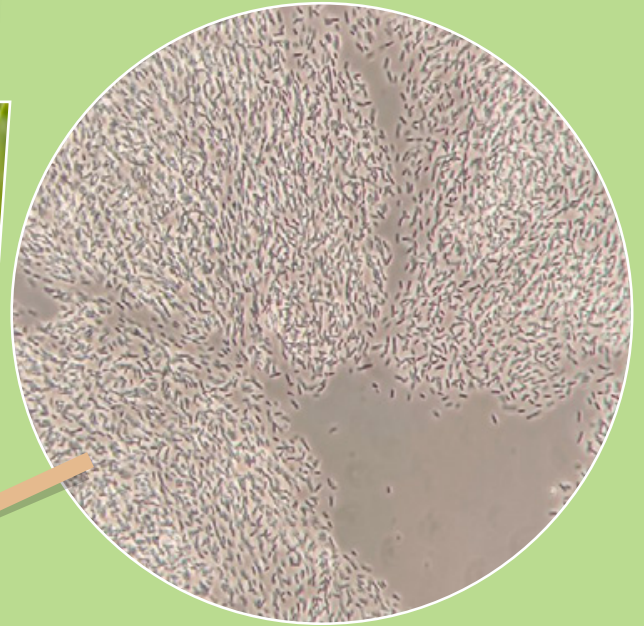


NitroStim

Microbial Growth Biostimulant



**Consortium of endophyte
in leaves bacteria**
Nitrogen Fixation and growth stimulation



Nitrostim is a microbial biostimulant containing a community of nitrogen-fixing bacteria in an active form (1×10^{12} cfu), which have the ability to penetrate the foliage of plants and create colonies. These bacteria stimulate the growth of plants by constantly and consistently providing nitrogen from the atmosphere in a directly assimilable form and producing phytohormones (auxins, etc.), which ensure fast, vigorous and balanced growth as well as an impressive improvement in the quantitative and qualitative characteristics of the harvest while simultaneously reducing Nitrogen fertilization, as has been repeatedly proved after a long-term experimental study in different crops and varied soil-climatic conditions.

The advantages of Nitrostim

over other formulations with nitrogen-fixing bacteria:

- Nitrostim is in liquid form and contains active bacteria (no need to awaken them from dormancy) that are ready to immediately colonize plant foliage, unlike nitrogen-fixing bacteria contained in other powder formulations.
- Nitrostim is a combination of different types of bacteria in high concentrations, which, acting synergistically, achieve their dominance over the native bacteria that pre-exist in the plant foliage and subsequently their entry and establishment in the intercellular area of the leaves
- The different strains of bacteria that Nitrostim contains are specially selected after long-term research with criteria not only the high endophytic nitrogen-fixing capacity in the leaf, the production of phytohormones that stimulate plant growth and increase their resistance to stress factors such as frost, heat and drought. On the contrary, most competing formulations cannot offer the anti-stress properties of Nitrostim.
- Nitrostim contains endophytic bacteria in the leaf (and not in the root), which achieves rapid and maximum possible nitrogen fixation compared to other preparations containing classic nitrogen bacteria of the root.
- The bacteria of Nitrostim are active and the aqueous environment in which they are found gives them the power to colonize the foliage, become endophytes and multiply inter-cellularly without loss, in contrast to the bacteria of competing formulations that are in powder form where the bacteria are dormant as they have undergone the freeze-drying process.
- Nitrostim can be applied in a wider temperature range (5-38 °C) than other nitrogen-fixing bacteria powder formulations (10-30 °C), which is significant advantage when applying in the winter and summer months.
- The bacteria of Nitrostim due to the aqueous nutrient solution in which they live, are dispersed faster, easier and better in the spray solution, resulting in excellent dispersion and coverage of the leaf surface. On the contrary, powder formulations require much better mixing in the application tank and more agitation time to activate. Additionally, because in solid formulations a significant population of bacteria is attached to molecules of inert insoluble powder ends up at the bottom of the application tank and not in the crop reducing the active population of microorganisms that reaches the crop.



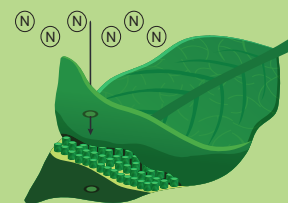
Active bacteria Nitrostim which become very soon endophytic in leaves

Nitrostim	Competitive formulations
Active bacteria	Inactive bacteria



Bacterial community of Nitrostim able to colonize successfully the leaves of the plants due to cooperative action

Nitrostim	Competitive formulations
Cooperative Bacterial Community	Limited Bacterial variety



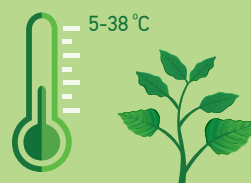
Nitrostim leads to fast and very effective nitrogen fixation in leaves

Nitrostim	Competitive formulations
Rapid & high Nitrogen fixation in the aerial part of the plants	Slow Nitrogen fixation mostly in the root system



The bacteria of Nitrostim multiply effectively inter-cellularly resulting in their intersystematic action

