The Asian Journal of Horticulture; Vol. 5 No. 2; (December, 2010) : 321-322

Received : April, 2010; Accepted : September, 2010

Research Paper

Filler cropping of guava and summer green gram during lean period

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ABSTRACT

The adaptive trial was carried out on degraded loamy sand soil during 2005-06 and 2006-07 in agro-climatic zone of IV of U.P. at Bhogaon, Mainpuri to popularize the summer green gram in the interspaces of guava as a filler crops under moisture stress condition. Four varieties of green gram were tested under filler cropping of guava +green gram. The varietals yield was in descending order *viz.*, Narendra moong -1 (8.35 q/ha), Malviya Janpriya (8.30 q/ha), Pant moong-4(7.90 q/ha) and Samrat (7.00 q/ha) in filler cropping of guava. Therefore, the green gram for grain can economically be harvested from the interspaces of guava during summer season.

Singh, D.P., Singh, R.A., Prakash, H.G. and Haider, Ekhlaq (2010). Filler cropping of guava and summer green gram during lean period, *Asian J. Hort.*, **5** (2) : 321-322.

Key words : Filler cropping, Interspaces, Degraded, Stress

The riverine tract of Uttar Pradesh is famous for guava cultivation. There is ample opportunity to grow green gram during lean months of summer season for additional grain yield, income and employment generation in the interspaces of guava establishing as well as grown up orchard. There is a possibility that with the enlargement of guava canopy, green gram may become unaccessible. The alluvial soils of U.P. have better depth and most suitable for the cultivation of fruit and forage crops, therefore, guava base horti-agri system a viable option. The guava has bushy nature and can be planted at wider space. This provides an opportunity to use the available natural resource.

In younger garden of guava, the green gram can be economically harvested up to 5-6 years and some time 8-9 years depending upon the spacing of plantation and growth of trees. For production additional and growth of green gram from interspaces, guava, the filler cropping of green gram in younger orchard was studies on farmer's fields.

MATERIALS AND METHODS

The adaptive experiment was laid out for two consecutive years during 2005-06 and 2006-07 at Bhogaon, Mainpuri. The studies pilot area is situated in the catchments of Kali river having loamy sand soil. The selected area classified under agro-climatic zone of IV of U.P. The soil area have poor fertility status having pH 7.9, organic carbon 0.21 %, total nitrogen 0.02%, available phosphorous 10.30 kg/ha and available potash 274 kg/ha. Four varieties of green gram, Narendra moong -1, Pant moong-4, Samrat and Malviya Janpriya were tested under filler cropping of already planted guava orchard. After leaving 1.0 meter space in both sides of guava row, green gram was seeded during end of February of each year. The 75 % plant stand of green gram was adjusted as filler crop under horti-agri system of agro-forestry. A recommended dose of 15 kg N+ 60 kg P_2O_5 +110 kg gypsum was applied in green gram. The first irrigations was given after 25-30 days and thereafter given as and when required. The green gram pods plucked after complete pods maturity. After plucking of pods of green gram, the residues was incorporated in to the soil with deep plouging for enriching the organic matter in soils. The adaptive trial was conducted on six farmer's field and each farmer's treated as one replication.

RESULTS AND DISCUSSION

Among the tested cultivars of green gram, Narendra moong -1 gave highest grain yield of 8.35 q/ha closely followed by Malviya Janpriya 8.30 q/ha on degraded soil at 75 % plant stand (Table 1). Cultivar Samrat gave lowest