

**EVALUATION OF HERBICIDES FOR TRANSPLANTED PUMPKIN IN PLASTICULTURE.**  
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Midwestern pumpkin growers are using transplants for cultivars with high-value hybrid seed and to ensure adequate stands. Plasticulture systems may allow growers to shorten cropping cycles while producing high quality fruit. In the southern portion of the region a shorter cropping cycle could allow growers to double crop pumpkins with an earlier crop such as cabbage, lettuce, or annual strawberries, spreading the input costs over multiple crops. Pumpkin tolerance to herbicides will differ in systems using transplants and plastic mulches. Also, many of the current PRE herbicides for pumpkins, such as clomazone and ethalfluralin, are volatile and can not be used under plastic mulch. The objective of the study was to evaluate the tolerance of transplanted pumpkins in plasticulture to herbicides applied between the plastic mulch. The experiment was a randomized complete block design with four replications. Beds were established and plastic laid on June 20. Herbicide treatments to bare ground between the plastic mulch were applied on June 28 using a CO<sub>2</sub> pressurized backpack sprayer fitted with 1.7 m wide hand-held boom that had four 8003 flat fan nozzle tips. The sprayer was calibrated to deliver 253 L/ha at 207 kPa. Six week old 'Howden' jack o-lantern transplants were planted between June 30 and July 2. Herbicide injury, pumpkin stand, and weed control were determined at two and four weeks after herbicide applications. The number of fruit, fruit weight, fruit quality, and storability were determined in late September. Combinations of clomazone plus ethalfluralin, halosulfuron, and isoflutole controlled common purslane, redroot pigweed, and velvetleaf. Neither clomazone, ethalfluralin, halosulfuron, nor isoxaflutole reduced the pumpkin stand, caused phytotoxicity or plant stunting. The herbicide treatments also did not reduce fruit number or weight. No herbicide treatment delayed maturity or effect fruit storability. In the plasticulture system, even with the late planting date and use of a later maturing cultivar, the fruit matured by late September and maintained their quality until well after Halloween.