

Viatude™

Onmira™ active

FUNGICIDE

Viatude™ fungicide use in soybeans

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Viatude technical information

Viatude is a premix fungicide containing Onmira™ active (picoxystrobin) and prothioconazole® at 3:1 ratio, respectively.

Picoxystrobin (strobilurine, FRAC Group 11) inhibits mitochondrial respiration by binding to the quinone 'outer' (Qo) site of cytochrome b (QoI).

Prothioconazole (triazolinthione, FRAC Group 3) inhibits C14- demethylase in sterol biosynthesis, DeMethylation Inhibitor (DMI).

Viatude technical information

Onmira active has preventive, curative, antispore activity against the target pathogens. It also is a systemic active, which allows for flexibility in fungicide application programs.

When used in a disease control program, picoxystrobin improves plant health (“greening effect”), vigor and yield.

Prothioconazole is a broad-spectrum systemic (translaminar and xylem) fungicide registered for the control of several key diseases in many crop including Sclerotinia in Canola.

The active is highly compatible with other pesticides and is registered in several crops alone or in combination with other fungicides in Canada.

Sclerotinia Stem rot

- Sclerotinia stem rot (Caused by *Sclerotinia sclerotiorum*) is a fungal disease of over 400 species of plants worldwide including important crops such as canola and soybean.
- Can cause extensive crop damage and yield loss
- Sclerotinia stem rot management is complicated by lack of high levels of host genetic resistance, long-term survival of sclerotia in the soil, highly sporadic occurrence of the disease over seasons and an aggregated distribution within fields.
- Several chemical actives have been registered for the control/suppression of this disease, among which Picoxystrobin and Prothioconazole are widely used actives worldwide.

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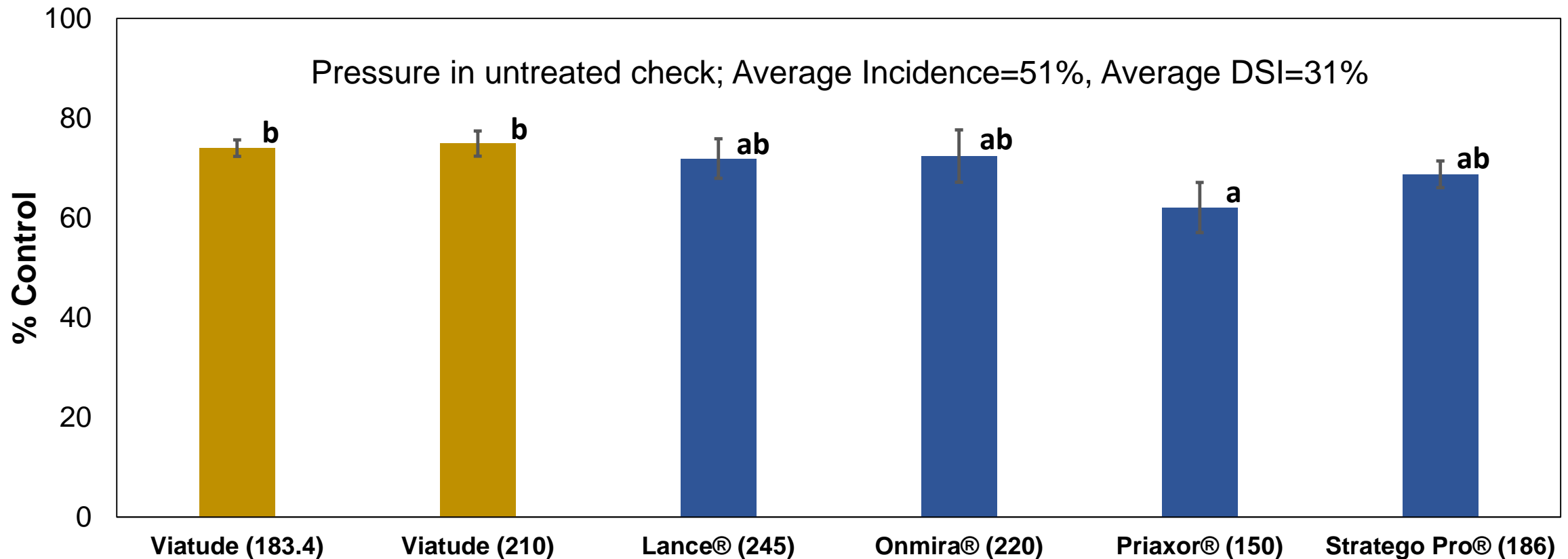
Research objective

