Better plant growth is rooted in MBI 600 (B. subtilis)

MBI 600 (Bacillus subtilis) is a natural, non-toxic bacteria and biological fungicide that works in conjunction with traditional seed treatments to enhance biological plant health all season long. At BASF, we work with a specific Bacillus strain – MBI 600 (B. subtilis) – because it is a proven, superior plant growth stimulator. Canadian growers have access to MBI 600 (B. subtilis) in three world-class BASF products: Integral®, BioStacked® Inoculants and Biotak™. Using them may result in a stronger, more robust root system, better disease suppression and ultimately, higher yields.

It begins at the root

When MBI 600 (B. subtilis) goes to work, it colonizes the root zone of the host plant and forms a ‘protective sheath’ that covers the root system. The MBI 600 (B. subtilis) grows with the plant’s root system, enhancing plant growth and vigour and reducing time to canopy closure. Nodule formation also accelerates on legume plant roots. The result is a stronger and healthier root system that leads to healthier plants, improved water and nutrient uptake and stronger resistance to certain root diseases.

The benefits of MBI 600 (B. subtilis) as a secondary mode of action are illustrated on pepper roots. Healthy roots on left, Fusarium solani inoculated in middle, and MBI 600 + Fusarium inoculated on right.
**Built-in disease suppression**

Because MBI 600 (B. subtilis) forms a physical barrier of beneficial bacteria on the root surface, it prevents harmful organisms from finding their way to the plant’s roots. It’s a phenomenon often referred to as “pathogen displacement,” and it can also help prevent damping-off diseases caused by *Rhizoctonia* spp. and *Fusarium* spp. MBI 600 (B. subtilis) is so effective at keeping diseases at bay that it’s the active ingredient in Integral®, a PMRA-registered biofungicide for the suppression of *Fusarium* spp. and *Rhizoctonia* spp. on soybeans and canola.

**Improved plant vigour, higher yields**

Plants with stronger roots and better disease suppression benefit from healthier nodule development and faster growth. Canadian university research on inoculants has demonstrated improved plant vigour, increased nodule weights of 206%, and two days earlier to row canopy closure with MBI 600 (B. subtilis). Best of all, research demonstrates an increase of 1.5 to 1.8 bu/ac (4% to 6%) compared to the same strain of rhizobial inoculant without the addition of MBI 600 (B. subtilis).

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**Research shows**

MBI 600 (B. subtilis) improves days to canopy closure, nodule weights, and yields in soybeans.
Three great products provide the MBI 600 (*B. subtilis*) edge

- **Integral** is a seed-applied biological fungicide for the partial suppression of the seedling disease complex (seed rot, pre- and post-emergent damping-off, seedling blight and root rot) caused by *Rhizoctonia* spp. and *Fusarium* spp. in canola and soybeans when applied alone. Integral, when tank mixed with a fungicidal seed treatment registered for control of these diseases, will provide control of the seedling disease complex in canola and soybeans caused by *Rhizoctonia* spp. and *Fusarium* spp.

- **BioStacked** Inoculants like HiStick N/T, HiCoat N/T S225 and Nodulator N/T offer multiple beneficial biologicals working together synergistically with the soybean root system to deliver enhanced performance. One of the biologicals contained within BioStacked inoculants is the unique micro-organism strain MBI 600 (*B. subtilis*). The inclusion of MBI 600 (*B. subtilis*) results in greater nodule biomass, faster canopy closure, and ultimately higher yields.

- **Biotak** is a biological fungicide that, when mixed in plant growing media such as potting soil, peat moss or peat based mixtures, suppresses damping-off and root diseases caused by *Fusarium* spp., *Rhizoctonia solani* and *Pythium* spp. on greenhouse fruiting vegetables, greenhouse cucurbits and greenhouse ornamentals.

For more information visit [agsolutions.ca](http://agsolutions.ca) or call AgSolutions® Customer Care at 1-877-371-BASF (2273).