



SERENADE[®] PRIME

Key features of Serenade[®] Prime in bananas:

No withholding period required*.

Highly compatible with many commonly used products in growers' spray programs. Compatible for use with oil based spray programs (high quality water miscible mineral crop oil at 3.5 – 5 L/ha, under high disease pressure use the high rate of oil).

As a Group 44 fungicide, Serenade Prime supports resistance management through a new mode of action.

There are no restrictions on the number of applications of Serenade Prime.

Registered for the control of yellow Sigatoka and suppression of leaf speckle.

Derived from precise biological fermentation processes to ensure consistent, high quality product.

Low odour.

Serenade[®] Prime in bananas.

What is Serenade Prime?

Serenade Prime contains the unique properties of the pure Bayer Crop Science QST713 strain of *Bacillus amyloliquefaciens* bacteria and is a formulated combination of spores and fungicidally active compounds produced by the spores. QST713 is a naturally occurring strain of *Bacillus amyloliquefaciens* (previously known as *B. subtilis*) discovered in an orchard soil sample. This strain has been chosen for its overall superior performance after testing of over 20,000 strains of bacteria. *Bacillus amyloliquefaciens* strain QST713 and the Serenade Prime formulation have been extensively studied in many agricultural situations over many seasons.

Serenade Prime has been registered as a biofungicide approved for the control of yellow Sigatoka (*Mycosphaerella musicola*) and suppression of common leaf speckle (*Mycosphaerella musae*) via broadcast foliar spray as part of a regular fungicide spray program.

* 1 day withholding period required when used with oil.

Serenade Prime at a glance

What is it?	A suspension concentrate formulation of dormant viable <i>Bacillus amyloliquefaciens</i> strain QST713 spores plus associated biochemicals that prevent disease development and trigger the plant's natural defence mechanisms.
What does it target?	Yellow Sigatoka (<i>Mycosphaerella musicola</i>) Common leaf speckle (<i>Mycosphaerella musae</i>) (Suppression only)
How to apply	Apply Serenade Prime as a broadcast foliar spray in a regular program of fungicide sprays, alternating with fungicides from different mode of action groups. Thorough coverage is critical, as the biochemicals are not systemic. This product is registered for both ground and aerial applications.
Timing	For optimum disease control maintain thorough de-leafing practices, in accordance with industry guidelines, to reduce disease inoculum. Old leaves and leaves with advanced lesions should be removed, or infected parts of the leaf removed, prior to the application of Serenade Prime.
Interval	Intervals between fungicide applications generally should be 14 – 21 days, but should be modified for locality, disease conditions and leaf emergence rates. Use a shorter interval when applied during conditions favourable to disease development (warm and high humidity).
Rate	1.0 L/ha (plus a high quality water miscible mineral crop oil at 3.5 – 5.0 L/ha)**
Rainfast period	4 hours +
UV stability	Generally very stable
Compatibility	Compatible with most pesticides and fertiliser products
Withholding period	Not required when used as directed*

Alternate MOA

Serenade Prime offers a different and unique mode of action. Lipopeptides in Serenade Prime physically disrupt pathogen cell membranes via:

1. Inhibiting spore germination and causing spores destruction,
2. Growing mycelia are lysed and contents are released.

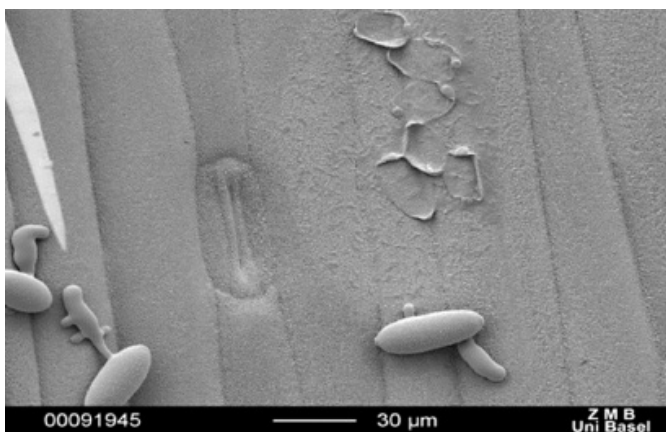


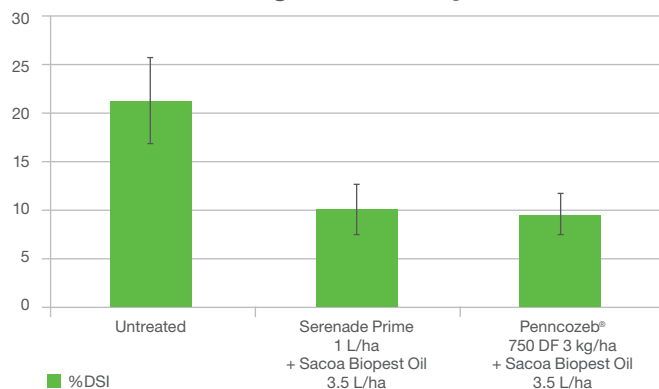
Fig 1: Picture of arrested germ tube from treatment.

* 1 day withholding period required when used with oil.

** Refer to the product label for the rate appropriate to disease severity.

Efficacy

Yellow Sigatoka Severity Index



Average comprises of the two final disease severity assessments from four trials after 4-6 back to back sprays at a 14-21 day interval. Trials were completed in the Queensland regions of Innisfail, Garradunga and Pine Creek with associated trial numbers: FD17AUSHB1QE06, FD17AUSHB1QE20, FD14AUSHF2QE50, and FD15AUSHF5QF09.

Summary

1. In a robust banana spray program Serenade Prime provides an alternate mode of action for key foliar diseases.
2. Low odour and Zero WHP make it the Prime decision. Apply Serenade fungicide to your bananas today.