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Success Story of Fine Grain Rice Variety - NDLR 7 (Nandyal Sona)

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Abstract: ***Samba Mahsuri (BPT 5204) is the major fine grain rice variety grown in an area of 1, 10, 000 hectares in Kurnool district of Andhra Pradesh which is also known as Kurnool Sona. Due to continuous cultivation of the variety, it has become susceptible to pests and diseases resulting in reduction in yields and net returns to farmers. Another fine grain variety NDLR 7. (Nandyal Sona) is developed and released from Regional Agricultural Research Station, Nandyal during 2016 (notified in 2018) as an alternative to BPT 5204. NDLR 7 Nandyal Sona) is suitable to two seasons due to its short duration, fine grain, tolerance to BPH, leaf folder and blast and higher market price compared to BPT 5204. The paper discuss the success of NDLR 7 fine grain paddy variety by the farmers of different regions as an alternate to BPT 5204.***

Keywords: Rice, fine grain variety, adoption and success

1. Introduction

Rice is the major cereal crop grown in Andhra Pradesh occupying an area of 22.11 lakh hectares with the production of 21.92 lakh tonnes and productivity of 5503 kg/ hectare. Rice crop occupies an area of 1, 10, 000 hectares in Kurnool district occupying major area with fine grain variety BPT 5204 (Samba Mahsuri) which is also known as Kurnool Sona.. It has been reported that the quality of grain obtained with this variety in Kurnool district is superior compared to the same variety grown anywhere else in Andhra Pradesh which is attributed to the soil and climatic conditions prevailing in the district. Due to continuous cultivation of the variety from past 30 years it has become susceptible to pests and diseases resulting in increased cost of production, reduction in yields there by reduced net returns to farmers. Depending on the preference of farmers and consumers another fine grain variety NDLR 7 (Nandyal Sona) is developed and released from RARS, Nandyal during 2016 and notified during 2018 (gazetee notification 399E dated 24-1-2018)) as a replacement to BPT 5204 which has become popular as alternative to Samba Mahsuri due to its short duration, still finer grain, tolerance to pests and diseases, increased yields and higher market price.

Technology adopted by the farmers:
The variety selected by the famers is NDLR 7 (Nandyal Sona) in place of BPT 5204 (Samba Mahsuri). Due to continuous cultivation of BPT 5204 it has become susceptible to gall midge, brown plant hopper and blast resulting in increased cost of cultivation on pest management, low yields there by low net returns to the farmers.

NDLR 7 (Nandyal sona) is still finer than Kurnool sona (NDLR 7-short slender L/B =3.1: BPT 5204- medium slender L/B =2.91), taste (Amylose-NDLR 7-22.9% : BPT 5204-23%), comes to harvest 10 days earlier (140 days in kharif and135 days in rabi) suitable to two seasons unlike BPT 5204 (150 days and suitable for one season), suitable for late sowings, responsive to higher doses of nitrogen, non lodging, non shattering, tolerant to leaf folder, brown plant hopper, blast and on par in taste, cooking and keeping quality with that of BPT 5204.

In addition the rice of Nandyala Sona cannot be mixed with the rice of other varieties. Due to all these superior qualities it is fetching more price to farmers for both raw paddy (Rs 100-150/-) and milled rice (Rs 200/-) compared to BPT 5204.

From 2016 onwards farmers are growing NDLR 7 (Nandyal sona) in the district by the seed supplied from different research station of ANGRAU. RARS Nandyal, KVK Yagantipalli, ARS Reddipalli, local private seed companies around Nandyal and farmer to farmer distribution of seed replacing BPT 5204.

During 2020-21, NDLR 7 was cultivated approximately in an area of 1, 00, 000 acres in Kurnool, Kadapa, Chittor, Ananthapuram and Guntur districts of Andhra Pradesh.

Under organic cultivation the milled rice of NDLR 7 was sold @ Rs 3500 for 50 kg bag.

