IMPROVEMENT IN THE NITROGEN STATUS OF THE SOIL BY GROWING *CROTOLARIA JUNCEA* INOCULATED WITH *RHIZOBIUM* SP.

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Seedlings of *Crotolaria juncea* grown on agar slopes in test tubes nodulated well when inoculated with *Rhizobium* previously isolated from the nodules. Rhizobia isolated from cowpea, greengram, blackgram and wing bean were able to nodulate *Crotolaria juncea* suggesting that the Rhizobia belong to the cowpea group. Inoculation of the seeds with pure Rhizobia improved the growth of the plant in pot experiment. In field trials using inoculated seeds as planting material, the dry matter content showed increases compared with that of the uninoculated. The increase in the dry matter content was observed during the 4th, 6th and 8th weeks. Two week old plants did not show any significant change over that of the control.

Two fold increase was observed in the percentage of nitrogen content and weight of the nodules when compared to that of the uninoculated at the end of the sixth week of growth. Percentage nitrogen contribution by the plant tops and nodules in seed inoculated was significantly greater compared with those of uninoculated and fertilizer treated. The total nitrogen accumulation during the 6th week was found to be 34.33 and 23.27 kg/hectare in the seed inoculated and uninoculated respectively, thus an increase in the nitrogen status of the soil equivalent to about 11 kg/hectare was achieved by inoculating the seeds. The best time to plough in the plant tops in the soil is at the end of the 6th week.