

VARIATION IN HERBICIDE RESPONSE AMONG EASTERN BLACK NIGHTSHADE AND HAIRY NIGHTSHADE POPULATIONS IN MICHIGAN. Vijaikumar Pandian\* and Bernard H. Zandstra, Department of Horticulture, Michigan State University, East Lansing, MI 48824.

Weeds in the nightshade family (*Solanaceae*) are difficult to control in solanaceous vegetable production. Greenhouse experiments were conducted in 2003 and 2004 to determine the variation in response to herbicides among eastern black nightshade, hairy nightshade and horsenettle populations collected in Michigan. Among the 11 populations of eastern black nightshade screened for herbicide dose response, the Ingham2 population had more tolerance than the other populations to sulfentrazone, metribuzin and halosulfuron. The Macomb3 eastern black nightshade population was significantly more susceptible to halosulfuron ( $GR_{50} = 0.01$  kg/ha) than the other eastern black nightshade populations. The Oceana1 eastern black nightshade population had a higher tolerance to sulfosulfuron than the other eastern black nightshade populations. A wide range of tolerance was observed among 11 eastern black nightshade populations in response to metribuzin, where the Monroe4 population had the least tolerance to metribuzin ( $GR_{50} = 0.28$  kg/ha). There was a wide range of variation among five populations of hairy nightshade in response to halosulfuron. Bay2 and Macomb1 hairy nightshade populations were more tolerant than other hairy nightshade populations to halosulfuron. There was no significant difference in herbicide sensitivity among horsenettle populations.