

DAILY WIND TRAJECTORY REPORT for May 10, 2021 – Weiss¹, Vankosky¹, Trudel²

- 1 Agriculture and Agri-Food Canada
- 2 Environment and Climate Change Canada

Agriculture and Agri-Food Canada (AAFC) and Environment and Climate Change Canada (ECCC) have been working together to study the potential of trajectories for monitoring insect movements since the late 1990s. Trajectory models are used to deliver an early-warning system for the origin and destination of migratory invasive species, such as diamondback moth. In addition, plant pathologists have shown that trajectories can assist with the prediction of plant disease infestations and are also beginning to utilize these same data.

ECCC trajectory models indicate that air trajectories, originating over the Pacific Northwest (Idaho, Oregon, Washington), have crossed one Saskatchewan location (Unity) and a number of Alberta locations including Lethbridge, Beiseker, Olds, Provost, Vegreville, Andrew, Grande Prairie, Rycroft and Fort Vermillion. These air currents may introduce diamondback moths to Alberta and western areas of Saskatchewan (Fig. 1.) Though the US Pacific Northwest can be a source of diamondback moths (DBM), the ECCC models predict air movement, not actual occurrence of diamondback moths. Though spring seeding is just beginning across the prairies, it should be noted that host plants of diamondback moth include all plants in the Brassicacea family, including cruciferous weeds and volunteer canola. These plants are suitable hosts until canola emerges.

If not already placed, DBM pheromone traps should be placed in fields (or field margins) as soon as is conveniently possible. If DBM were carried north on air currents it may take a few days for DBM to show up in traps.

Reverse trajectories
 Originating from ID, OR, WA
 May 8-10, 2021

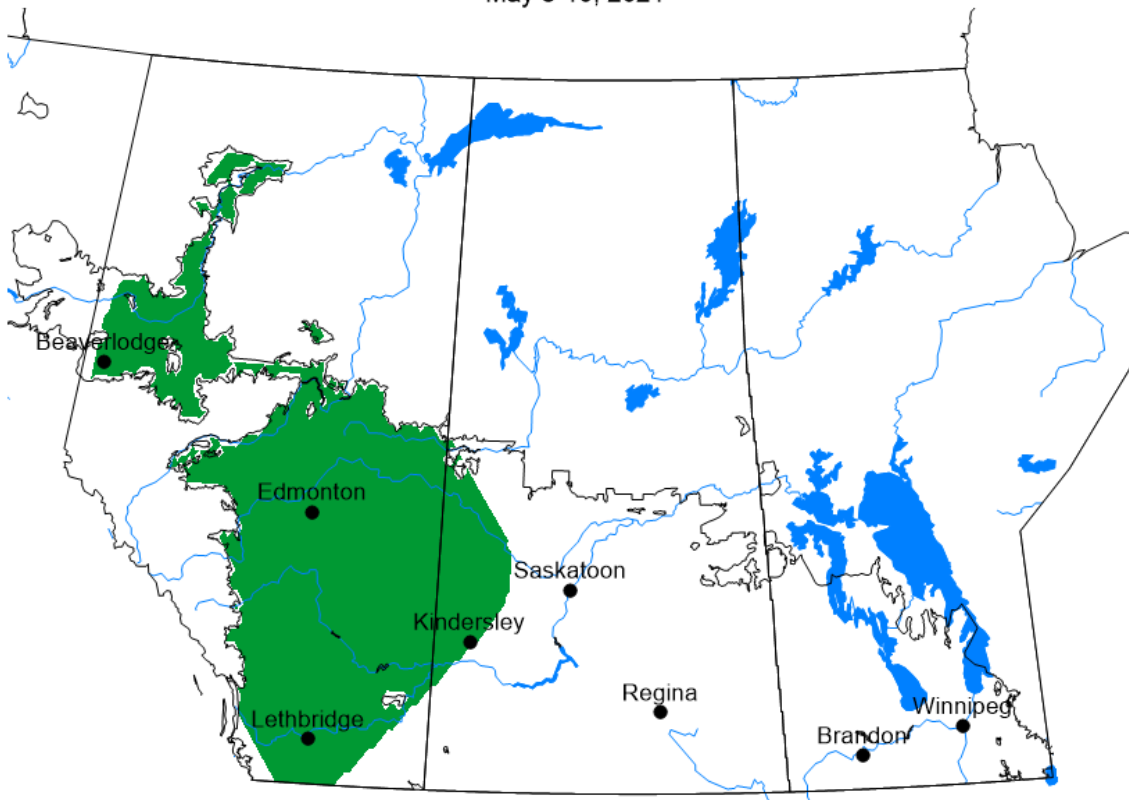


Figure 1. The green region indicates potential introduction of diamondback moths from the Pacific Northwest (Idaho, Oregon, and Washington) as of May 10, 2021.