Nitrostim	Competitive formulations
Effective intersystematic action	Limited Nitrogen fixation in leaves and roots



The bacteria of Nitrostim act in a wide range of temperatures

Nitrostim	Competitive formulations
Effective action in a wide range of temperatures	Limited effectiveness in high and low temperatures



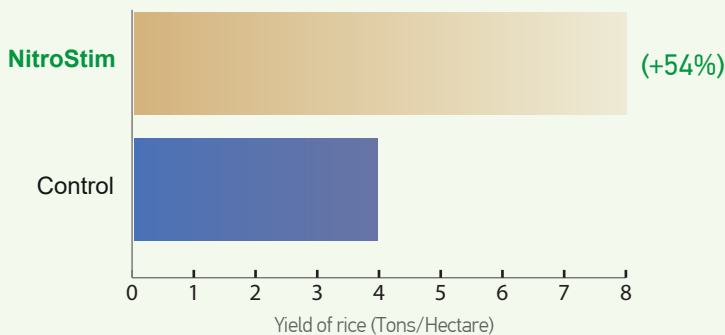
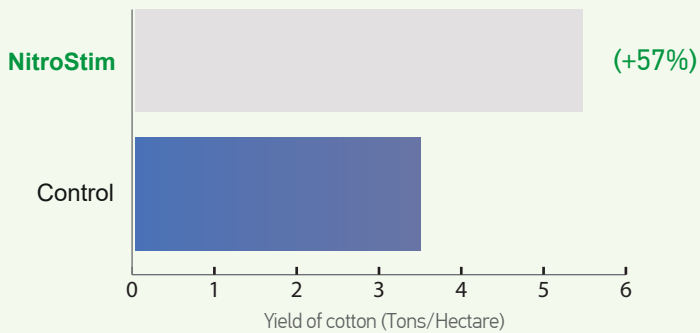
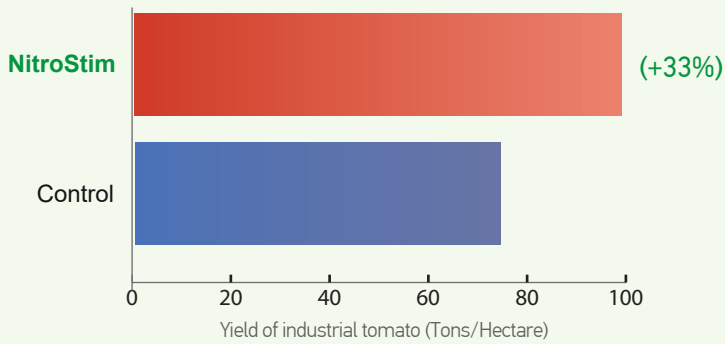
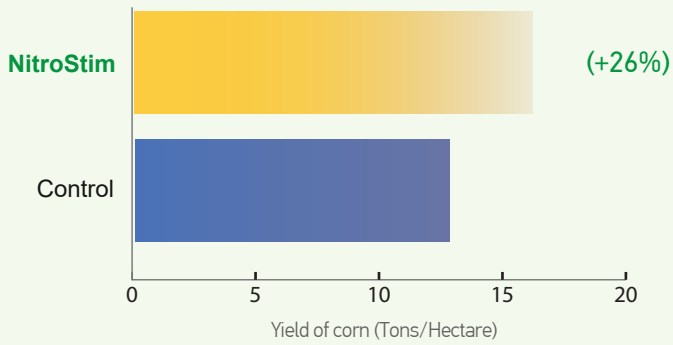
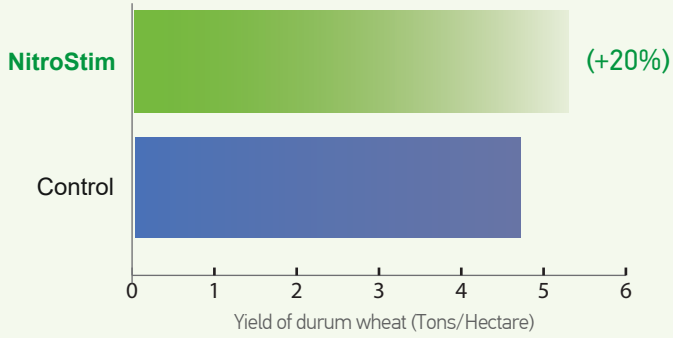
The bacteria of Nitrostim are spread evenly, rapidly and effectively on leaf surface

Nitrostim	Competitive formulations
Effective bacterial coverage of the aerial part of the plants	High loss of the microbial population

From lab to farm

Field trial results

Increase in yield for different crops obtained after application of Nitrostim + reduction of Nitrogen fertilization by 80%, compared to Control (100% of Nitrogen fertilization without Nitrostim).



NitroStim

- Supply of nitrogen from the atmosphere
- Reduction of Nitrogen dioxide & carbon dioxide emissions
- Endophytic in leaves bacteria
- Reduction of chemical nitrogen fertilization
- Reduction of weeds
- Reduction of production cost
- Yield increase
- Increase of resistance to abiotic stress
- Protection of the environment
- High income for the producer

**We create the way
to future agriculture**

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