



Research Article

PERFORMANCE OF LATE SOWN WHEAT VARIETIES IN SUGARCANE-WHEAT CROPPING SYSTEM OF MID PLAINS

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Abstract: On farm trial related to late sown wheat varieties NW -2036 and K -9423 against farmer practice (uncertified variety) has been conducted at five locations in district Lakhimpur-Kheri during 2011-12 to 2013-14. The crop was grown under sugarcane base cropping system. The data (mean of three years) clearly revealed that effective tiller/m² 191.00, yield 4.27 (t/ha), net return 0.35266 (Rs. Lakh/ha) and per cent increase in net return 48.71% were found under treatment T-3(wheat variety NW 2036). This variety performs well on farmer's field and fitted under sugarcane-wheat cropping system. The grain was semi hard, amber and smaller grains and fetches good price on account of good quality as feedback given by the farmers. In district Lakhimpur-Kheri horizontal spread of the technology from 4 ha to 1270 ha (2018-19).

Keywords: On farm trial, Effective tiller, Late sown variety, Horizontal spread

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Introduction

In district Lakhimpur-Kheri more than 3.0 lakh hectare under sugarcane cultivation [1]. After harvesting of sugarcane crop late sown wheat varieties have more scope as, it meets demand of straw for animal feed as well as grain. The development of delayed wheat varieties has created niche for sugarcane base cropping system. Farmers generally sow the uncertified varieties in this cropping system resultant into poor performance of wheat crop because of shriveled and bad quality of grains. The release of new varieties is a continuous process and different varieties perform differently under different sowing conditions [3]. The availability and awareness regarding the late sown varieties of wheat crop will be beneficial for the farmers. Keeping this view under consideration KVK, Lakhimpur-Kheri has conducted on OFT entitled "Performance of late sown wheat varieties in sugarcane-wheat cropping system of mid plains.

Materials & Methods

An OFT related to late sown wheat varieties NW 2036 and K-9423 against farmer's practice has been conducted at five locations in district Lakhimpur-Kheri during 2011-12 to 2013-14. After harvesting of sugarcane crop, wheat crop was sown in second fortnight of December with a spacing of 20 cm. Only seed of Wheat varieties NW-2036 and K-9423 as input was provided to farmers. The sowing method, fertilizer dose, irrigation, weed management and pest control were discussed, while interacting with farmers. The performance of wheat crop has been assessed and data collected and interpreted below.

Results and Discussion

The data obtained during on farm trial at farmer's field clearly revealed that among varieties, NW 2036 has maximum growth (effective tiller/m² = 19) and yield attributes (grain yield 4.27 t/ha) as compared to K-9423 and farmer's practice. This may be due to that variety NW 2036 performs better, when exposed to Agro-climatic conditions of district Lakhimpur Kheri with better grain quality and productivity as compared to other treatments (farmer's feedback and scientist field view).

Data related to economics also in favour of variety NW-2036, due to amber, semi-hard and small grains [2] and good quality resulted into increase in net return 48.71% (Rs. 0.35266 lakh/ha) as compared to farmer's practice (Rs. 0.23746 lakh/ha). The variety NW 2036 has horizontal spread of 1270 ha (2018-19).

Application of research: Dissemination of technology at gross root level and extension of the variety through demonstration.

Research Category: Wheat Cropping System

Abbreviations: OFT-on farm trial, t-ton, ha-hectare, KVK- Krishi Vigyan Kendra, m-metre

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Research project name or number: On Farm trial

Author Contributions: All authors equally contributed

Author statement: All authors read, reviewed, agreed and approved the final manuscript. Note-All authors agreed that- Written informed consent was obtained from all participants prior to publish / enrolment

Study area / Sample Collection: Lakhimpur-Kheri District

Cultivar / Variety / Breed name: NW-2036, K-9423 and uncertified variety

Table-1 Performance of late sown wheat varieties

Treatments	Locations	Effective tillers/m ²			Mean	Yield (t/ha)			Mean
		2011-12	2012-13	2013-14		2011-12	2012-13	2013-14	
T ₁ -farmer's practice uncertified variety	5	117.6	120.0	122.0	119.86	3.25	3.15	3.40	3.26
T ₂ - K-9423		178.4	171.0	180.0	176.46	3.62	3.50	3.67	3.59
T ₃ -NW-2036		191.0	189.0	193.0	191.0	4.22	4.24	4.35	4.27
Net return (Rs. Lakh/ha)				Mean	Per cent increase in net return				Mean
2011-12	2012-13	2013-14			2011-12	2012-13	2013-14		
0.23500	0.22140	0.25600		0.23746	-	-	-	-	
0.27665	0.28155	0.27780		0.27866	17.72	27.16	8.51	17.79	
0.34210	0.34290	0.35266	0.35266		45.57	54.87	45.70	48.71	

Conflict of Interest: None declared

Ethical approval: This article does not contain any studies with human participants or animals performed by any of the authors.

Ethical Committee Approval Number: Nil

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