EFFICACY OF PRE-EMERGENCE HERBICIDES OXYFLUORPHEN AND PENDIMETHALIN ON WEED CONTROL, GROWTH AND YIELD OF SOYBEAN (Glycine max L. Merr)

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ABSTRACT

The presence of weeds in soybean fields can result in decreased production. A management action is needed, namely weed control. This study aims to determine the best dose of herbicides oxyfluorphen, pendimethalin and their mixtures that are effective in controlling weeds and their effects on the growth and yield of soybean plants. The design used in this study was a Completely Randomized Block Design (RAKL) with one factor with 9 treatments, the treatments consisted of oxyfluorfen 1.5 l b.a/ha, oxyfluorfen 2 l b.a/ha, pendimethalin 0.75 l b.a/ha, pendimethalin 1.25 1 b.a/ha, oxyfluorfen 1.5 l b.a./ha + pendimethalin 0.75 l b.a/ha, oxyfluorfen 1.5 l b.a./ha + pendimethalin 1.25 l b.a/ha, oxyfluorfen 2 l b.a./ha + pendimethalin 0.75 1 b.a/ha, oxyfluorfen 2 l b.a./ha + pendimethalin 1.25 l b.a/ha and control (without control). Data were analyzed using ANOVA with a significance level of 5% and continued with the Least Significant Difference (LSD) test at the 5% level. The application of a mixture of pendimethalin oxyfluorfen and pendimethalin herbicides has proven effective in controlling broadleaf weeds and sedges but is less effective on grassy weeds. The dose of a mixture of pendimethalin oxyfluorfen herbicides of 1.5 L b.a/ha + pendimethalin 0.75 L b.a/ha is the most effective dose in controlling weeds in soybean plantations. The treatment of a mixture of oxyfluorfen herbicides 1.5 Lb.a/ha + pendimethalin 0.75 L b.a/ha can affect the growth and yield of soybean plants in terms of seed weight per plant, seed weight per plot and seed weight per hectare.

Keywords: Soybeans, Weeds, Oxyfluorfen, Pendimethalin, Dosage