

EFFECT OF PRE AND POST EMERGENCE APPLICATION OF DIFFERENT DOSES OF IMAZETHAPYR ALONG WITH OTHER HERBICIDES ON NUTRIENT UPTAKE BY CROP AND WEEDS

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Received-17.01.2017, Revised-26.01.2017

Abstract: A field experiment was conducted during the rabi season of 2012-13 and 2013-14 at Crop research center, Chirodi, Sardar Vallabhbhai Patel University of Agriculture and Technology, Meerut U.P. to study the “Effect of pre and post emergence application of different doses of imazethapyr along with other herbicides on weed dynamics, yield of black gram and succeeding mustard crop”. The soil of experimental field was sandy loam in texture, low in organic carbon and available nitrogen, medium in available phosphorus and available potassium with near to neutral in reaction. The experiment consisted of 10 treatment combination with pendimethalin @ 1000 g ha⁻¹ as pre-emergence (T₁), Imazethapyr @ 50 g ha⁻¹ at 3-4 leaf stage (T₂), Imazethapyr 70 g ha⁻¹ at 3-4 leaf stage(T₃), Imazethapyr + pendimethalin @ 800 g as pre-emergence(T₄), Imazethapyr+pendimethalin @ 900 g ha⁻¹ as pre-emergence(T₅), Imazethapyr+ pendimethalin @1000 g ha⁻¹ as pre-emergence(T₆), Imazethapyr + imazamox @ 60 g ha⁻¹at 3-4 leaf stage(T₇), Imazethapyr + imazamox @ 70 g ha⁻¹ at 3-4 leaf stage(T₈), Two hand weeding at 20 & 40 DAS (T₉) and weedy check (T₁₀). The treatments were replicated three times in a randomized block design. All weed control practices proved effective in controlling the weeds in black gram and gave significantly higher grain yield over weedy. PRE application of imazethapyr + pendimethalin (RM) at 900 g ha⁻¹ most effective control of all major weeds, resulting maximum grain yield among herbicide treatments which was at par with and PRE use of pendimethalin at 1000 g ha⁻¹ provided control of weeds with slight crop suppression which although mitigated within 10-15 days after spray resulting reduction in grain yield. This treatment influenced the uptake of nutrient by black gram and reduced density and dry matter of weeds.

Keywords: Weed control, Herbicide, Weed, Black gram, Mustered

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