

Research Article

Quality and grain yield of basmati rice as influenced by different establishment methods and nitrogen levels

■ JAGJOT SINGH GILL AND SOHAN SINGH WALIA

Received : 10.06.2013; Revised : 24.09.2013; Accepted : 03.10.2013

MEMBERS OF RESEARCH FORUM :**Corresponding author :**

JAGJOT SINGH GILL, Department of Agronomy, Punjab Agricultural University, LUDHIANA (PUNJAB) INDIA
Email: jagjotsinghgill@yahoo.co.in

Co-authors :

SOHAN SINGH WALIA, Department of Agronomy, Punjab Agricultural University, LUDHIANA (PUNJAB) INDIA

Summary

A field experiment was conducted during *Kharif* season 2010 and 2011 with 6 establishment methods in horizontal plots and 4 nitrogen levels in vertical plots in Strip Plot Design. The soil was sandy loam with normal soil reaction and electrical conductivity, low in organic carbon and available N, medium in available P and K. The results revealed that grain yield was significantly higher with machine transplanted basmati rice after puddling but was statistically at par with direct seeded basmati rice with brown manuring. The differences in straw yield was found to be non-significant among different methods of establishment. Biological yield was significantly higher with machine transplanted basmati rice after puddling but was statistically at par with both methods of direct seeding and conventional transplanted basmati rice during 2010. However during 2011, effect of different crop establishment methods on biological yield was statistically non-significant. Various quality characters of basmati rice like brown, milled and head rice recovery, length : width ratio paddy, length : width ratio of head rice of basmati, protein content, amylose content, minimum cooking time, elongation ratio, water uptake ratio and length : width ratio of cooked milled basmati rice were statistically at par among different methods of establishment. Grain, straw and biological yield were significantly higher with N₄ nitrogen level and it was statistically at par with N₃ in respect of straw yield and biological yield. Brown, milled and head rice recovery, minimum cooking time was significantly higher with N₄ nitrogen level as compared to other nitrogen levels. However, N₁ nitrogen level recorded significantly higher value of water uptake ratio.

Key words : Establishment methods, Nitrogen levels, Yield, Quality

How to cite this article : Gill, Jagjot Singh and Walia, Sohan Singh (2013). Quality and grain yield of basmati rice as influenced by different establishment methods and nitrogen levels. *Asian J. Soil Sci.*, **8**(2): 311-318.