

Effect of Land Configuration and Weed Management Practices on Weed Dynamics and Productivity of Mungbean [*Vigna radiata* (L.) Wilczek] and Urdbean [*Vigna mungo* (L.) Hepper] in the Lower Gangetic Plains of West Bengal

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Abstract—An experiment was conducted during the kharif, 2015 to study the integrated effect of land configuration and weed management practices on the weed dynamics and productivity of mungbean and urdbean at District Seed Farm (AB block), B.C.K.V., Kalyani, Nadia. The experiment was laid out in split plot design with four replications. The two land configurations (Flat bed method and Ridge method) were allotted to the main plots and four weed management practices (T₁: Weedy Check, T₂: Application of Pendimethalin 30 EC @ 1.0 kg/ ha as Pre Emergence (PE), T₃: Application of Imazethapyr 10 % SL @ 55 g/ ha at 15-20 DAS and T₄: Application of Pendimethalin 30 EC @ 1.0 kg/ ha as PE fb Imazethapyr 10 % SL @ 55 g/ ha at 15-20 DAS) were allotted to the sub-plots. The ridge bed method had higher weed control efficiency in both the crops. It recorded 57.7 % and 14.9 % higher yield than the flat bed method for mungbean and urdbean, respectively. T₃ significantly reduced weed dry matter and weed density and was most efficient in controlling weeds. Plant population, nos. of seeds per pod, nos. of pods per plant, pod length and yield was the highest under T₃ in both the crops. Percent increase in yield in T₃ over weedy check was 35.3 and 19.6 for mungbean and urdbean, respectively. T₂ was the next best treatment in terms of weed control efficiency. Application of Imazethapyr 10 % SL @ 55 g/ ha at 15-20 DAS and Pendimethalin 30 EC @ 1.0 kg/ ha as PE under ridge bed method significantly reduced weed density and weed dry matter in both the crops. Thus, application of Imazethapyr 10 % SL @ 55 g/ ha at 15-20 DAS under ridge bed method may be recommended for achieving higher productivity and efficient weed control in mungbean and urdbean.

Keywords: Land Configurations, Mungbean, Urdbean, Weed Dynamics, Weed Management Practices.