## **2.5 Transplanting of Rice**

Transplanted crops will mature faster in the production field, however they will take 5‐10% longer after establishing the nursery to harvest. Rice Production Manual

Transplanting is widely practiced in most of the Asian

Direct seeded rice: purely a site specific technology

Int. J. Adv. Res. Biol. Sci. (2017). 4(1): 53-57 countries (Mabbayad and Obordo, 1971)

Transplanting using rice transplanter is a cost effective technology. It is a promising technology in due to labor shortage during peak period of rice transplanting Tray soil management

Due to severe weed problem and grazing in lean season the farmers prefer transplanting than direct sowing of seeds. It is a labour intensive operation which requires 200-250 man-h/ha. During peak season labourers are not available. Status and prospectus

The transplanting has number of advantage over direct sowing, as listed below:

1) The time that a crop occupies the land is reduced by 3-4 weeks.

2) Helps the plant a better start over the weeds.

3) Permits optimum plant spacing, which is critical for higher yield.

4) Ensures uniform maturity of the crop.

5) Less seed requirement.

6) Facilitate better weeding and intercultural operations. Development and performance

Appropriate nutrient management, proper seed rate at nursery bed and

then transplanting at suitable age are the key factors to get vigorous stand in main field (Lal and Roy, 1996, Himeda, 1994).

Influence of Nursery Management and Seedling Age on Growth and Economic Performance of Fine Rice

Transplanting produced significantly more number of productive tillers per hill, more number of spikelets per panicle than direct sowing but planting method had no effect on lOOO-grainweight.

Identification of quantitative trait loci for yield and yield components in an advanced backcross population derived from the Oryza sativa variety IR64 and the wild relative O-rufipogon

Although transplanting is the common method of rice production but it is more laborious, cumbersome, time consuming and entails a lot of expenditure on raising nursery, its uprooting, transporting etc., whereas for direct seeding only two man hours are required for the same area (Hashimoto et al., 1976). Careless transplanting by hired labour results in low planting densities in the farmer's field. The scarcity and high cost of farm labour invariably delay transplanting and often lead to the use of aged seedlings (Santhi et' al., 1998).

transplanting gave significantly higher paddy yield (2.77 t ha") than direct seeding (2.30

Transplanting produced significantly more productive tillers hiU-1

(14.51) than direct seeding (8.30).

Number of Spikelets Per Panicle: The number of spikelets panicle'l was significantly affected by the planting method. Transplanting significantly increased the number of spikelets per panicle over the direct seeding method. The maximum number of spiekelets panicle" obtained using transplanting could be due to sufficient amounts of moisture and nutrients available to the plants due to deep penetration and wide spread of roots at the panicle initiation and flowering stages, which eventually resulted in more panicle bearing and more number of spikelets panicle,l. The plants in direct sowing method were at disadvantage due to being shallow-rooted and high infestation of weeds which further reduced the availability of moisture and nutrient to the plants.

Identification of quantitative trait loci for yield and yield components in an advanced backcross population derived from the Oryza sativa variety IR64 and the wild relative O-rufipogon

Maximum number of productive tillersm-2 was recorded in direct seeded rice (3.25.89); (365.67); (380.97) followed by transplanted rice (319.27);

Transplanting of rice required maximum labor resulting in maximum cost of production however planting was delayed due to labor scarcity. Low plant population is the major cause for

low rice (Oryza sativa L.) yields in Pakistan which can be optimized using a proper sowing method. It would be advantageous, if transplanting could be substituted by direct seeding of rice which could result in proper plant population. Direct seeded rice is an alternate option to cope with the problems of water and labor scarcity associated with conventional method (Weerakoon et al., 2011).

A lot of expenditure is required on raising nursery, its uprooting and transporting. Whereas for direct seeding, only two man hours are required to sow the same area.

Direct seeded rice: purely a site specific technology

Paddy transplanting by labour results in low and non-uniform plant population due to which crop yields are reduced

(Mahajan et al., 2009).

Direct seeded rice: purely a site specific technology

For successful rice production, suitable transplanting densi- ties for optimum tillering and essential for improving the growth variables re- sponsible for high yield (Ghosh and Singh, 1998). rowth and yield of rice as affected by transplanting dates and seedlings per hill under high temperature of Dera Ismail Khan, Pakistan.

Transplanting method recorded the highest average yield because the planting distance ensure air circulation, water and light which are basic factors necessary for photosynthesis (Baloch et al., 2002). This is in agreement with reports by IRRI (1984) that transplanting enables optimal spacing, and proper spacing can increase tiller and paddy yield. The

in areas where labour is found, transplanted rice will produce gross economic return than other methods under upland conditions; and even where labour is scarce and costly, transplanting through seedling throwing will give higher yield and income than other methods (Manjappa and Kataraki, 2002; Sanjitha Rani and Jayakiran, 2010).

“ DIGANG ” RICE ( Oryza sativa L .) UNDER UPLAND CONDITION OF BAWKU , UPPER EAST REGION , GHANA

Manual transplanting of rice seedlings into puddled fields is still widely practiced. Transplanted crops require less seed, are better able to compete against weeds but require much more labor to establish. In areas where labor is becoming a problem, mechanical

transplanters are starting to become popular. The total crop duration for transplanted crops will be 5‐10% longer than a direct seeded crop, although the actual time in the production field is be less. The soil type often determines how soon the seedlings need to be transplanted after final working. In many sandy soils, transplanting has to be undertaken within hours of fina

Pulling and transplanting of seedlings is very labor intensive. Depending on soil type, one hectare of rice requires 30 to 40 person days to establish. Seedlings are normally hand transplanted 20 ‐25 cm apart, but this distance may be increased or decreased depending on soil fertility and water supply. The range is normally 15 to 30 cm with 2‐3 seedlings placed in each hill.

Mechanical

Rice Production Manual

can be optimized using a proper sowing method. Transplanting is widely practiced in most of the Asian countries (Mabbayad and Obordo,

1971)

However, an efficient weed management in transplanted rice gave higher economic yields than direct seeding method (Hossain et al. 2002). But transplanting method is more laborious, time consuming and expensive than direct seeding (Hashi-moto et al. 1976). A lot of expenditure is required on raising nursery, its uprooting and transporting. Where as for direct seeding, only two man hours are required to sow the same area

COMPARISON OF DIFFERENT PLANTING METHODS FOR OPTIMIZATION OF PLANT POPULATION OF FINE RICE ( Oryza sativa L .) IN PUNJAB ( PAKISTAN )

(Sekhar, 2004)