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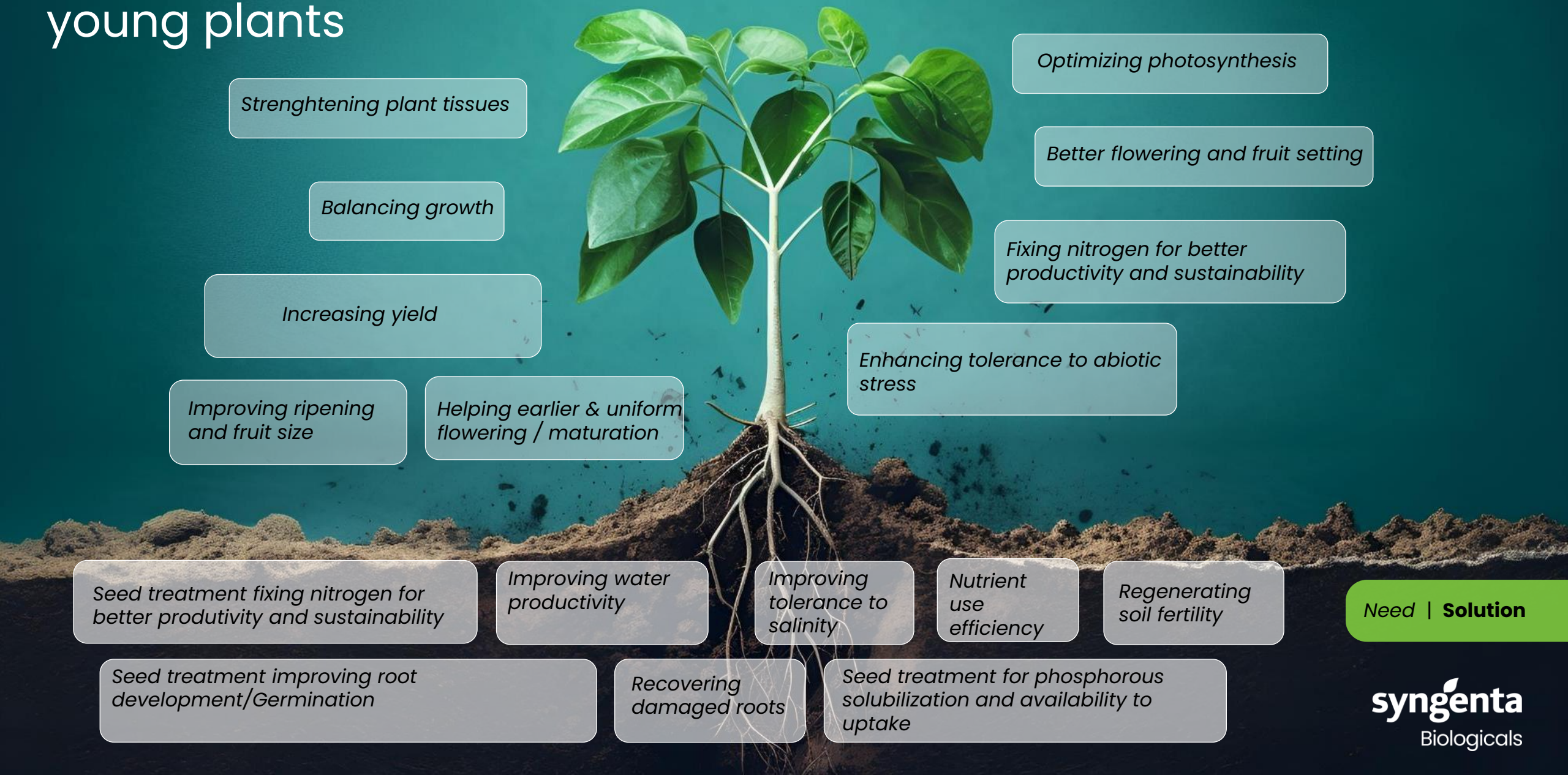
Innovation powered by nature

Portofolio | One Pager

Our comprehensive portfolio help crops thrive, from seeds to young plants



Strenghtening plant tissues

Optimizing photosynthesis

Balancing growth

Better flowering and fruit setting

Increasing yield

Fixing nitrogen for better productivity and sustainability

Improving ripening and fruit size

Helping earlier & uniform flowering / maturation

Enhancing tolerance to abiotic stress

Seed treatment fixing nitrogen for better produtivity and sustainability

Improving water productivity

Improving tolerance to salinity

Nutrient use efficiency

Regenerating soil fertility

Seed treatment improving root development/Germination

Recovering damaged roots

Seed treatment for phosphorous solubilization and availability to uptake

Need | **Solution**

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Glossary

Biocontrols: Products based on naturally-occurring materials that are used for biotic stress management in controlling fungal and bacterial diseases, arthropod pests, nematodes and weeds.

