



# Wet-seeding in spot: A promising water-saving technique for rice cultivation

## TECHNOLOGY BRIEF

Transplanting of rice (TPR) is widely adopted in the irrigated environment. The main advantage of TPR is the ease in crop care like weeding and fertilizer application. However, transplanting is labor-intensive and requires too much water. Water scarcity, increasing transplanting cost, unavailability of labor, and declining profitability of rice production have forced many farmers to shift from transplanting to direct seeding.

The different direct seeding methods of planting like dry seeding by broadcast (DSB), wet seeding by broadcast (WSB), wet seeding by broadcast followed by beushening (WSBB), wet seeding in line (WSL), and wet seeding in spots (WSS) were compared with the traditional transplanting (TPR) method. WSS gave a significantly higher yield (11.8%) compared to TPR due to higher tillering, more panicle, and better grain filling. Water use efficiency (WUE) was lowest under dry seeding and highest under wet seeding in spots. WSL and WSS showed 9.7 and 24.0% higher WUE, respectively than the traditional TPR method. However, the commonly adopted wet seeding method, i.e. wet seeding by broadcast (WSB) showed 10% less WUE than TPR. Wet seeding reduced 5-20% labor requirements compared to TPR. The labor requirement of wet-seeded and dry-seeded rice cultivation was also found less coinciding with the peak demand of laborers during transplanting season. The results indicate that the wet seeding spot method of rice planting is an improved method that gives a higher yield with less requirement of water and labor and easy weed management than the existing methods.

## HIGHLIGHTS

- WSS gave significantly higher yield (11.8%) compared to TPR
- WSL and WSS showed 9.7 and 24.0% higher WUE, respectively, than traditional TPR method.
- Wet-seeding reduced 5-20% labor requirements compared to TPR. In lines and spots seeding more labours were required for the sowing, but weeding was found easier and less labour intensive in these methods.



## IMPACT / UTILITY

This technology was demonstrated to several farmers of different districts of Odisha through the Farmers' Training Program as well as Trainers Training Programs on scaling up water productivity and enhancing income in rice cultivation.

### Project Details

Physiological basis of germination and water use efficiency in different methods of rice cultivation (Project Code: WTCER/01/63)

### Publication

Thakur et al. (2004). *Archives of Agronomy & Soil Science*, 50: 631-640.  
<https://doi.org/10.1080/08927010400011278>