Field Assessment of Some Local Cowpea Rhizobium Inoculants.

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Abstract:

The effectiveness of lignite, sub-bituminous, cow manure and peat as rhizobia carriers and inoculants were assessed in a field plot. The inoculants prepared by incorporating each of three rhizobia strains (IFE CR9, IFE CR15 and R. japonicum) into each of the carrier materials were used to inoculate three cowpea varieties viz. TVU 1190, IT82E-60 and Ife brown.

When lignite bearing IFE CR9 was used to inoculate TVU 1190 plants, the nitrogen content of the plants was found to be 178.12mg/plant whereas that of the uninoculated nitrate free plants was 64.07mg/plant. As a result of using lignite, sub-bituminous, peat, and cowdung as carriers for the rhizobia strains, the increases in the grain yield of the inoculated cowpea plants were 72.2%, 51.9%, 25.5% and 10.1% respectively when compared with the uninoculated ones.

IFE CR9 (which is a native Rhizobium) seems to be better adapted to tropical conditions than the imported R. japonicum. When Ife brown cowpea plants were inoculated with IFE CR9 incorporated into lignite, the nitrogen content of the plants was 149.00mg/plant whereas the nitrogen content of the same plants inoculated with R. japonicum in lignite was 132.61mg/plant.

TVU 1190 cowpea variety responds better to inoculation than the two other varieties. For example when TVU 1190, Ife brown and IT82E 60 were inoculated, the increases in dry weight of the plants over the uninoculated ones were 125.1%, 116% and 93.3% respectively.

Keywords: Rhizobium inoculants

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