effect of fertilization and weed control on soyean crop and associated weeds

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This investigation was carried out at the Agricultural Research and Experimental Center of the Faculty of Agriculture at Moshtohor, Zagazig University Banha branch at Kalubia Governorate in 1995 and 1996 seasons, to study the effect of weed control treatments. Rhizobium inoculation treatments and nitrogen fertilizer levels on growth, yield and yield components, chemical contents of seeds as well as associated weeds of soybean.The experiment included 40 treatments, which were the combination of five weed control treatments, two Rhizobium inoculation treatments and four nitrogen fertilization levels.The treatments of the experiment were as follows: -I. Weed control treatments: -1-Unweeded treatment (control).2-Hand hoeing twice (after 21 and 35 days from sowing). 3-Pendimethalim (Stomp 500) at rate of 1.7 L/fad. (Pre-emergence and before planting irragation). 4-Bentazon (Basagran 48%) at rate of 1.0 L/fad. (Post-emergence and before the first irrigation).5-Diclofop-methyl (Illoxan 36%) at rate of 1.8 L/fad. (Post-emergence and before the first irrigation.).II.Bacterium inoculation treatments :1-Uninoculation (Control).2-Inoculation with Rhizoblium.III.Nitrogen fertilizer levels :1-Without N fertilizer (Control)2-20 Kg N/fad. 3-40 Kg N/fad. 4- 60 Kg N/fad.The treatments were arranged in split split plot design with four replication. The main plots were assigned for weed control treatments, the sub plots were devoted to Rhizobium inoculation treatments and nitrogen fertilizer levels were allotted to sub sub plots.The following data were recorded: -I.Weeds :-At 60 and 90 days from sowing, weeds were hands pulled at random from one m2 per each plot.Weeds were classified into broad-leaved and grassy weeds. Then fresh and dry weight of each group as well as total fresh and dry weight were recorded.II.Soybean growth :-Samples of ten plants were taken randomly at 60 and 90 days from sowing. Then the following characters were recorded:1-Plant height (cm).2-Fresh and dry weights of stern per plant (g).3-Fresh and dry weights of leaves per plant (g). 4-Leaf area per plant (LA) cm2.5-Leaf area index (I.A.I).III. Yield and yield components :-At harvest, ten plants were randomly taken to estimate yield components, whereas the seed, straw and biological yield were calculated from the yield of whole plot.