EFFECT OF N FERTILIZATION AND INOCULATION ON THE GROWTH AND YIELD PERFORMANCE OF MUNGBEAN (VIGNA RADIATA L) UNDER FIELD CONDITIONS OF RAWALAKOT AZAD JAMMU AND KASHMIR

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ABSTRACT

Establishment and introduction of legumes in agriculture have a significant potential in increasing the crop production and nitrogen status of soil. The primary objective of the present investigation was to establish mungbean under the natural conditions of Rawalakot and to examine the effect of N fertilization and inoculation on nodulation, growth and yield potential of mungbean. For this purpose, a field experiment was conducted using a mungbean variety "NM-92" recommended for rainfed areas. Nitrogen at the rate of 40 kg N ha^{-1} and 20 kg N ha^{-1} alone or combination of 20 kg N ha^{-1} + two levels of rhizobium inoculation were used. Results showed that the height of the plant, number of leaves and fresh weight of the crop were maximum where maximum N i.e. 40 kg N ha^{-1} was applied while root weight was increased with inoculation. The yield components showed different trend and substantial increase in number of nodules, number of pods, 100-grain weight and the total grain yield recorded with inoculation. More than 100% increase in number of nodules and about 47% increase in total grain yield of mungbean was recorded with recommended dose of inoculation. Application of N fertilizer alone depressed and decreased the nodulation and grain production of the crop. Inoculation seemed to be very effective under our conditions and use of this technique can proved very useful for the production of legumes.