

# Starter

*Strong Beginning  
Steady Growth  
High Yield*

## SEED BIOCOATINGS

Seed coatings using beneficial microorganisms (bacteria and fungi) also known as “BIOCOATING” is a new cultivating technique with multiple benefits for the crop and a low-cost option for the producer.

## INCREASE OF SEED GERMINATION

A big stress for the producer after sowing is the sprouting of as many seeds as possible. Especially in crops that sowing takes place directly into the ground, seed germination is greatly affected by climatic and soil conditions resulting in not a few cases of failed sowing, a fact that means loss of money for the grower and reduced field utilization. **STARTER** product line of biocoatings contains specific microbial strains depending on the kind of seeds on which it is intended to be applied. When the beneficial microorganisms colonize the seeds and get into the ground, they start producing substances which stimulate the seed germination significantly increasing the cultivating success as well as the future yield of the crop.

## NITROGEN FROM THE FIRST STAGES OF GROWTH

The microorganisms contained in the product line of biocoatings **STARTER** are specialized according to the crop they are intended to be applied on. This happens because there are specific strains of bacteria which can be symbiotic with the roots of each crop and produce additional Nitrogen units through the Nitrogen Fixation process. The supply of readily assimilable by the roots Nitrogen at the first stages of plant growth contributes to the rapid growth of the plants and the enhancement of their robustness.

## YIELD INCREASE

**STARTER** product line of biocoatings contains microorganisms which produce phytohormones (e.g. auxins) that strengthen the roots and promote root penetration in the soil. In this way, they contribute to the increase of water and nutrient absorption by the plants. In conjunction with the continuous supply of Nitrogen through Nitrogen Fixation process, the crop grows fast and intensively resulting in the creation of the conditions which are necessary for achieving high yields.



## PRODUCTION OF HEALTHY PLANTS

A well-established crop with nitrogen adequacy and strong root system leads to plants that are robust and resistant to adverse environmental conditions and diseases. **STARTER plus (+)** product line of biocoatings creates a protective microbial film on the initial young roots sprouted by the seeds, which operates like a natural protective shield for the plants. The good health of the young plants is a key element for the growth of the crop and results in the production of robust and highly productive plants.

## NECESSARY CROPS COMPANION

It is known that symbiotic nitrogen fixing microorganisms live on the roots of the legumes. They create nodules which are necessary for achieving high yields. In a similar way all crops can be colonized by symbiotic microorganisms which enhance the growth of the plants. There is a different group of microorganisms which live together with every crop. **STARTER** product line of seed biocoatings is specialized for every crop in order to provide the specific strains of microorganisms that colonize the crop in the best and the most effective manner.

# Starter

The product line of seed biocoatings of HUMOFERT S.A. includes a range of formulations ideal for every crop.

Furthermore, the above formulations differentiate according to their form, as follows:

- **STARTER** seeds biocoatings in fine powder form
- **STARTER fluid** seeds biocoatings in liquid form

In the case of addition of a plant health promoting microbial group in the microbial population of the product then the product lines are labeled with the symbol + (plus).



APPLICATION RATES			
Crop	Product	Seeds quantity per hectare	Seeds quantity that can be coated with 1 kg or 1 L STARTER
Maize	Maize Starter	12 kg	15 kg
Peanuts	Peanuts Starter	220-240 kg	280-310 kg
Cotton	Cotton Starter	18-20 kg	25 kg
Vetch	Vetch & Fava beans Starter	160-180 kg	200-230 kg
Oats	Oats Starter	70-120 kg	90-150 kg
Grass	Grass & Turf Starter	20-30 kg	25-40 kg
Rapeseed	Rapeseed Starter	3.5-4 kg	4.5-5 kg
Fava beans	Vetch & Fava beans Starter	110-170 kg	150-220 kg
Barley	Barley Starter	180-190 kg	230-250 kg
Alfalfa	Clover & Alfalfa Starter	20-40 kg	25-50 kg
Pea	Bean & Pea Starter	150-180 kg	200-230 kg
Chickpea	Chickpea Starter	180-200 kg	230-260 kg
Rice	Rice Starter	100-160 kg	130-200 kg
Rye	Rye Starter	50-150 kg	65-190 kg
Wheat	Wheat Starter	200-210 kg	260 kg
Soya bean	Soya Starter	50-60 kg	90 kg
Triticale	Triticale Starter	70-120 kg	90-150 kg
Split peas	Split Peas Starter	200 kg	260 kg
Lentil	Lentil Starter	90-100 kg	125 kg
Bean	Bean & Pea Starter	70-150 kg	90-200 kg

**Note:** The above recommended dosages may differentiate significantly depending on the seed variety, the cultivating practices, the sowing method, the purpose of cultivating (fruit-bearing, fodder, crop rotation) and other factors.

## METHOD OF APPLICATION

The product line **STARTER** in powder form is applied by dry dusting followed by mixing of the seeds. It is important to scatter the powder homogenously on the seeds, so that a good coverage can be achieved. Furthermore, the existence of a minimum humidity on the seeds increases the adhesion of the biocoating on the seeds, enhancing the products effectiveness.

The product line **STARTER fluid** is applied by spraying followed by mixing of the seeds or by immersing them after dilution of the product in a proper quantity of water. It is important to achieve homogenous and complete wetting of the seeds. Subsequently, the seeds are left to dry thoroughly.



Produced by

**HUMOFERT**



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