GRO SOLUBLE GREEN

BLACK MAGIC

LIMA

SOIL IMPROVER & SEED TREATMENT

BLACK MAGIC

pH 3.8

BLACK MAGIC is a formulation designed to improve soil conditions for optimal plant growth. Regular applications of BLACK MAGIC will improve soil aeration, water holding capacity and soil drainage. It can als be used as an effective seed treatment to improve germination.

Packaging size: 200g, 1 kg, 5 kg

It is recommended for alkaline and saline soils. Calcium supplied by BLACK MAGIC displaces soil sodium and reduces the salinity resulting in a better root growth environment. Its application is very suitable to prevent and correct physiological disorders related to calcium deficiencies in demanding crops such as vegetables, fruit trees and citrus. Also, BLACK MAGIC improves fruit tolerance to transportation and extends their shelf life during storage.

Why use BLACK MAGIC

- Very unique soil improving formulation in gel form completely soluble in water and easy to use.
- Combining nitrogen, calcium, humic acid, lignosulfonates, sugars and trace elements in a low pH product.
- Improves soil quality by targeting three key aspects: physical, biological, and chemical properties. Enhancements in soil structure, aeration, drainage, and water holding capacity promote optimal conditions for plant growth. Encouraging microbial proliferation and increasing Cation Exchange Capacity (CEC) further enriches the soil, facilitating nutrient availability and uptake.
- Improving plant performance: longer and healthier root system, higher number of flowers, better plant vigour, better fruit colour and better yield.
- Effective cereal seed treatment increasing germination rates.

SPECIFICATIONS	W/W %	W/V %
Total Nitrogen (N), soluble in water	8.40	12.60
Nitric Nitrogen ($N\text{-}NO_3$) soluble in water	8.40	12.60
Calcium Oxide (CaO), soluble in water	14.70	22.10
Boron (B), as boric acid, soluble in water	0.03	0.045
Copper (Cu), EDTA chelated, soluble in water	0.09	0.135
Iron (Fe), EDTA chelated, soluble in water	0.23	0.35
Manganese (Mn), EDTA chelated, soluble in water	0.13	0.20
Molybdenum (Mo), as sodium salt, soluble in water	0.02	0.03
Zinc (Zn), EDTA chelated, soluble in water	0.066	0.10
Total Humic Acids	5.0	7.50
Total Lignosulfonates	13.5	20.25
Oligosaccharides	1.45	2.18
Dry matter	13.0	19.5
Organic matter	9.0	13.5
Organic Carbon (C_{org})	5.2	7.8
C_{org}/N ratio	0.619	

Recommendations

Drip irrigation: General application rate of 3 – 8 kg/ha.
Seed treatment for cereals: 0.3 - 0.5 kg per 1 t of seeds.

FIELD TRIALS

Test site information

Contract research organisation: GMW Bioscience
Crop: Tomato under open field conditions
Variety: Globetrotter
Locality: Alberic (Valencia), Spain
Plot size(m2)/Number of plants: 28/14
Number of variants/Number of replicates: 2/4
Type of soil: Loam
Soil pH: 8
Timing: July – November 2019
Fertilisation: Both the treated and control plots were subjected to an identical fertilisation program. However, the treated plots received supplementary amounts of Black Magic fertiliser applied by drip irrigation.

Conclusions

Plants vigour assessment/Growth development: All treated plants showed better vigour and growth than untreated plants from the first day.

Number of flowers and fruits:
Plots treated with Black Magic showed higher amount of flowers and fruits compared to untreated plots (Control).

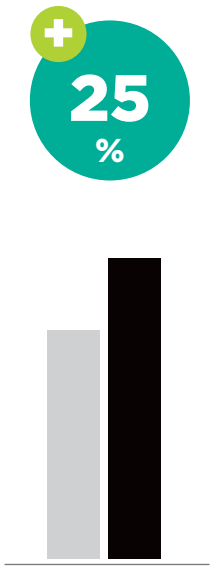
Yield assessment: Treated plots showed higher yield.

Colour assessment: All treated plants showed a more intense colour than untreated plants.

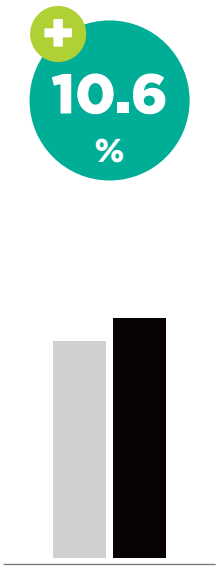
Roots weight/volume assessment: Treated plots showed higher root volume and weight than untreated plots.

Products & formulation	Average dosage rate	Application details
Black Magic	8 kg/ha	15-20 days after transplanting BBCH 61 (flowering initiation) BBCH 63 (3rd opened flower) BBCH 66 (6th opened flower) BBCH 69 (9 or more flowers opened)

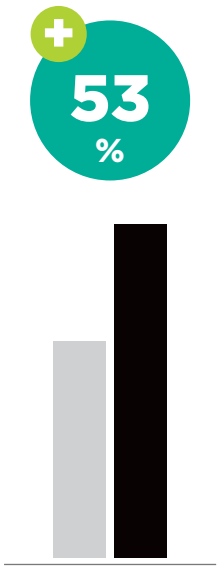
Plant vigour:



