

No resistance is good resistance

Resistance management is important. UAP recommends rotating products between crops.

Resistance to SERENADE is unlikely to develop as disease organisms have great difficulty overcoming the multiple modes of actions. In addition, the disease cell membrane destruction caused by SERENADE is difficult for the pathogen to develop resistance to.

In numerous greenhouse studies, resistance has been unable to be forced. Rotating with SERENADE will help extend other chemistries.

Get back to work quickly

SERENADE has minimal re-entry and zero pre-harvest intervals, so you can spray in the morning and be back in the field that afternoon. Its easy-to-use formula is highly stable, while resistant to elevated temperatures and pH, and is rain-fast once dry.

Recognized and certified

With SERENADE, your crop is not restricted for Japanese export as it is certified with JAS approval, as well as WSDA, NOP and OMRI.

For more information see your crop input dealer or log on to www.uap.ca for full label information.



Rotate to manage resistance

Rotating crop protection products is a key practice to prevent the build-up of weed, insect or disease resistance. Different products have different risks for developing resistance, and scientists recommend using high-risk products more sparingly. UAP encourages farmers to rotate their crop protection products to ensure they continue to be effective.



Some things just work.



UAP Canada markets over 100 other fungicide, insecticide and herbicide products. Choose from adjuvants like LI 700®, herbicides like Sword®, Oracle®, and Turboprop®, insecticides like Rimon®, Lagon® and Pounce®, or fungicides like Ranman®, Gavel® and Potato ST 16%®.

Look to UAP to deliver flexibility, freedom and choice in your crop protection decisions.

Call your nearest crop input dealer today for UAP products. Always read and follow label directions.

www.uap.ca

Western Canada: 1-800-561-5444

Ontario & Maritimes: 1-800-265-5444

Quebec: 1-800-361-9369

Serenade®

Solving the problem of disease control.

SERENADE® 
It just works.

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Get your canola or bean crop out of a rough spot, and keep it that way. With three modes of action, SERENADE harnesses the power of biochemistry in a way that sets it apart from other fungicides.

Use Mother Nature to fight Mother Nature

The best way to outwit Mother Nature is by using her own devices against her. SERENADE is a broad-spectrum fungicide derived from a natural soil bacterium, and is registered for the control of Sclerotinia in canola and white mould in dry beans, plus many other bacterial and fungal diseases.

How it works:

The soil bacteria found in SERENADE, *Bacillus subtilis* – QST713 strain, produces a unique and patented combination of three groups of biochemicals called lipopeptides, which make it more effective. It also harnesses the power of biochemistry, providing three benefits:

- Broad anti-fungal activity**
Three different classes of Lipopeptides kill fungal cells by puncturing the cell membranes. They are highly stable and resistant to elevated temperature and pH extremes. They do not require time or weather to activate.
- Anti-bacterial activity**
Contains additional chemical classes that produce activity on pathogens and remain stable through the drying process. They block bacterial cell protein production and cell wall formation.
- Plant activating**
Elicits plant responses through Induced Systemic Resistance (ISR), resulting in enhanced yield and quality, proven with bioassay and RNA analysis.

SERENADE is safe to use on many crops, including flowering crops like canola.



Untreated pathogen spore on plant leaf.

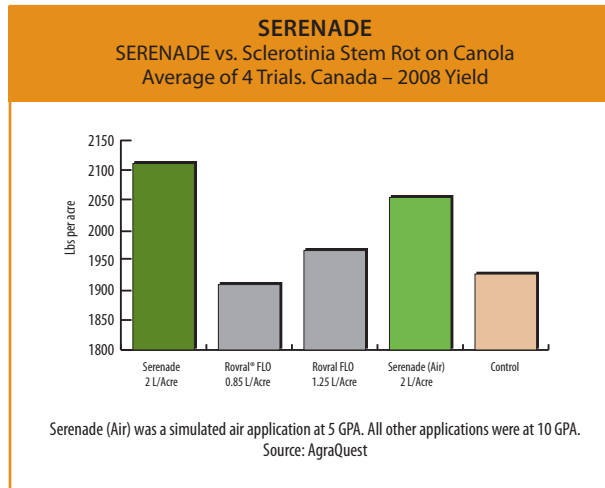
Serenade's lipopeptides puncture cell membranes, killing the pathogen spore.

Appressorium is destroyed, preventing the spread of disease.

Sclerotinia in canola

Sclerotinia is a common threat to canola crops, as it is yield robbing (19%¹ loss or higher) and relatively unpredictable. The disease pressure varies with the weather and increases substantially in wet conditions. Sclerotinia can also remain dormant in soil for up to five years or more.

SERENADE trials showed that it was equivalent to the conventional standard and helped to increase the yield potential as indicated below.



Apply SERENADE like any other post-emergent crop protection product. The SERENADE spores cover the leaf surface and prevent fungal spores from penetrating and infecting the plant. The lipopeptides then break down pathogen cell membranes, causing them to rupture, collapse and die, and preventing pathogens from multiplying.

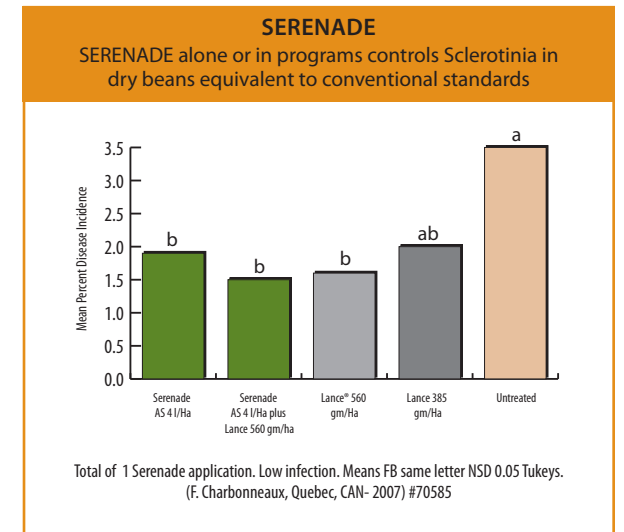


CROP	DISEASE CONTROLLED
Canola	Sclerotinia stem rot
Legumes	Botrytis blight and Sclerotinia stem rot
Soybean	Sclerotinia stem rot, Brown spot and Frog eye

White mould in beans

Wet, cool weather at the end of the growing season contributes greatly to the development of white mould. As a soil-borne fungus, white mould affects the lower parts of the bean plant first, and can result in a lower yield (20%² loss or higher).

SERENADE prevents white mould and offers residual control for 7 to 10 days. Its complex, multi-site mode of action destroys disease pathogens, while at the same time managing resistance.



¹ North Dakota State University – Sclerotinia Stem Rot of Canola
<http://www.ag.ndsu.edu/pubs/plantsci/crops/pp1201w.htm>

² Colorado State University – White Mould of Dry Beans
<http://www.ext.colostate.edu/PUBS/CROPS/02918.html>