



Growth, yield and quality of brinjal as affected by use of bio-fertilizers

M.P. SOLANKI, B.N. PATEL, Y.N. TANDEL AND N.B. PATEL

See end of the article for authors' affiliations

Correspondence to :

Y.N. TANDEL

Department of
Horticulture, Krishi Vigyan
Kendra, Navsari
Agricultural University,
NAVSARI (GUJARAT)
INDIA

ABSTRACT

The experiment was carried out at College Farm, Navsari Agricultural University, Navsari (Gujarat) during *Rabi* season to know the effect of bio-fertilizers *viz.*, *Azospirillum* and *Azotobacter* along with recommended dose of fertilizer on brinjal. The perusal of results opined that the maximum plant height at 60 DATP and at harvest, number of branches per plant, number of fruits per plant, fruit yield per plant and per ha and TSS were noted in brinjal plants treated with 100 % RDF + *Azotobacter* + *Azospirillum* + PSB. Whereas days to initiation of flowering, fruit weight and crude protein were not found to be significant. Meanwhile, at end of experimentation the higher net return with more CBR value was also obtained from the same treatment.

Solanki, M.P., Patel, B.N., Tandel, Y.N. and Patel, N.B. (2010). Growth, yield and quality of brinjal as affected by use of bio-fertilizers, *Asian J. Hort.*, 5 (2) : 403-406.

Key words : Bio-fertilizer, Brinjal, Growth, Yield, Quality

Brinjal or egg plant (*Solanum melongena* L.) is one of the most popular and principal fruit vegetable crop grown in India and other parts of the world which is world wide known as *aubergine* or *guinea squash*. Being a long duration crop, it requires heavy manuring for its potential production. However, the use of expensive commercial fertilizers as per the area specific requirement of fertilizers to the crop is not much affordable to the average farmers. The application of high input technologies such as chemical fertilizers, pesticides, herbicides improved the production but with indiscriminate use of such chemical and chemical fertilizers may lead to adverse effect on soil productivity and environment at long duration. Some soil microorganisms play an important role in improving soil fertility and crop productivity due to their capability to fix atmospheric nitrogen, solubilizing insoluble phosphate and decompose farm wastes resulting in the release of plant nutrients. Bio-fertilizers have become an accepted strategy to bring about improvement in soil fertility and protecting the environment. Consequently, with a view to study the effect of bio-fertilizers the present investigation has been proposed.

MATERIALS AND METHODS

The present investigation was conducted in *Rabi* season of year 2006-07. It was laid out in Randomized

Block Design (RBD) with three replications and eleven treatments. The treatments containing bio-fertilizers along with recommended dose of fertilizers (chemical) *viz.*, 100% RDF *i.e.* control (T_1), 100% RDF + *Azospirillum* (T_2), 75% RDF + *Azospirillum* (T_3), 100% RDF + *Azotobacter* (T_4), 75% RDF + *Azotobacter* (T_5), 100% RDF + *Azospirillum* + PSB (T_6), 75% RDF + *Azospirillum* + PSB (T_7), 100% RDF + *Azotobacter* + PSB (T_8), 75% RDF + *Azotobacter* + PSB (T_9), 100% RDF + *Azotobacter* + *Azospirillum* + PSB (T_{10}), 75% RDF + *Azotobacter* + *Azospirillum* + PSB (T_{11}). The recommended dose of fertilizer is 100: 37.5: 37.5 NPK kg/ha and bio-fertilizers were applied as basal @ 2kg/ha. The seedlings were transplanted at a spacing of 90 x 75 cm and followed uniformly all recommended cultural practices for all experimental plots. All observations regarding growth, yield and quality of brinjal were taken and data were subjected to statistically analysis.

RESULTS AND DISCUSSION

The results obtained from the present investigation are summarized below :

Growth parameters:

The effect of combine application of bio-fertilizers and chemical fertilizers was found significant at all growth