



Introduction

Plant seed coating or dressing is an old and well-known process. It is claimed that the various materials used for seed treatment protect seeds from plant diseases, enhance faster germination and increase yields.



Challenges

Chemical seed treatment products usually contain aggressive chemicals. They partially protect seeds against plant diseases; however, these products inhibit physiological processes during plant germination. Chemical products are very aggressive, and scientists are searching for means to replace chemicals with environmentally friendly biological products.

Solution

Bacto-Seed – a biological product, promoting seed viability and faster germination.

Registration information and certificates

Suitable for: cereals, rapeseed, corn, grasses.

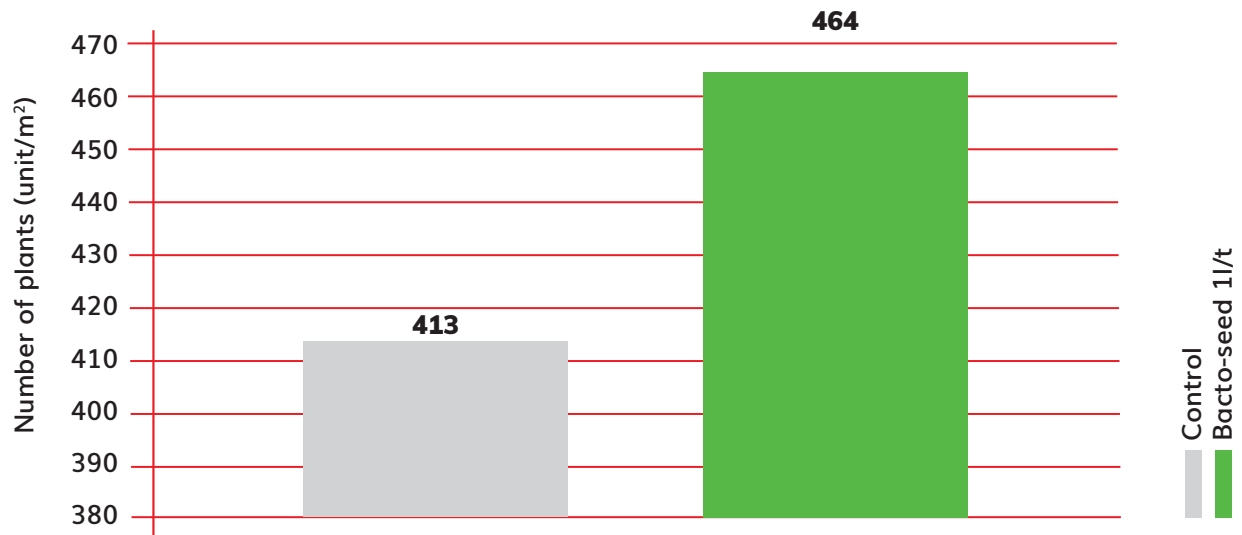
Mode of action

Product contains a bacterial complex that releases biologically active substances that promote seed germination and the development of young plants, balancing vital metabolic processes and increasing resistance to stress.

Benefits and Results

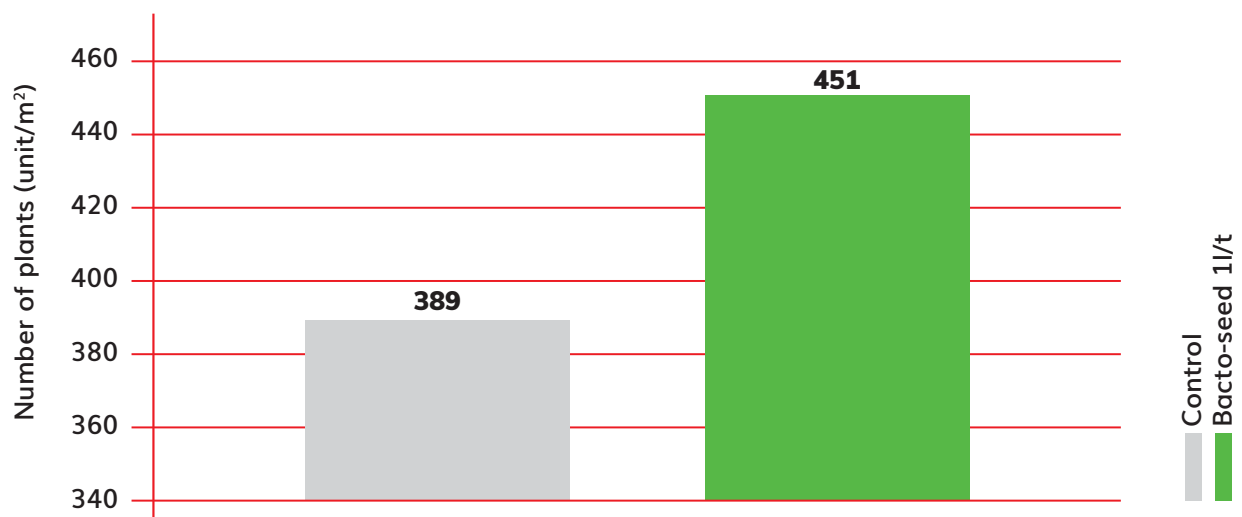
- Promotes seed viability and germination;
- Improves growth and development of root system;
- Enhances the uptake of phosphorus and potassium from the soil.

Figure 1.



LAMMC, Vezaiciai Experimental Center, Winter Wheat, 2019

Figure 2.



LAMMC, Vezaiciai Experimental Center, Winter Wheat, 2020

Application rate, technology

Application rate: cereals 1 l/t; rapeseed 1 l/t; corn 1 l/t; grasses 1 l/t.

Application requirements: the sprayer pressure must be 1-10 bar or 15-145 psi; nozzle size is at least 50 µm.

Safety and storage: product can be mixed with all kinds of fertilizers and pesticides unless the manufacturer of fertilizer or pesticide states otherwise. May contain natural sediments. Storage at high temperature above 30 °C must be avoided. Use Bacto-Seed as soon as possible after opening or store in the refrigerator (4 °C) once it is opened and use it within 72 h. Contamination of the product may occur at any time after opening and the manufacturer takes no responsibility for opened and unused product.

Product is non-toxic and has no irritating compounds. There is no risk to humans, animals and the environment. After contact with the skin or eyes, wash with running water. Microorganisms may have the potential to provoke sensitising reactions.

Specifications

Composition: *Bacillus mojavensis* MVY-025 (1.2×10^{12} CFU/l); Na-2745 mg/l; S-1002 mg/l; K-866 mg/l; P-466 mg/l; Mg-158 mg/l; Ca-81 mg/l.

Packaging: 20 l; 10 l; 5 l; 1 l.

- **Biological activity:** product for seed dressing; free living microorganisms;
- **Viability, shelf life:** up to 12 months. The manufacturer does not recommend storing the product above 30 °C.
- **Working conditions:** 5-42 °C soil temperature; 4.5 to 9.5 pH;
- **Chemical parameters:** dry matter 3.8%; pH 5.8; organic matter 78.5%;
- **Physical parameters:** colour from dark yellow to light brown; dynamic viscosity 0.7 mPas; density 1.08 g/cm³.

Manufacturer: "Bioenergy LT", Staniunu str. 83/1, LT 36151 Panevezys, Lithuania.

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