

Abstract

Post-emergence herbicides require adjuvants to be tank-mixed or built into the formulation to enhance performance. In order to increasing the performance of some post-emergence herbicides of sugar beet, factorial experiment based on randomized complete block design with three replication were conducted in the research field of Ferdowsi University of Mashhad at 2013. The factors were include: the method of herbicide application (full and split application), herbicides (Chloridazon (at 5 Kg.ha⁻¹) plus Desmedipham (at 6 L.ha⁻¹), Desmedipham plus Phenmedipham plus Ethofumesate (at 3 Li.ha⁻¹) and Chloridazon (at 5 Kg.ha⁻¹) plus Desmedipham plus Phenmedipham plus Ethofumesate (at 3 Li.ha⁻¹) and adjuvants (Non-adjuvant, Adigor (%1.5 v/v), Citogate (%0.2 v/v) and Ammonium sulfate (%0.5 v/v)). The results had showed that the highest sugar beet root yield, as values 110.29 t.ha⁻¹, occurred in split application of Chloridazon plus Desmedipham with Adigor. In split application of Desmedipham plus Phenmedipham plus Ethofumesate without adjuvant, the lowest sugar beet root yield were recorded 50.07 t.ha⁻¹. Full application of Chloridazon plus (Desmedipham plus Phenmedipham plus Ethofumesate) with Adigor with %17 of sugar content had the highest, and split application of Desmedipham plus Phenmedipham plus Ethofumesate Adigor with %11.74 of sugar content had the lowest sugar content. Furthermore, split application of Chloridazon plus Desmedipham with Adigor and Citogate and also full application of Chloridazon plus Desmedipham with Adigor with completely weed control had the highest, and full application of Desmedipham plus Phenmedipham plus Ethofumesate without adjuvant with %50 weed control had the lowest performance of weed control.

Keywords: Adigor, Ammonium sulfate, Chloridazon, Citogate, Desmedipham.