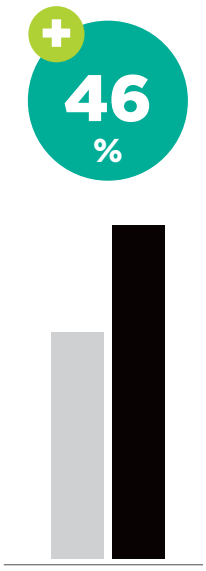
Colour assessment:



Yield/ha:



Weight / volume of roots:



Control
BLACK MAGIC

EXPERIENCES IN THE FIELD

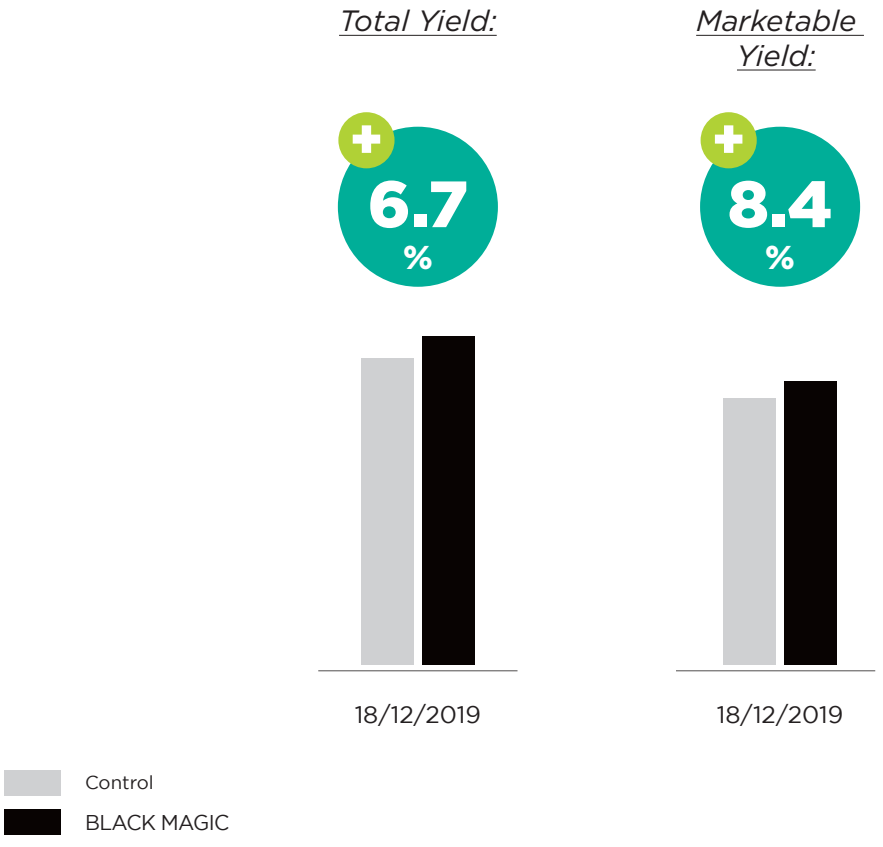
Test site information

Contract research organisation: GMW Bioscience
Crop: Potato under open field conditions
Variety: Vivaldi
Locality: Alberic (Valencia), Spain
Plot size(m2)/Number of plants: 4.95/20/2
Number of variants/Number of replicates: 2/4
Type of soil: Loam
Soil pH: 8
Timing: July – December 2019
Fertilisation: Both the treated and control plots were subjected to an identical fertilisation program. However, the treated plots received supplementary amounts of Black Magic fertiliser applied by drip irrigation.

Conclusions

Yield assessment:
Treated plots showed higher yield and higher number of marketable tubers.

Products & formulation	Average dosage rate	Application details
Black Magic	8 kg/ha	At sowing At BBCH 09-10 (germination) At BBCH 40 (tuber initiation) During tuber bulking (BBCH 45)



PROVEN PERFORMANCE AS CEREAL SEED TREATMENT

Small scale experimental Black Magic pot trial on wheat

The trial carried out from in July and August 2020 in Russia, in collaboration with Lima Europe R&D department, confirms significant increase in roots, leaves, and leaves colour.

Test site information

Crop: Winter Wheat
Variety: Tanya
Locality: Anapa, Krasnodar region, Russia
Treatment: Wheat seeds were coated with Black Magic with a dosage of 0.3 - 0.5 kg per ton of seeds before planting.

Conclusions

Black Magic is a versatile product that can be used as seed treatment in order to improve germination rates. It has an effect on the uniformity and speed of emergence, plant establishment and it stimulates the plant's growth reponse.

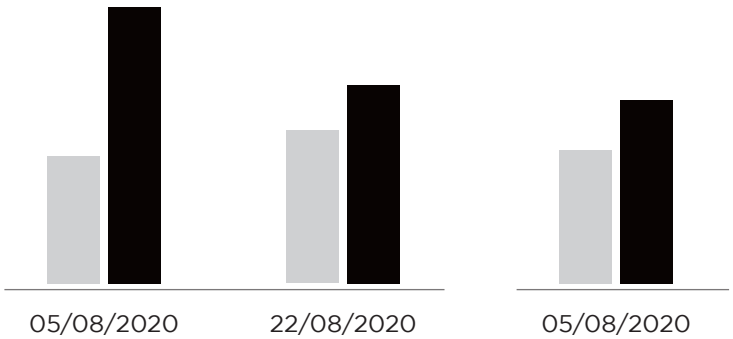
Roots (cm):

+118 %

+30 %

% Germination on the 7th day

+24 %



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