

POLLEN-MEDIATED GENE FLOW IN CANOLA. Eric W. Rosenbaum, Michael J. Horak, Todd A. Pester, and Thomas E. Nickson, Plant Ecologist, Plant Ecology Lead, Regulatory Affairs Manager, and Ecological Technology Center Lead, Monsanto Company, St. Louis, MO 63167.

Information on pollen-mediated gene flow (PMGF) in canola is useful for managing trait purity in commercial production. A multi-year, multi-site study was conducted to estimate the frequency and distance of PMGF in commercial-scale fields in 1999-2002. Each field site consisted of glyphosate tolerant canola being produced adjacent to conventional canola. Seed collected along transects in the conventional field were assayed to detect the glyphosate tolerance trait, thus indicating gene flow. Low levels of PMGF from glyphosate tolerant canola to conventional canola were detected at all sites. PMGF levels along the 10 m transect averaged 0.99, 0.75, 1.2, and 1.49% in 1999, 2000, 2001, and 2002, respectively. PMGF levels decreased exponentially with greater distance from the source field and, at 400 m, averaged 0.21, 0.14, 0.11, and 0.20% each year. These results from commercial-scale production fields are consistent with published information for canola and show that pollen-mediated gene flow can be managed to acceptable levels by using an appropriate isolation distance.