

Research update/summary on wild blueberry disease management, 2022

Project title: Evaluation of pesticide products to control wild blueberry diseases and exobasidium fruit and leaf spot survey in New Brunswick

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1. Exobasidium fruit and leaf spot survey: The NBDAAF conducted surveys in 2018 and 2019 to determine the extent of the spread of exobasidium fruit and leaf spot in New Brunswick blueberry fields. The survey is completed, and results were reported in 2018 and 2019.

2. Botrytis blight of wild blueberry: In 2022, a field trial was conducted in a commercial wild blueberry field in New Brunswick to evaluate the effect of biocontrol products and fungicides for control of botrytis blight of wild blueberry. The trial was set-up in a fruit (crop) year cycle of the wild blueberry field with a history of botrytis blight. The treatments were: untreated check, Serifel, T-77, Switch, Inspire Super and Luna Tranquility. In the 2022 growing season, botrytis blight incidence was low in most wild blueberry growing regions of NB. Generally, the weather was dry during bloom and was less conducive for botrytis infection. In the trial, there was no significant difference in botrytis blight incidence or yield among the treatments that received fungicide or biocontrol products and the untreated check.

3. Monilinia blight of wild blueberry: In the summer of 2022, a field trial was conducted in a New Brunswick wild blueberry field to evaluate the effect of fungicides and biocontrol products to control monilinia blight. The treatments were: untreated check, Proline, Inspire Super, Tilt, Propulse and Serenade Opti. In the 2022 growing season, monilinia blight disease pressure was moderate in most wild blueberry growing regions of NB. There was minimal rain during the first two weeks of May, some rain later in the month but was dry in June in most of the blueberry growing regions. There was significantly lower monilinia blight incidence in plots treated with Proline compared to plots treated with Serenade Opti. However, other than with Proline, there were no significant differences between Serenade Opti and other fungicide treatments or the untreated check. Although not significantly different, plots treated with Proline and Propulse had relatively lower monilinia blight incidence than the untreated check. Significant difference in yield was observed between plots treated with Propulse and plots treated with Inspire Super. Other than that, there was no significant difference among the other treatments in yield. Although not significantly different with other treatments, relatively higher yield was obtained in plots treated with Propulse.

4. Wild blueberry foliar diseases control. In the summer of 2022, field trials were set-up in sprout phase fields at two locations in New Brunswick wild blueberry fields to evaluate the effect of fungicides to control foliar diseases of wild blueberries. The treatments were: untreated check, Proline, Bravo ZN, Cevya, Aprovia Top, Miravis Neo, Merivon and Propulse. Fungicide treatments were applied on June 5 and July 15 (location 1) and June 21 and July 18 (location 2).

During early stage of the crop, we observed low to moderate sphaerulina leaf spot (formerly Septoria leaf spot) incidence and severity in most wild blueberry growing regions of New Brunswick. Disease incidence increased as the season progresses. The major differences among the treatments were observed during the second assessment period at both locations. Significant differences in sphaerulina leaf spot incidence, sphaerulina leaf spot severity or rust incidence were observed among the treatments during the second assessment conducted after the second fungicide application at both locations. At location 1, lower sphaerulina leaf spot was observed in plots treated with Bravo, Cevya, Aprovia Top, Miravis Neo and Propulse compared to the untreated check. Similarly, Bravo, Cevya, Aprovia Top and Miravis Neo treated plots had lower sphaerulina leaf spot severity at location 1. At location 2, lower sphaerulina leaf spot was observed in plots treated with Aprovia Top, Miravis Neo, Merivon and Propulse. However, sphaerulina leaf spot severity was lower than the untreated check only in plots treated with Miravis Neo at location 2. Compared to the last 3 years, we observed relatively higher leaf rust incidence at both locations 1 and 2 trial plots. Leaf rust incidence was relatively higher at location 1 compared to locations 2. At location 1, plots treated with Bravo, Merivon and Propulse had lower leaf rust incidence compared to the untreated check. Similarly, plots treated with Aprovia Top, Miravis Neo or Propulse had lower leaf rust incidence compared to the untreated check at location 2. There was no powdery mildew and valdensia leaf spot in the trial plots. No differences were observed among the treatments in other parameters (stem length, leaf retention, flower bud count or rust severity) during the first and second assessment periods at both locations. The products tested in the trials were non-toxic to the crop. However, we observed slight burning (toxicity) in some of the plots treated with Aprovia Top at both locations. Aprovia Top and Cevya fungicides are not registered for use in wild blueberries in Canada. Both Cevya and Aprovia Top are registered in Canada to control several foliar diseases of various crops. It would be beneficial to consider Aprovia Top and Cevya as potential tools for future to manage foliar diseases of wild blueberry.