STUDIES ON GROWTH AND YIELD PARAMETERS OF GUAVA (*PSIDIUM* GUAJAVA L.) CV. L-49 THROUGH DRIP IRRIGATION AND MULCHING UNDER AGRO-CLIMATIC CONDITION OF CHHATTISGARH PLAINS

Karan Sonkar, S.N. Dikshit and D.Sharma

Department of Horticulture, Indira Gandhi Krishi Vishwavidyalaya, Krishak Nagar, Raipur-492012 (C.G.) *Email-sonkar.karan@gmail.com

Abstract: The experiment was carried out during the year 2009-2010 in Randomized Block Design (RBD) with five replications and eight treatments allocating mulching with different irrigation levels viz., 100%, 80% and 60% of water through drip and flood irrigation. The guava variety L-49 was taken with the objectives to study scheduling of irrigation under drip irrigation system, to workout the water requirement of guava and to assess the effect of black plastic mulch on growth and yield parameters of guava. The use of 80 per cent water through drip irrigation with plastic mulch was found effective for guava plants. The plants in respect of canopy spread, number of fruits per plant, fruit yield per plant and per hectare, days to 50 % flowering (minimum), days to fruit maturity (minimum) were found superior under 80 per cent water through drip with plastic mulch. While, highest plant girth and more number of primary branches were observed under 100 per cent of water through irrigation by flood system. The maximum number of leaves and twigs was observed with the treatment 60 % of water through drip irrigation.

Keywords : Drip irrigation, mulching, guava, growth and yield

REFERENCES

Anonymous (2008). Directorate of Horticulture, State Govt., Chhattisgarh, Raipur. Website-H:

 $/2004\mathchar`-05.\ 2007\mathchar`-2008$ Area and production district wise.

Bhattacharya, R.K. and Borthakur, P.K. (1992). Effect of organic mulch on soil pH in cropping and yield of apple under sub-temperate conditions. *Indian J. Hort.*, **65**(3): 55-57.

Borthakur, P.K. Bhattacharya, R.K. and Dutta, S. (1998). Effect of mulching on soilphosphorus, potassium and total yield in guava. *Annals of Agri Bio Research*, **3**(2): 223-226.

Debnath, S., Hasan, M.A. and Das, B.C. (2004). Effect of mulching on growth and fruit yield of guava cv. Sardar. *Orissa J. Hort.*, **32**(2): 38-42.

Lareau, M.J., Lamarre, M., Dale, A. and Luby, J.J. (1991). Effects of row cover and mulching in the production of mango cultivars. **In**: Proceeding of the third North American mango conference, Houston, Texas, 14-16 February, 1990-1991. The mango in the 21st century. Portland, Oregaon; USA. Timber Press pp. 162-163.

Maji, S. and Das, B.C. (2008). Effect of organic and inorganic mulches on vegetative growth and yield of

guava (*Psidium guajava* L.). Environment and Ecology, **26**(3A):1292-1293.

Nath, V. and Pathak, R.A. (2006). Effect of drip irrigation on vegetative growth of aonla and guava plant under sodic soil. *Orissa J. Hort.*, **34**(1): 32-35.

Obminskaya, T. K. 1991. Mango cultivation for intensive method of cultivation. Sadovodstvo-I-vinogradarstvo. No. 4, 22-23.

Pathak, R.A., Pathak, R.K. and Dubey, A.K. (2002). Effect of drip irrigation on guava (*Psidium guajava* L.) on plant growth and nutrient status of leaves. *Progressive Hort.*, **34**(1): 56-56.

Patil, P.V. and Patil, V.K. (2001). Economic analysis of irrigation water applied in guava (*Psidium guajava* L.). *Advances-in-Horticulture-and-Forestry*, **8**: 39-40.

Patra, R.K., Das, B.C. and Hasan, M.A. (2003). Flowering behaviour and fruit yield of guava cv. Sardar as influenced by different soil cover. *Research on crops*, **4**(3):383-387.

Sen, N.L. and Deshmukh, M.M. (2000). Evaluation of drip irrigation, its evaporation based irrigation scheduling and distribution pattern on performance of guava (*Psidium guajava* L.). Advances in Horticulture and Forestry, 8:25-31.