 L/200 L of water).
6. The product can be applied in the system of drip irrigation (Half the time that the irrigation lasts), drench, in head of valve, as well as in rolled irrigation.




## INTERVAL BETWEEN APPLICATIONS:

Preferably **weekly**, however, can be applied **every fortnight**.

## SAFETY INTERVAL (IS):

A safety interval between the last application and the harvest is not necessary.

## COMPATIBILITY:

-  **Do not mix the product** with chemical or organic antimicrobial agents such as antibiotics, bactericides, bacteriocytes and fungicides. Leave a window of 7 days between applications.
-  Can be applied in conjunction with chemical and organic fertilizers, is **compatible** with other **inoculants and entomopathogen agents**.
-  Can be applied **the same day that insecticides are used, but not the same container**.

## CONTRAINDICATIONS:

**Apply the mixture on the same day of preparation.** Do not expose the product to direct sunlight.



**NOTE :** The information provided herein should not be construed as an express or implied warranty, or implied, statutory duty, provided solely as a solicitation. You should read the label before using the product.

# RESULTS IN FIELD

Cycle of application in tomato crop  
indeterminate growth with client Belher.

CONTROL

SOIL PRO

CONVENTIONAL



In treatment showed higher vigor, greater stem size, height and a higher green color compared to conventional treatment

SOIL PRO

CONVENTIONAL



In treatment, a greater number of absorbent pellets were observed in contrast to the control, which presented a little more absorbent pellet.

## BIBLIOGRAFÍA.

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sp CIAD 2016.

7. Resumen de agricultura Culiacán, 2016.



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