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Jemal Said Mohammed-Awel* (jmohammedawel@valdosta.edu), P.O.Box 5743, Valdosta, GA 31603, and **Karen Kopecky** and **John Ringland**. *A Situation in which a Local Nontoxic Refuge Promotes Pest Resistance To Toxic Crops.*

In order to delay the development of pest resistance to genetically engineered insecticidal crop varieties, it is current practice to grow refuges of non-toxic plants close to insecticidal crops. We model such a toxic/nontoxic crop complex as an open system with a small stream of toxin-susceptible immigrants. We find that, for intermediate values of the dominance of a pest gene for resistance to the toxin, the local refuge can spoil the benefit that is provided by the immigrant stream. We provide formulas for some important boundaries in parameter space. (Received September 20, 2006)