

NODULATION AND YIELD OF SELECTED LEGUMES IN RELATION
TO INOCULATION AND NITROGEN FERTILIZER

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Three single strain host specific rhizobia inoculum, namely TAL 169, TAL 441 and TAL 1383 were used to inoculate cowpea, mung bean and bush beans respectively. Seed addition and incorporation into the soil at planting, two days earlier or after germination were the methods of inoculation. Each inoculation treatment was made with or without fertilizer nitrogen (Urea 46 %N) as the source of nitrogen. All treatments were compared with an uninoculated control.

Nitrogen application reduced nodulation and increased yields per plant, when associated with inoculation. Seed inoculation produced the highest number of nodules per plant, in the absence of fertilizer nitrogen. Bush beans showed no nodulation in the uninoculated treatment. A 13.1% increase in yield per plant was seen in bush beans when seed inoculation was carried out with nitrogen. Cowpea and mung bean showed a 22.6% and 12.2% increase in the number of nodules per plant respectively over the control, when seeds were inoculated in the absence of fertilizer nitrogen. The percentage increases in yields per plant were 23.5 and 18.3 for cowpea and mung bean respectively, when seed inoculation was carried out along with fertilizer nitrogen.