Effective dose for control of substantial weeds in corn by post-emergence herbicides

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Registered dose of herbicides may be higher than the rate required for control of weed species. In order to study the effect of individual post-emergence application of 2,4-D plus MCPA and three sulfonylurea herbicides at four- to six-true leaf stage of weeds, experiments were conducted in 2011 at the greenhouse of the Faculty of Agriculture, Ferdowsi University of Mashhad, Mashhad, Iran. Treatments comprised of untreated control and seven rates of 2,4-D plus MCPA, foramsulfuron, nicosulfuron and nicosulfuron + rimsulfuron for redroot pigweed (Amaranthus retroflexus L.) and Common lambsquarters (Chenopodium album L.). These herbicides controlled redroot pigweed more effective than other weed, so that minimum dose requirement for a satisfactory efficacy of 90% reduction of redroot pigweed aboveground dry matter (ED$_{90}$) were 350, 18, 60 and 266 g a.i h$^{-1}$ of 2,4-D plus MCPA, foramsulfuron, nicosulfuron and nicosulfuron + rimsulfuron application, respectively. In contrast, minimum dose requirement for 90% reduction of common lambsquarters abovement dry matter were 500 and 38 g a.i h$^{-1}$ of 2,4-D plus MCPA and foramsulfuron, respectively. Nicosulfuron and nicosulfuron + rimsulfuron did not control common lambsquarters efficiently even at recommended dose.