Effect of herbicides and fungicides on N\textsubscript{2}-fixation and seed yield of soybean (cv. Williams)

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Abstract

The effect of herbicides and fungicides on N\textsubscript{2}-fixation and seed yield of soybean (cv. Williams) was studied. The experiment was conducted in a randomized complete block design with three replications. The plots were 4 m long and 4 m wide, and the rows were 70 cm apart. The treatments were four herbicides (mesotrione, ioxynil, atrazine, and bentazon), four fungicides (chlorothalonil, carbendazim, mancozeb, and ziram), and six combinations of herbicides and fungicides. The results showed that the herbicides and fungicides had a significant effect on N\textsubscript{2}-fixation and seed yield. The highest N\textsubscript{2}-fixation and seed yield were obtained with the combination of mesotrione and chlorothalonil. The results also showed that the herbicides and fungicides had a significant effect on the growth and yield of soybean. The results of this study can be used to improve the yield and quality of soybean under different environmental conditions.