

RESPONSE OF COMMERCIAL PROCESSING TOMATO CULTIVARS TO POSTEMERGENCE APPLICATIONS OF THIFENSULFURON-METHYL. Douglas Doohan, Greg Kruger, and Stephen C. Weller, Associate Professor, Ohio Agriculture Research and Development Center, The Ohio State University, Wooster, OH, 44691 Graduate Research Assistant and Professor, Purdue University, West Lafayette, IN 47907.

Experiments in Ohio and Indiana in 2007 evaluated the effect of postemergence applications of thifensulfuron-methyl to several cultivars of commercially grown processing tomatoes. In Ohio, cultivars evaluated were: TR12, 818, 611, 9704, 401, 7983, 46TJ and 331. In Indiana, cultivars evaluated were: 818, 611, 9704, 401, 7983 and 331. Treatments of thifensulfuron-methyl included 0g/ha, 8g/ha or 16 g/ha rate + 0.25% non-ionic surfactant applied to tomatoes approximately one month after transplanting. Evaluations included leaf chlorosis at one and two weeks after treatment based on a 0 to 10 scale (where 0 = no chlorosis and 10 equals complete plant chlorosis) and fruit yield at the end of the season. Evaluations were similar at both locations and treated plants were compared to an untreated control for each cultivar. All cultivars, at both locations, showed initial chlorosis of leaves at the shoot tip, although, injury was mild for all cultivars except TR-12. All cultivars except TR-12 recovered within 3 to 4 weeks of treatment and there were no other negative effects observed relating to plant growth. Yields were measured when untreated control plants had 90% or greater ripe fruit. For all cultivars, except TR-12, there were no differences in the weight of ripe fruit or green fruit compared to the untreated control plants at either location. TR-12 plants were severely injured and yield was reduced. Thifensulfuron-methyl appears to be a good candidate herbicide for postemergence broadleaf weed control in processing tomatoes. Similar experiments conducted in Ohio and Indiana over the past 3 years support this conclusion. TR-12 does appear to be a susceptible cultivar to thifensulfuron-methyl as it exhibited more injury than any other cultivar tested.