Impact of laser land leveler for enhancing water productivity in Western Uttar Pradesh


ABSTRACT
Precision agriculture–based resource-conserving technologies (RCTs) in their version of laser-assisted land leveling, introduced at the farm level in the Western Uttar Pradesh of India in 2001, could examine the many issues of the intensive irrigated rice-wheat system. An attempt was made to study the potential benefits and impact of laser-assisted precision land leveling (PLL) in various crops and cropping systems under different agroecologies through farmers participatory researcher-managed on-farm trials. Under on-farm trials conducted in the Western Uttar Pradesh, it was found that PLL enhanced RW system productivity by 10%, with water savings of 22%. Land leveling is one of the few mechanical inputs in intensively irrigated farming that meets the objective of achieving better crop stand, saving irrigation water and improving the use efficiency of inputs. In recent years considerable efforts have gone in developing and promoting resource conservation technology (RCTs) i.e. Zero tillage, bed planting etc. The performance of RCTs can be greatly enhanced through final land leveling. These studies suggest that, to sustain the intensive irrigated systems in general and the RW system of the Western Uttar Pradesh in particular, the integration of laser-assisted precision land leveling with other RCTs could be a viable option. However, the long-term effects of these alternative technologies need to be studied under varying agroecologies.

Key words: Laser leveling, Resource, Conservation, Water productivity


See end of the article for authors’ affiliations

Correspondence to:
R.K. NARESH
Department of Agronomy,
Sardar Vallabhbhai Patel University of Agriculture and Technology, MEERUT (U.P.)
INDIA

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