

EFFECT OF HERBICIDE MIXTURE OF PENDIMETHALIN AND SULFENTRAZON ON WEEDS SUPPRESION AND THE YIELD OF LONG BEANS IN A NO-TILL SYSTEM

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ABSTRACT

The production of long beans in Indonesia from 2014 to 2020 experienced a declining trend. The decrease in the production of long beans either one because of weeds. This research aims to determine the optimal dosage and the influence of using a mixture of herbicides with the active ingredients pendimethalin and sulfentrazone on weed control, growth, and yield of long beans in a no-till system. The study was conducted from August to October in Dusun Temanggal I, Purwomartani, using a Complete Randomized Block Design (CRBD) with one factor and 10 treatments. These treatments included a control without any treatment, sulfentrazone 240 g a.i/ha, sulfentrazone 480 g a.i/ha, pendimethalin 660 g a.i/ha, pendimethalin 990 g a.i/ha, sulfentrazone 240 g a.i/ha + pendimethalin 660 g a.i/ha, sulfentrazone 240 g a.i/ha + pendimethalin 990 g a.i/ha, sulfentrazone 480 g a.i/ha + pendimethalin 660 g a.i/ha, sulfentrazone 480 g a.i/ha + pendimethalin 990 g a.i/ha, and weeding at 3 and 6 weeks after planting. Observation results were analyzed using Analysis of Variance (ANOVA) at a 5% significance level. In the case of significant differences, a Least Significant Difference (LSD) test at a 5% significance level was conducted. The research findings indicate that the combination of herbicides sulfentrazone 480 g a.i/ha + pendimethalin 660 g a.i/ha produced the highest values for weed control efficiency, number of pods per plant, weight of pods per plant, weight of pods per plot, and weight of pods per hectare.

Keywords: long beans, weeds, pendimethalin, sulfentrazone, no-tillage system