



Effect of intercrops on growth and yield of custard apple

G.R. MUNDE, B.G. HIWALE, R.V. NAINWAD AND R.M. DHEWARE

See end of the article for authors' affiliations

Correspondence to:

R.V. NAINWAD

Department of Horticulture
Fruit Research Station,
Himayatbag,
AURANGABAD (M.S.)
INDIA

ABSTRACT

The National Agriculture Technology project (RNPS-9) mainly emphasized on developing suitable Agri-horti and Agro- forestry system in *Kharif* sorghum area decreasing region for overall sustainability of production system. In the experiment custard apple orchards of three different age group (1-2 yrs, 5-7 yrs and 10 yrs and above) were selected for growing intercrops like cowpea, sorghum, horse gram, stylo hamata and cenchrus ciliars along with the application of recommended dose of fertilizer and farm yard manure, which maintained the nutritional requirement of custard apple orchard. The intercrops raised suppressed the weed growth, added more biomass, maintained soil fertility and gave surplus income to growers.

Munde, G.R., Hiwale, B.G., Nainwad, R.V. and Dheware, R.M. (2011). Effect of intercrops on growth and yield of custard apple, *Asian J. Hort.*, 6 (1) : 29-31.

Key words : Intercrops, Growth, Custard apple

Custard apple (*Annona squamosa* L) is an important dry land fruit crop in India. It belongs to family Annonaceae and originated in tropical region of America (Venkatratnam, 1959). *Annona* means years harvest and *squamosa* means scaly referring to scale like structure of the fruit surface. It is popularly called 'sitaphal' in South and 'sharifa' in North India. The custard apple orchard in its non-bearing age should be intercropped with short durational intercrops particularly the leguminous intercrops should be grown as they fix atmospheric nitrogen in soil and makes it available to the plant for inducing better vegetative growth. The low yield potential of custard apple orchard is due to negligence for application of recommended dose of fertilizers and farm yard manure. Therefore, in the present investigation along with the RDF, various intercrops were grown to maintain soil fertility in fruit orchard so that the production and productivity of orchard would remain sustained.

MATERIALS AND METHODS

The project namely 'Develop Agri- horticulture and Agro-forestry system in *Kharif* Sorghum area, decreasing region for overall sustainability of the production system' was implemented in Beed, district of Maharashtra. For the experiment custard apple orchard of three different age groups *i.e.* 1-2 yrs, 5-7 yrs and 10 yrs and above were selected. In each of the age group nine custard apple growers were selected. The experiment was laid

in Randomized Block Design with seven treatments and three replications. The treatment mainly was comprised of RDF alone, FYM alone, RDF + sorghum, RDF + horse gram, RDF + cowpea, RDF + stylo and RDF + cenchrus. four plants were selected in each treatment and replicated there times. The biometric observations like height, girth and yield were recorded.

RESULTS AND DISCUSSION

The data presented in Table 1 showed that the treatment RDF + Cowpea recorded maximum height (0.86m) and minimum in treatment RDF + Cenchrus (0.74m) in custard apple orchard of 1-2 yrs age group.

The custard apple orchard of 5-7 yrs age group showed that the treatment RDF+cowpea recorded maximum height (1.82m) and minimum in treatment RDF + cenchrus(1.54m). In orchard of 10yrs and above the treatment RDF + Cowper recorded maximum height (2.69m) and minimum in treatment RDF+sorghum (2.34m). Rest of the treatments were intermediate.

The data presented in Table 1 showed that the treatment RDF + Cowpea recorded maximum girth (9.52 cm) and minimum in treatment FYM alone (7.08 cm) in custard apple orchard of 1-2yrs age group.

In orchard of 5-7 yrs age group the treatment RDF+ cowpea recorded maximum (16.79cm) girth and minimum in treatment RDF+ Cenchrus (14.48 cm). In orchard of 10yrs and above the treatment RDF+ Cowpea recorded