Biofertilizers and Nutrient Use Efficiency: Microbial based products that are used for fixing Nitrogen, Phosphorus solubilization, improving nutrient availability and uptake, and promoting plant growth and soil heath.

Biostimulants: Any substance, that is applied to plants, seeds or the root environment with the intention to enhance natural processes of plants. Benefiting nutrient use efficiency, tolerance to abiotic stress or crop quality.

The Stress Buster

Abiotic stress Recovery

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The Stress Buster product card

This product can be applied as soon as a stress event is predicted.

Foliar application

Value proposition

Anti-stress and growth activator

Our comprehensive portfolio include biostimulant that contains a complex of selected vegetal extracts derived from selected plants.

- **When applied in case of abiotic stresses, its synergistic action of different active ingredients, allows the plants to tolerate and quickly overcome the stress, preserving yield.**
- **Applied regularly in normal condition, optimizes plant growth.**

DIRECTIONS FOR USE

Crop	Dose	Period of application
Fruit crops	2-3 l / ha	pre-flowering, post-setting, fruit development and in all cases of plant growth stop
Vegetable	2-3 l / ha	in open field and greenhouses after transplant every 10-15 days
Row crops	2-3 l / ha 150-250 mL / hL	1-2 applications during growth cycle in case of abiotic stresses

Science behind

TRANSCRIPTOMICS

Non-stressed plants treated will show activation of >100 genes (FC >3) vs. Control, mainly involved in: i) abiotic stress response/tolerance (**«hardening effect»** against abiotic stress), ii) activation of plant metabolism (thus better growth)
Drought-stressed plants pre-treated with stress buster show a decreased expression of stress-related marker genes during stress conditions, showing a lower perception of the stress itself (**«acclimated plants»**; Petrozza et al., 2014)

PHENOMICS

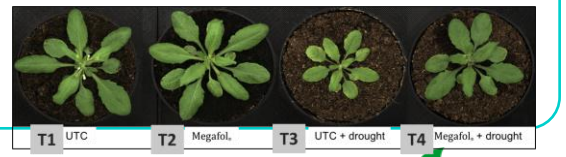
Under normal and stress conditions (drought, cold, heat-shock, flooding, simulated hail), Megafol improved:

- «Digital Biovolume/Biomass»
- Health Index (less Stress Index)
- Water content
- Other Indexes: Green/Yellow Index, etc

METABOLOMICS

METABOLOMICS has also been used recently, to highlight the action of Stress Buster In stress conditions. It has been observed that the product is capable of modulating specific classes of metabolites, connected to the response to abiotic stress.

Clear benefit of application on *A.thaliana* plants under normal and drought stress conditions. **These results were confimed by metabolomics data.**



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Our Field Trials

Foliar application

Performances on crop groups (ROI*)

Total average yield increase on all crops refers to selected trials done with The Stress Buster

Row crops
+ 0,30 t/ha
3,9:1

Vegetable
+ 2,3 t/ha
11,6:1

Fruit crops
+ 1,2 t/ha
10,5:1

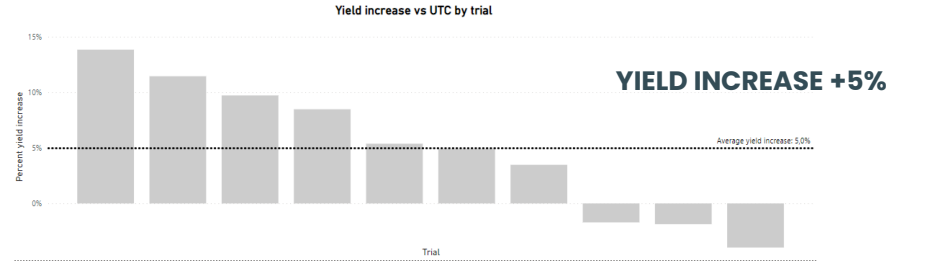
***Return on investment (ROI)** is calculated by dividing the profit by the related investment, based on an average value in the European market.

