



Research Paper

Article history :

Received : 18.04.2012

Revised : 10.09.2012

Accepted : 11.10.2012

Economics and land equivalent ratio of different intercrops in banana (*Musa paradisiaca* L.) cv. GRAND NAINÉ under drip irrigation

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ABSTRACT : The field experiment was conducted on intercropping studies in banana (*Musa paradisiaca* L.) cv. GRAND NAINÉ under drip irrigation at Soil and Water Management Research Farm, Navsari Agricultural University, Navsari during the month of October 2009 to September 2010 to explore the possibility of increasing monetary return from banana based intercropping system by optimizing vegetables and planting pattern combination. The economic assessment of the intercropping system indicated that banana with onion (A₃) was most profitable system under drip irrigation. Which recorded higher banana equivalent yield, land equivalent ratio and net realization while, benefit cost ratio was maximum under banana with garlic (A₃).

KEY WORDS : Banana, Intercrops, economics, Drip

HOW TO CITE THIS ARTICLE : Mahant, H.D., Patil, S.J., Bhalerao, P.P., Gaikwad, S.S. and Kotadia, H.R. (2012). Economics and land equivalent ratio of different intercrops in banana (*Musa paradisiaca* L.) cv. GRAND NAINÉ under drip irrigation, *Asian J. Hort.*, 7(2) : 330-332.

Banana is known as apple of paradise. In India, banana is fourth important food crops in terms of gross value and is exceeded only by paddy, wheat and milk products. India is the largest banana consumer and producing country in the world followed by Brazil, contributing about 15 per cent of the total world production. Among the fruits, banana holds first position in production and productivity in India. It ranks second in area after mango. In India, annual production of banana is 26.21 million tones from an area of 7.09 lakh hectares spread all over the country (Anonymous, 2009). Banana covers 12.50 per cent of the total area under fruits, contributing nearly one third of total fruit production in the country. In India, Tamil Nadu, Maharashtra, Karnataka, Kerala, Assam and Gujarat are the leading banana producing states. The highest productivity is 62.0 tones ha⁻¹ in Maharashtra followed by Gujarat 58.7 t ha⁻¹ in the year 2008-09.

Initial growth of banana is slow which offers an opportunity to take short duration intercrop like onion, garlic, cauliflower, cabbage *etc.* There has been an increase in the grower interest in using intercropping, growing two or more

croops simultaneously on the same land in the development of new cropping system for their land. Intercropping could reduce management inputs and results in sustainable systems that more effectively use and even potentially replenish natural resources used during crop production for long term management of farmland. Some benefits of intercropping to grower are risk minimization, effective use of available resources, efficient use of labours, and increased production per unit area of land, control erosion and food security. However, with adoption of drip method of irrigation in banana, it is possible to grow intercrop in between the rows. If intercrop is to be grown in between rows, then separate lateral is to be installed which increase the cost of system. So, there is need to develop intercropping system in drip irrigated banana which will enhance the water use efficiency as well as net income. Keeping this aim in mind an oriented research has been carried out on popular variety of banana cv. GRAND NAINÉ.

RESEARCH METHODS

An investigation was carried out at Soil and Water