Pollen Mediated Gene Flow in Canola. (C03-horak174431-Poster)

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Abstract:

A multi-year study was initiated to determine the frequency and distance of pollen-mediated gene flow in canola using the Roundup Ready trait as a marker. Gene flow from Roundup Ready (RR) to conventional canola was measured in 1999, 2000, and 2001 in Canadian fields. Eighteen different side-by-side fields were sampled in 1999 and 2000, and 16 in 2001. Transects were established in the non-RR recipient field at distances of 10, 20, 50, 200, and 400 m from the RR source field and 1000 seed pods were collected from each transect. Sixteen sub-samples of canola seed from each transect were analyzed for glyphosate tolerance by germinating seeds in a glyphosate-containing media. Pollen-mediated gene flow from RR to conventional canola occurred at all sites. At the 10 m sampling distance averaged over all sites, pollen-mediated gene flow was 0.99%, 0.75% and 1.2% in 1999, 2000 and 2001, respectively. The mean gene flow rate decreased exponentially with greater distances from the RR canola source field.

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