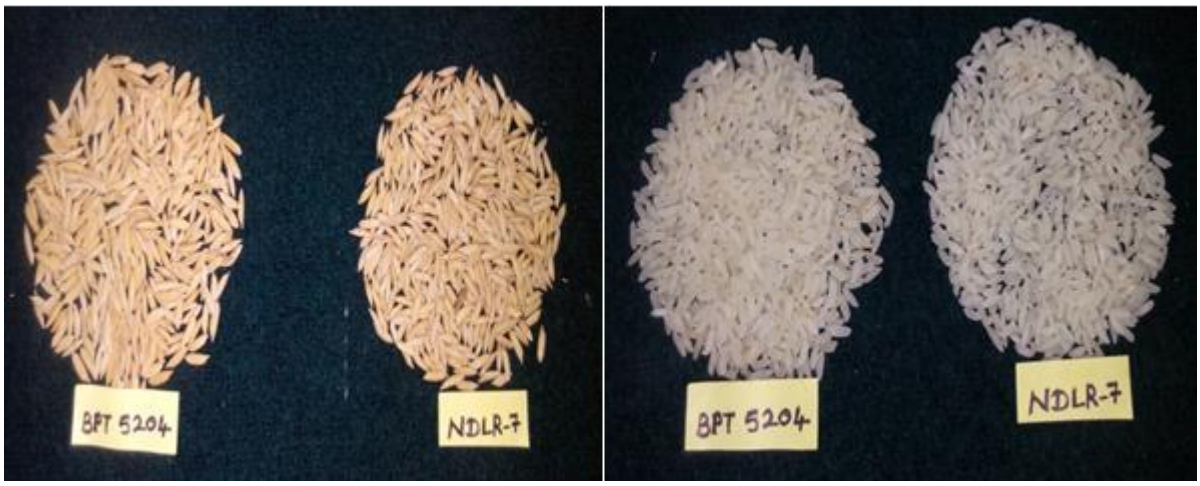
2. Results Achieved

On farm trials conducted by KVK, Kalikiri, Chittor district for three years from 2012-2015 recorded less pest incidence, 5.2% increase in yield by NDLR 7 (6144 kg/ha) compared to BPT 5204 (5839 kg/ha) and average net returns of Rs 76808/ha with NDLR 7 and Rs 68452/ha with BPT 5204. (Ganesh et al., 2019).

On farm trials conducted by KVK, Banavasi, Kurnool district for three years from 2016-2019 reported reduced cost of cultivation Rs 66050/ha to Rs 50538/ha due to reduced usage of pesticides due to less incidence of pests and diseases and increased yield with NDLR 7 (7437 kg/ha) compared to BPT 5204 (5812 kg/ha). Average net returns recorded were Rs 145657/ha with NDLR 7 and Rs 59005/ha with BPT 5204 (Jayalaxmi et al., 2020).

During 2020 the variety has recorded good yields in the fields of farmers of different districts of Andhra Pradesh and Tamil Nadu affected with Nivar cyclone (November 23rd-27th, 2020).Here are some of the success stories of the NDLR 7 variety regarding its non lodging character even in Nivar cyclone with good yields compared to other varieties.(Table 1).

Field View of NDLR 7 (Nandayala Sona)



Grain Quality of NDLR 7 (Nandayala Sona)

Table 1: Performance of NDLR 7 (Nandyal Sona) compared to other varieties during NIVAR cyclone 2020

Farmer name and Phone number	Place	Yield of Nandyal Sona (NDLR 7) (Ton's/acre)	Other varieties	Yield (Ton's/acre)
Sri N.Gopal Krishnan 9443148224	Karur dt Tamil nadu	2.16	Local	1.5
Sri M. Rajareddy 9440387132	Nimanapalli chittor dt of A.P	3	IIRR 93R	1.1
Sri.T.Maheshwar Reddy 9573096985	Kothapalli, Nandyal Kurnool dt, A.P	3.7	BPT 5204	3.5
Sri.Ravireddy 9959758522	Ayyalur, Nandyal of Kurnool dt A.P	3.5	BPT 5204	3.2
Sri T.V.Subbarao 9611663747	Kuppam, Karnataka	3.4	BPT 5204	2.5

Feed back of the farmers

The farmers expressed reduced cost of cultivation with NDLR 7 paddy variety compared to BPT 5204 due to less incidence of pests and diseases, increased yields, higher market price thereby increase in net returns. They reported that NDLR 7 is a suitable alternate variety for BPT 5204 which can be grown both in khaif and rabi as it is 10 days earlier than BPT 5204.

3. Conclusion

The results and feedback from farmers revealed that any variety or technology which is having the ability to increase the economic status of the farmers in real time condition would result in faster adoption by farming community.

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[5] Feed back of farmers from Tamilnadu, Karnataka, Chittor and Nandyal of Kurnool district. A.P. (Enclosed).

BS PRODUCTION OF NDLR 7 AT RARS, NANDYAL

NDLR 7 (NANDYALSONA) IN FARMERS FIELDS

Author Profile

N. K. Gayathri did M.Sc (Ag) & Ph.D. She is Senior Scientist (Genetics & Plant Breeding), Rice Breeding. She has 20 Research Papers published and has developed NDLR -7 (Nandyal Sona)

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