- Combinations of effective actives can enhance the activity of individual actives and delay selection for resistance in a pathogen.
- Viatude fungicide was designed for improved Sclerotinia stem rot management based on the above promise.
- The goal of this project was to evaluate the efficacy of Viatude fungicide compared to common commercial standards.

Material and Methods

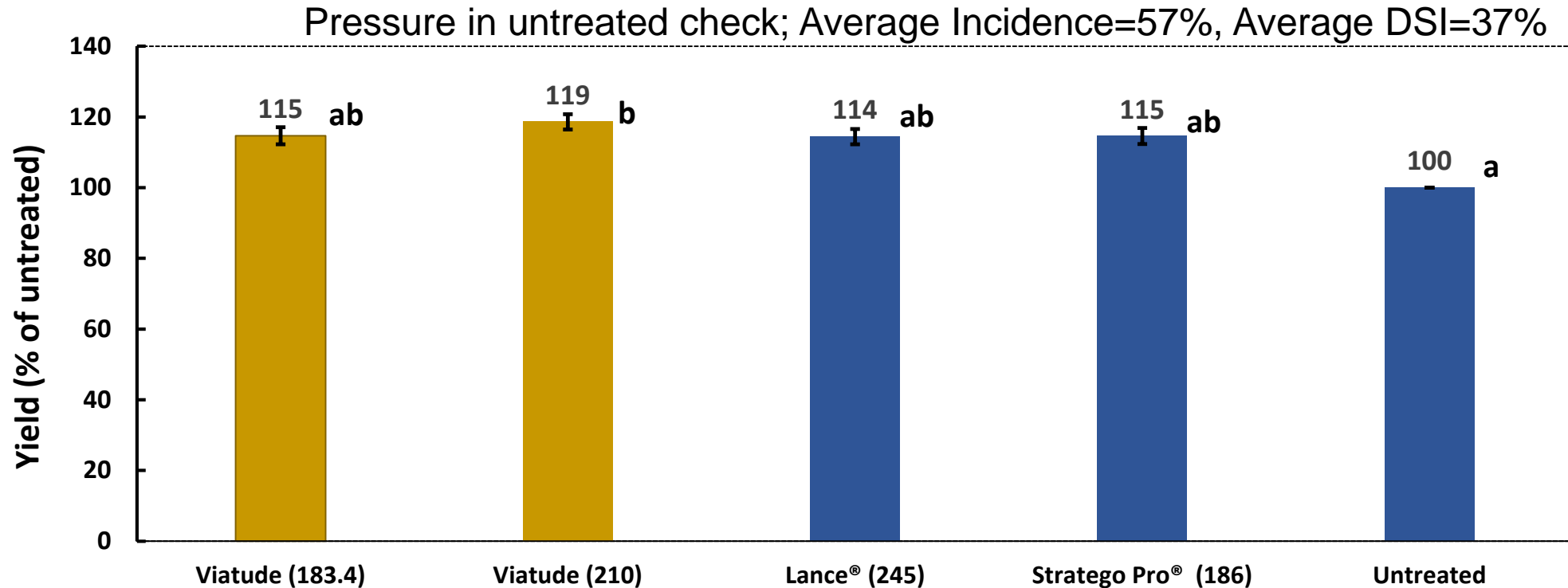
- Trials were conducted in 2019 - 2022
 - Randomized complete block design with 4 replicates (application volume 150 L/ha).
 - Plot sizes 2 X 6-8 m
 - Fungicides were applied to soybean crops at R1-R2 (flowering). All trials were inoculated at 1 day after application with *Sclerotinia* ascospores.
- Percent incidence and severity were rated on 25-30 stems per plot
 - Severity on a scale from 0-3 and % incidence were rated at R6
 - 0 = no white mold
 - 1 = white mold on lateral branch only
 - 2 = white mold on main stem, but not impacting pod fill
 - 3 = white mold on main stem that causes poor pod fill and/or death
- Disease Severity Index (DSI) for each plot was calculated using the below formula;
$$[\sum(\text{class} \times \text{no. of plants in class}) \times 100 / (\text{total no. of plants} \times 3)]$$
- Percent control was calculated from DSI data (Abbott's transformation).

