

Bioefficacy of Diclosulam for Controlling Weeds in Soybean [Glycine Max (L.) Merrill] and Its Carry Over Effect on Succeeding Wheat (Triticum Aestivum) Crop

Authors : Pratap Sing, Chaman. K. Jadon, H. P. Meena, D. L.yadav, S. L. Yadav, Uditi Dhakad

Abstract : The experiment was conducted at Agricultural Research Station, Agriculture University, Kota, Rajasthan, India during kharif and rabi 2020-21 and 2021-22 to study the biofficacy of diclosulam and its residual effect on succeeding wheat crop. The treatments comprised of Diclosulam 84 % WDG viz. 6.25, 12.50, 25.00 and 37.50 g/ha as pre emergence (PE), Pendimethalin 30% EC 3.33 l/ha, Sulfentrazone 48% SC 750 g/ha, hand weeding at 30 and 45 DAS and weedy check, were evaluated in randomized block design in three replications. The experimental soil was clay in texture and non-calcareous. Experimental field was mainly dominated by grasses-Echinochloa colonum, E.crusgalli,Cynodon dactylon, Sedges-Cyperus rotundus and broad leaved weeds Celosia argentea and Digera arvensis.The result revealed that application of Diclosulam 84 % WDG 25 g/ha PE was found effective in controlling mostly weed species and registered higher weed control efficiency 81.2, 74.3, 69.6 per cent at 30, 45 days after sowing and at harvest. Diclosulam 84 % WDG (6.25-25.0 g/ha) was found selective to the soybean crop as no any phytotoxicity symptoms were observed. Among the herbicidal treatments, Diclosulam 84 % WDG 25 g/ha registered maximum and significantly higher soybean seed yield (1889 and 1431 kg/ha during kharif 2020 and 2021, respectively and was at par with Sulfentrazone 48% SC 750 g/ha and over weedy check(1027 and 667 kg/ha).The wheat crop growth, yield attributes and seed yield were not influenced due to carry over effect of the Diclosulam 84 % WDG(6.25-25.0 g/ha) and no any phytotoxicity symptoms were observed. Henceforth, the Diclosulam 84 % WDG 25.0 g/ha as pre emergence may be used in the soybean for effective weed control without carry over effect on succeeding wheat crop.

Keywords : Diclosulam, soybean, carry over effect, succeeding wheat

Conference Title : ICPPWS 2022 : International Conference on Plant Physiology and Weed Science

Conference Location : Bangkok, Thailand

Conference Dates : November 29-30, 2022