850 selected trials for the summary, of which **68% were carried out under abiotic stress conditions.

Results on main stress conditons

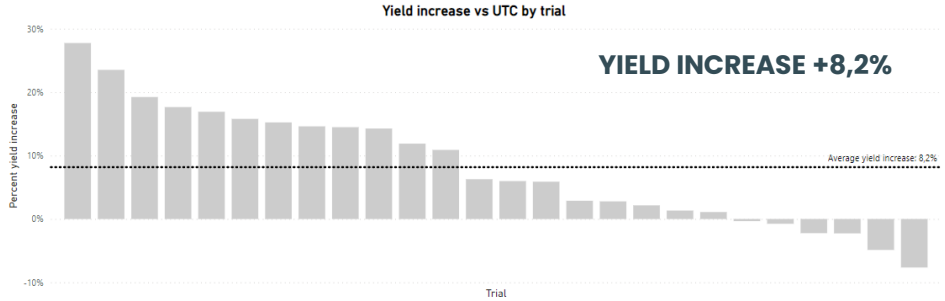
COLD

N. OF EVIDENCES
10
Win rate vs UTC
70%



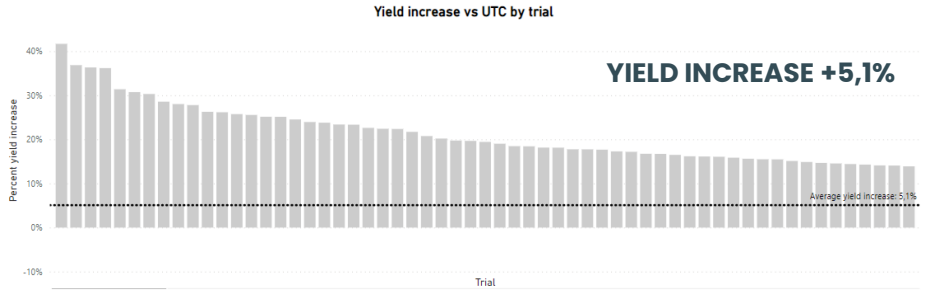
HEAT

N. OF EVIDENCES
26
Win rate vs UTC
76,9%



DROUGHT

N. OF EVIDENCES
433
Win rate vs UTC
70,7%



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The Yield Booster

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The Yield Booster product card

This product decision is taken before the growing season based on the historical data and upcoming season prediction. **Foliar application**

Value proposition

Highest **crop productivity**, Highest return for farmers

In our portfolio we have a biostimulant for row crops able to ensure **highest productivity and return for farmers**.

This solution is able to increase plant productivity through:

- **Better transport of sugars and nutrients**
- **Promotion of cell division**
- **Fatty acids biosynthesis and transport**

DIRECTIONS FOR USE

Crop	Dose	Period of application
Wheat	2 l / ha	1 application at flag leaf growth stage
Soybean	1-2 l / ha	2 applications: the 1st at Vn/R1 growth stage, the 2nd at R3/R5 growth stage
Corn	2 l / ha	1 application At V4-V6 growth stage
Rice	1-2 l / ha	2 applications: the 1st at the beginning of booting, the 2nd at heading growth stage
Cotton	2 l / ha	2 applications: the 1st before squares appear and 2nd after 3-4 weeks
Sunflower	2 l / ha	1 application at 4-6 leaf growth stage

Science behind

TRANSCRIPTOMICS

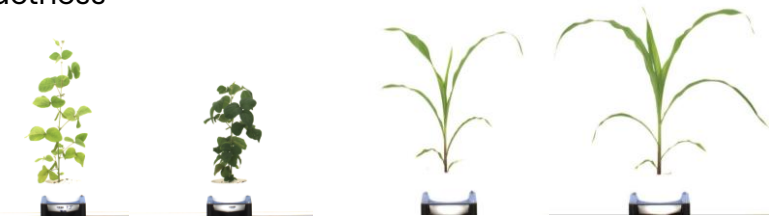
Next Generation Sequencing (NGS) experiment on corn and soybean: plants treated with Yield Booster showed activation of genes involved in:

