What is Serenade Prime?
Serenade Prime is a ready-to-use formulation of the beneficial bacteria, *Bacillus subtilis* strain QST713 for application to soil to improve the bioavailability of soil resources for crops.

What are the benefits of using Serenade Prime?
- Faster and increased root growth
- Increased seedling vigour, improved nutrient availability and more productive plants
- Improved yields can result, but often an increase in quality and marketable yield is seen
- Increased stress tolerance, crop uniformity, earlier maturity and improved storage.

When should Serenade Prime be applied?
In annual/short cycle crops, Serenade Prime should be applied early during planting or transplanting. This allows colonisation of the young, actively growing root system to maximise early crop growth. In perennial crops, application should coincide with new root growth (root flush) periods.

How should Serenade Prime be applied?
Plant hole drench methods, in-furrow bands, sprays, drench or drip and micro-sprinkler irrigation.

How does Serenade Prime work?
Serenade Prime contains viable dormant spores of the *Bactillus subtilius* (strain QST713). When applied close to plant roots, these spores germinate and rapidly colonise the plant root surfaces and live in the rhizosphere around plant root surfaces and the soil. The bacterial colonies function as a dynamic biological link between the soil and plant roots. This mutually beneficial plant/bacteria relationship allows resources required for growth, such as nutrients and water, to become more available.

Serenade Application Studies-Vegetables.
Saman Mahmood, Debbie marcus BLX-West Sacramento June 16, 2017.
Tomato growth analysis using WinRhizo at 25 days after planting.

Serenade Prime colonising the root surface and root hairs.
**QUICK GUIDE: USING SERENADE PRIME**

**ACTIVE ORGANISM**  
*Bacillus subtilis* (*Bacillus amyloliquefaciens*) strain QST713

**FORMULATION**  
A suspension concentrate formulation of dormant viable spores *B. subtilis* strain QST713 spores plus associated biochemicals

**PACK SIZE**  
10 L

**RATE**  
Vegetables, berries and other small fruits, row crops – 5-7 L/ha  
Tree crops – 35-70 mL/tree  
Do not exceed 10 L/ha

**APPLICATION TARGET**  
Apply to the soil, targeting the root zone

**APPLICATION METHOD**  
Plant hole drench methods, in-furrow bands, sprays, drench, drip and micro-sprinkler irrigation injectors

**APPLICATION PLACEMENT**  
Serenade Prime needs to be placed within 13cm of growing roots for colonisation to occur

**TIMING**  
Vegetable/annual crops – apply immediately after planting/transplanting or when crop roots are present. For longer term crops, repeat applications at 28 day intervals can have a beneficial effect on new roots in the crop  
Tree crops – time applications with root flush growth periods

**SPEED OF EFFECT**  
Colonisation occurs within 2-3 days

**IRRIGATION**  
Avoid excessive irrigation for 2-3 days after application to prevent washing the spores out of the root zone

**UV STABILITY**  
Very stable

**COMPATIBILITY**  
Compatible with most pesticides and fertiliser products

**WITHHOLDING PERIOD**  
Not required when used as directed

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**Regional Sales Managers**

**Upper North Island**  
Phil Bertram  
021 426 825  
@PhilBertram2

**Gisborne/Hawke’s Bay/Nelson/Marlborough**  
Marc Fox  
021 426 823  
@marc_foxx

**Lower North Island**  
Jeff Smith  
021 426 824  
@Jeffrey10193140

**North and Mid Canterbury**  
David Parker  
021 760 794

**Mid and South Canterbury**  
David Weith  
021 426 096

**Otago and Southland**  
Daniel Suddaby  
021 426 822  
@suds_7

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**Insist on Serenade Prime from Bayer.**

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