

Direct seeding technology to result in major savings

By Munawar Hasan

LAHORE: The newly-evolved technology of direct rice seeding can cut the cost of cultivation by Rs3,000-Rs4,000 per acre on account of saving in puddling and transplanting operations, in addition to 50 per cent conservation of water and increase in yield by 10-15 per cent, officials said.

Manual transplanting of rice is an arduous job. About one million workers, mostly women, enter into the standing water under scorching heat to complete rice transplanting. The operation must be completed within first half of July, thus creating an immense demand pressure for the available transplanting workers.

The number of people willing to perform this job is falling, which results in delay in rice transplantation, low plant population causing 15-20 per cent reduction in yield and reduction in wheat yield due to delay in transplantation, they said.

In order to overcome these problems, Punjab Agricultural Research Board (PARB) funded a research project on "Standardisation and popularisation of direct seeding to increase rice productivity and resource conservation" carried out by Rice Research Institute, Kala Shah Kaku (RRI-KSK), at a cost of Rs13.908 million.

The main objective of the project was to develop an alternative to transplanting so that the crop can be grown in a field condition similar to wheat crop. This will not only eliminate the drudgery of rice cultivation, but also reduce water requirements for the crop and increase its productivity per unit area.

The project has standardised all the management practices related to direct seeding of rice in conditions similar to wheat.

The direct seeding in rice is already common in the Philippines, Vietnam and many other rice growing countries.

Chief Executive PARB Dr Mubarak Ali told The News that

standardisation of the technology in terms of seed operations like soaking and drying, seed



rate, number and intensity of irrigation and weeds control has been completed during the last two years experimentation at RRI-KSK. The quality of rice sown under direct seeding has

already been tested by the RRI-KSK seed lab, and results indicate that the practice does not

alter the quality of Basmati rice. Now the project is at the commercialisation stage. After standardisation of this technology, the RRI-KK conducted experiments on fields under direct

supervision of the project staff. Throughout Punjab about 20 such experiments were con-

ducted. Farmers were provided with seed, fertiliser, weedicides and technical guidance. All the operations were conducted by farmers themselves. Ali, along with Dr Muham-

mad Akhtar, Director RRI-KSK, visited 11 farmers' sites. The plot size of direct seeding was kept around two acres, where seed, fertiliser and weedicides were provided as part of the project. Some farmers tested the technology on their own at larger fields of 2-6 acres. No input was provided on such fields, although on such fields farmers repeated the management practices done on the adjacent researchers' plot.

Ali had a detailed discussion with farmers and their workers. Farmers expressed optimism about the technology.

All farmers confirmed Rs4,000-Rs5,000 per acre net saving in cost and 50 per cent saving in water, but increased in yield cannot be confirmed as the crop is still in booting stage.

Farmers were confident that area under cultivation will increase significantly due to this technology. This will eventually replace all of the mechanically transplanted area. They added that tremendous saving in water

will completely change the environment of Punjab. The practice may help to increase the overall rice area, as it removes two major constraints on the expansion: scarcity of labour and water.

Akhtar said the technology would quickly spread in the rice belt. It would cover one million acre within the next 3-4 years. He said the success of the technology depends on the quality of weedicides and its precise use to control weeds that emerge immediately after direct seeding of rice in the watar fields.

Therefore, the government must monitor the quality of weedicides, he said.

Dr Ali has assured him of the support of PARB in commercialisation of the technology.

From next year, PARB and RRI-KSK in collaboration with Extension Wing of Agricultural Department will chalk out commercialisation strategy for the technology. Spread of the technology on one million acre will save up to Rs5 billion.