

## TECHNOTE

**Phyostimulant for seed treatment, which promotes rapid and uniform germination, ensures a vigorous start from the first stages together with better seedling health.**

**TOPSEED** is a unique phyostimulant that is suitable for application on all crops. Exhibiting a comprehensive formulation promotes plant growth by improving energy efficiencies and the use of absorbed nutrients by the crop from early stages.

TOPSEED, through its exclusive formula, provides the crop with 7 essential macro and micro nutrients: phosphorus, potassium, sulfur, boron, zinc, cobalt and molybdenum. This contribution complements the basic fertilization carried out during planting.

TOPSEED is compatible with biological and chemical synthesis therapies, and exponentially complements the action of the fertilizer.

**Table 1: Critical information for TOPSEED**

<b>Product Type</b>	Phyostimulant
<b>Use Rate</b>	200-300 mL/100 kg of seed
<b>Timing</b>	Seed treatment
<b>Compatibility</b>	Biologicals
<b>Crop Suitability</b>	All crops
<b>Nutrient Composition (% w/w)</b>	Phosphorus (P <sub>2</sub> O <sub>5</sub> ) 4.20% Potassium (K <sub>2</sub> O) 1.70% Sulphur 0.40% Boron 0.05% Cobalt 0.70% Zinc 2.20% Molybdenum 1.90%
<b>Pack Sizes Available</b>	1L, 5 L & 10 L



**Figure 1: Wheat biomass and vigor for seed treatment. Left Control, and right: with TOPSEED. Trial conducted in Pergamino, Buenos Aires (2020).**

## How does TOPSEED work?

Following the special **Spraytec** formula, the addition of multiple nutrients is tailored to complement nutrition of the crop from early stages and ensure a germination without problems.

Presents phosphorus (P), a fundamental element since it is part of enzymes, amino acids and proteins, nucleic acids (DNA and RNA), chlorophyll, adenosine triphosphate (ATP) and phospholipids (membranes). Adequate nutrition with P improves the physiology of the plant in relation to the processes of photosynthesis, nitrogen (N) fixation, flowering and fruiting.

Zinc (Zn) accelerates root and shoot growth to allow plants to maximise their genetic potential. Also is an important driver of multiple plant enzymes responsible for metabolic reactions that facilitate growth and development.

Molybdenum and Cobalt are necessary elements for a correct BNF (Biological Nitrogen Fixation) process when it is used together with bacteria in legume seeds.

The results are greater density of roots that explore a greater volume of soil, increasing the efficiency with which nutrients (especially the less mobile ones) and water are absorbed.

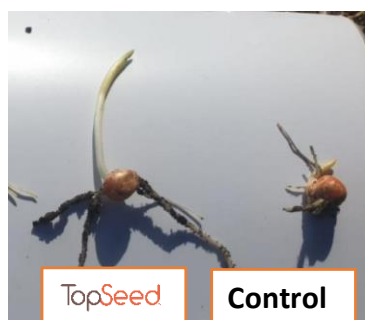


Figure 2: Corn germination. Left: TOPSEED, Right: Control.

## Ongoing research and development

**Spraytec** has committed to conducting extensive trial work with independent research organisations to guarantee confidence of product performance in the world.

### ARGENTINA

Figure 3 details an average of 4 trials conducted on wheat, and reflects the yield trend observed when **TOPSEED** is included.

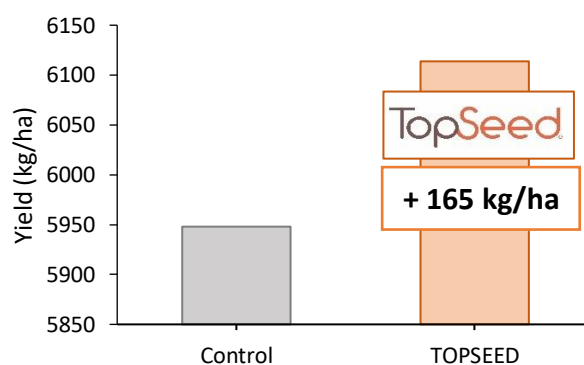


Figure 3: Wheat yield (kg/ha). Trials were conducted in Harroto los Huesos and Pergamino (Buenos Aires) by CREA and INTA (2020/21).

## Key messages and conclusions

**TOPSEED** is formulated according to a proprietary blend of ingredients that ensures product performance is consistent and to a high quality in varying conditions.

**Spraytec** has trialled **TOPSEED** exhaustively at a global level, to advocate producer confidence in guaranteeing quality. Upholding the demands of producers is at the forefront of our product development, as we seek to maximise crop productivity, whilst incentivising simplicity and practicality from an operational perspective. Use it once, trust it always.