- **Transport of sugars and nutrients:** Zn and Fe uptake and transport, ammoniun and nitrogen assimilation, phosphate homeostasis (uptake, sensing), phloem loading.
- **Promotion of cell division:** the coordination of specific hormonal processes, including the establishment of an optimal auxin/cytokinin balance.
- **Fatty acids biosynthesis/transport:** lipid transport, photosynthesis

PHENOMICS

Experiments on corn and soybean, where Yield Booster improved:

- Digital Biovolume and height
- Plant compactness
- Green Index



Untreated **Yield Booster** Untreated **Yield Booster**

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Field trials

Foliar application

Key Crops Performance

Total average yield increase on all crops refers to all trials done with Yield Booster.

Crop	Crop average yield increase (%)
Bean	12
Cotton	11
Sunflower	10
Rice	9
Soft Wheat	6
Corn	5
Soybean	5
Oilseed Rape	4
Barley	2

Wheat
+0,30 t/ha
ROI* 3:1

Rice
+0,66 t/ha
ROI* 14:1

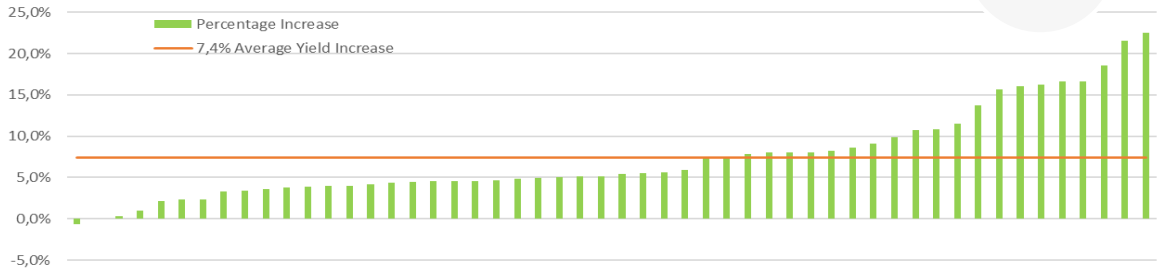
Soybean
+0,27 t/ha
ROI* 9:1

Corn
+0,64 t/ha
ROI* 7:1

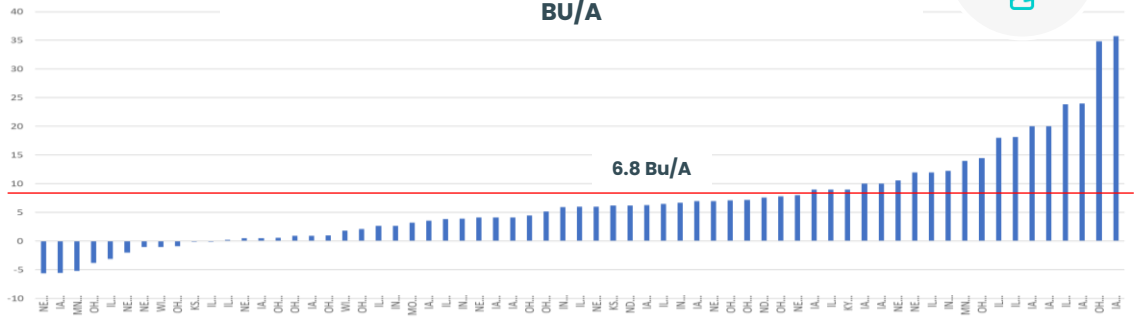
***Return on investment (ROI)** is calculated by dividing the profit by the related investment, based on an average value in the European market.

Results

2017 – 2022 Rice Trials Percentage Increase - World



Yeldon response to Yield Booster Application (both untreated and fungicide+Yield Booster) – Delta BU/A



64 corn trials in 2022
YieldB application resulted in positive yeld response in 83% of trials
With an average bu/A increase of 6,8 Bu/A

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The Nutrient Booster

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Nutrient use efficiency (NUE) products

This product decision is taken before the growing season based on the historical data and upcoming season prediction.