2019-2022 pooled data



Percent control of *Sclerotinia sclerotiorum* in soybean trials conducted in Ontario from 2019 to 2022 (n = 10). All trials were inoculated 1 day after application. Product rates are indicated in parenthesis (g ai/ha). Bars represent standard error of the mean and letters represent statistical differences ($\alpha=0.05$). No crop injury was observed from any of the treatments.

2019-2021 pooled data



Yield of 2019-2021 soybean trials conducted in Ontario (n= 4 trials) presented as percent of untreated check. All trials were inoculated with *Sclerotinia* ascospores 1 day after application. Product rates are indicated in parenthesis (g ai/ha). Bars represent standard error of the mean and letters represent statistical differences ($\alpha=0.05$).

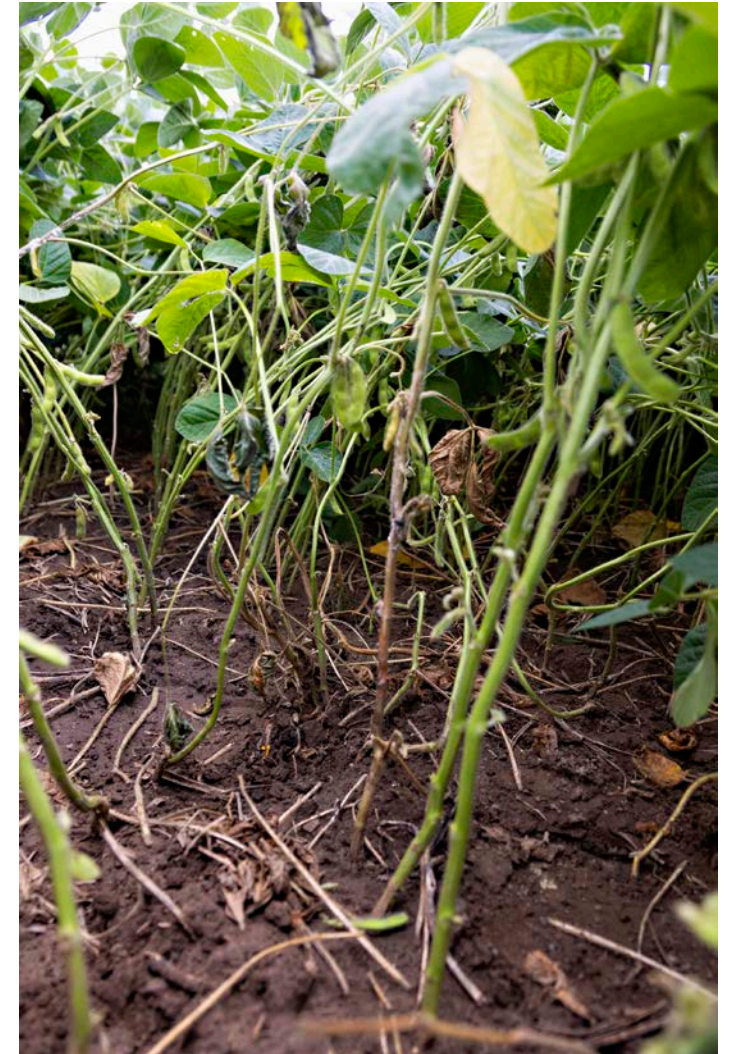
Conclusions

- Viatude fungicide is a new dual mode of action product from Corteva Agriscience for effective management of sclerotinia stem rot in soybean and canola.
- Multi-year research trials conducted in Eastern Canada indicated consistent performance (Suppression) of Viatude fungicide against sclerotinia stem rot, which resulted in significantly higher soybean yield compared to the untreated check.

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