



Research Article

Productivity and economics of rice influenced by different crop establishment methods and fertilizer sources

D.N. JAGTAP, U.V. MAHADKAR AND L.S. CHAVAN

Abstract : The influence of different crop establishment methods and fertilizer sources on productivity, quality and economics of rice was studied at Dept. of Agronomy Farm of Dr. B. S. K. K. V., Dapoli (Maharashtra) during the *Kharif* season 2009 and 2010 in lateritic soils. The experiments were laid out in split plot design replicate thrice with five crop establishment methods in the main plot and three fertilizer sources were assigned in the sub plots. The results revealed that transplanting of rice recorded significantly higher grain yield (50.21, 54.95 and 52.58 qha⁻¹), straw yield (59.89, 64.07 and 61.98 qha⁻¹), gross returns (Rs. 60447.5, Rs. 65847.1 and Rs. 63147.33 ha⁻¹), net returns (Rs. 20547.5, Rs. 17457.8 and Rs. 19002.72 ha⁻¹) and benefit to cost ratio (1.52, 1.36 and 1.44) during year 2009, 2010 and pooled mean, respectively compared to rest of the crop establishment methods. Among the fertilizer sources, application of urea-DAP briquettes recorded significantly higher grain yield (49.29, 53.04 and 51.17 qha⁻¹), straw yield (59.16, 62.97 and 61.07 qha⁻¹), maximum gross returns (Rs. 59132.8, Rs. 63643.9 and Rs. 61388.37 ha⁻¹), net returns (Rs. 20640.6, Rs. 17587.2 and Rs. 19133.93 ha⁻¹) and B: C ratio (1.53, 1.38 and 1.45) compared to rest of the treatments during year 2009, 2010 and pooled mean, respectively.

Key Words : Establishment methods, Fertilizer sources, Yield, Soil fertility and hybrid rice

How to cite this Article: Jagtap, D.N., Mahadkar, U.V. and Chavan, L.S. (2011). Productivity and economics of rice influenced by different crop establishment methods and fertilizer sources, *Internat. J. Forestry & Crop Improv.*, 2 (2) : 170-175.

Article Chronical : Received : 13.10.2011; Revised : 03.11.2011; Accepted : 16.11.2011

INTRODUCTION

Rice is one of the most important food grain crop of the world and staple food of most of the peoples in Asia. Rice grows from the tropics to the subtropical warm temperate countries up to 40°S and 50°N of the equator. In the world, rice is cultivated on about 155.3 million hectares of area with total production of 426.00 million tonnes (Anonymous, 2009a). In India, rice occupies an area of 43.75 million hectares with production of 85.3 million tonnes (Anonymous, 2009b).

MEMBERS OF RESEARCH FORUM

Author of the Correspondence :

D.N. JAGTAP, Central Research Institute for Dryland Agriculture, HYDERABAD (A.P.) INDIA

Email : jagtapmauli_296@rediffmail.com

Address of the Coopted Authors :

U.V. MAHADKAR AND L.S. CHAVAN, Department of Agronomy, Dr. Balasaheb Savant Konkan Krishi Vidyapeeth, Dapoli, RATNAGIRI (M.S.) INDIA

India has the largest area under rice crop in the world. In Maharashtra, rice ranks third in respect of acreage among the important cereal crops. The total area occupied by this crop is about 15.50 lakh hectares with annual production of 28.55 lakh tonnes. In Konkan region of Maharashtra state, rice occupies an area of 4.30 lakh hectares with production 10.25 lakh tonnes (Anonymous, 2008). Average productivity of rice is 2.13 tones/ha in India and 1.68 tonnes ha⁻¹ in Maharashtra, which are far below the world's average of 3.7 tonnes ha⁻¹. The main reasons of low productivity and profitability are mainly *viz.*, vagaries of nature, low fertilizer use efficiency, poor crop management and adherence of farmers to traditional crop management practices.

The productivity of rice is low due to delay in nursery sowing and late transplanting, faulty methods of cultivation and little or no use of fertilizers. The secret of boosting its yields mainly lies in timely transplanting and properly fertilizing the crop. At the time of transplanting availability