Different factors influence **that can limit the availability of Nitrogen, Phosphorus and other nutrients**:

- ammonia volatilization, nitrification, denitrification, immobilization.
- Leaching, runoff, temperature, soil pH, soil texture, rainfall and irrigation, soil salinity, tillage, weeds, pests, diseases, nutrients loss from plants, crop rotation, crop nutrition, crop varieties.
- Nutritional management (right time, right source, right place, and right rate/amount).

Nutrient Use Efficiency (NUE) products *are biological products that are used for* ***fixing Nitrogen****, Phosphorus solubilization, improving nutrient availability and uptake, and promoting plant growth and soil heath.*

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Our NUE product for seed treatment and foliar application

Seed treatment & Foliar application

Value proposition

New innovative product concept based on 3 strains endophytic bacteria *(Sphingobium salicis, Pseudomonas siliginis, Curtobacterium salicis)* with dual effect on N and P use efficiency and mineral nutrient uptakes.

Plant available N from multiple sources:

- Air – N2
- Soil – NO, NO3, NH3/NH4
- Soil – Organic, C-NP

Enhanced phosphate mobilization and uptake

- Enhanced P-solubilization
- P and K uptake root to shoot transport
- Organic acid

Enhanced macronutrient + micronutrient availability

- Siderophore production solubilization of micronutrients Fe, Mg, Cu, Zn, Mn, Mo.

CROPS – APPLICATION MODALITY – DRY FORMULATION

Foliar application

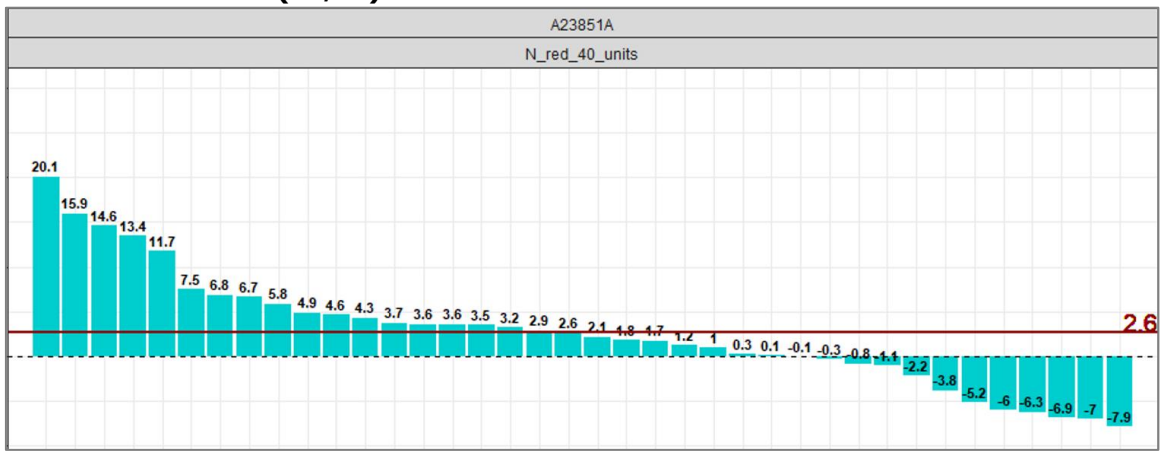
Crops	RATE (g/ha)
Wheat	10-50
Barley	10-50
Corn	10-50
OSR	10-50
Rice	10-50

Seed treatment

Crops	RATE (g/T/seeds)
Wheat	10-50
Barley	10-50
Corn	50-150
OSR	100-250
Sugarbeet	500-1050

Science behind

38 trials in corn (US, EU) 2023. 40-unit N[1] reduction scenario - FOLIAR



- 68%-win rate (positive response)
- Average 2.6% yield increase
- Average 250 kg/ha increase

KEY BENEFITS

- Product acts as a «**back up generator**» for plants when nutrients become limiting
- Versalite and easy to apply: seed treatment or foliar application.
- Up to 2 years of shelf life.
- High compatibility with tank mixtures(F, I, H, F).
- Trial data in key field crops.

Note (1): Liquid formulation = Solid formulation (1,2 L/ha = 30 g/ha); •10%difference in N regime is not assumed to generate differences within the system.

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Thank you