
Improved Wheat Varieties for Farmers of Maharashtra - Useful for Upcoming Rabi Season

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Published on: August 31, 2025

ABSTRACT

Wheat is one of the major Rabi crops in Maharashtra, cultivated under diverse sowing windows and varying climatic conditions. To meet the needs of farmers across these production environments, improved wheat varieties have been developed for specific sowing conditions and agro-climatic zones of the state. The Indian Council of Agricultural Research–Indian Institute of Wheat and Barley Research (ICAR-IIWBR), in collaboration with State Agricultural Universities and All India Coordinated Wheat and Barley Improvement (AICRP) Centres, has played a pivotal role in this process. These improved varieties not only enhance adaptability and resilience but also ensure higher productivity, making them particularly useful for adoption in the upcoming Rabi season by the farmers of Maharashtra.

INTRODUCTION

Wheat is one of the most important staple food crops of India, contributing significantly to national food security and rural livelihoods. The crop is cultivated across diverse agro-climatic regions of the country, and to cater to this diversity, India has been divided into five major wheat-growing zones: Northern Hills Zone (NHZ), North Western Plain Zone (NWPZ), North

Eastern Plain Zone (NEPZ), Central Zone (CZ) and Peninsular Zone (PZ). Each zone has distinct climatic conditions, soil types, and growing environments, which necessitate the development and adoption of suitable wheat varieties for sustainable production.

Maharashtra falls under the Peninsular Zone, where wheat is mainly cultivated during the Rabi season under both irrigated and restricted irrigation conditions. The state's wheat cultivation is unique because of the presence of three important species *viz.*, bread wheat (*Triticum aestivum*), durum wheat (*Triticum durum*), and *khapli* wheat (*Triticum dicoccum*). Among these, bread wheat is the most widely grown due to its higher adaptability and yield potential, while durum and *khapli* wheat are valued for their nutritional quality and specialty uses.

Over the years, coordinated efforts of the Indian Council of Agricultural Research – Indian Institute of Wheat and Barley Research (ICAR-IIWBR), State Agricultural Universities, and the All India Coordinated Research Project on Wheat & Barley (AICRP) centers have led to the release of high-yielding, disease-resistant, and climate-resilient wheat varieties suitable for the Peninsular Zone. These varieties not only ensure higher productivity but also provide stability across varied growing conditions. For farmers of Maharashtra, adopting such improved wheat varieties is particularly important for maximizing returns from the upcoming Rabi season while reducing production risks under changing climatic scenarios.

PROPER SELECTION OF VARIETIES

Depending on the sowing environment and water availability, wheat cultivation in Maharashtra is classified into three categories: (a) restricted irrigation timely sown, (b) timely sown irrigated and (c) late sown irrigated conditions. Each category demands varieties that are tailored to specific challenges such as terminal heat stress, limited water availability, and disease pressures like rusts. In this context, the role of improved varieties becomes crucial. The selection of recommended varieties as per requirement is key to get higher grain yield.



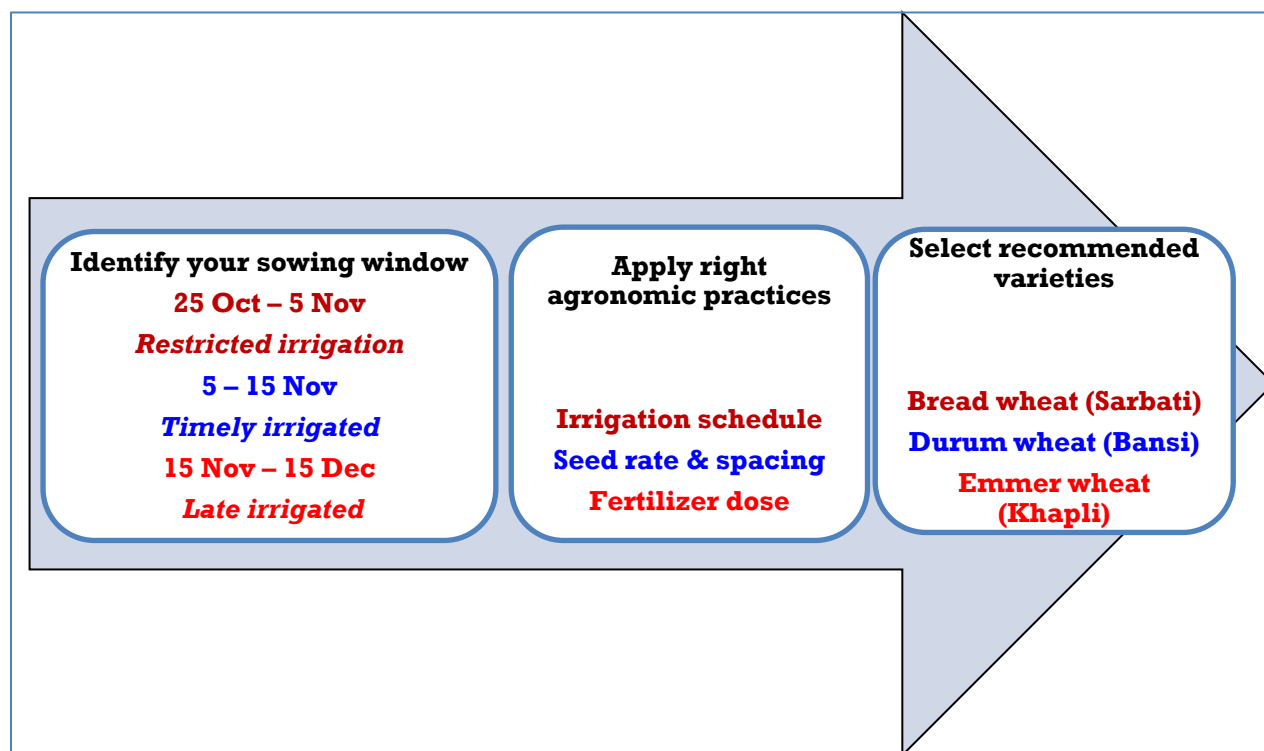


Figure 1. Farmers Should Select the varieties as per the above Info graphic-Style Flow

Table 1. Recommended wheat varieties for Maharashtra as per sowing conditions

Sowing Condition	Time of Sowing	Irrigation	Seed Rate	Spacing	Fertilizer Dose	Recommended Varieties
Restricted Irrigation Timely Sown	25 Oct – 5 Nov	1–2 irrigations	100 kg/ha	20 cm between two rows	120:60:40 (N:P:K)	Bread wheat: Netravati, Phule Satwik, Phule Anupam, Phule Anurag, Pusa Ujala, DBW 93, Pusa Bahar, PBW 596 Durum wheat: GW 1346, HI 8802, HI 8805, MACS 4058, NIDW 1149
Timely Sown Irrigated	5 – 15 Nov	4–5 irrigations	100 kg/ha	20 cm between two rows	120:60:40 (N:P:K)	Bread wheat: Phule Samadhan, Trimbak, Tapovan, UAS 304, MACS 6222, MACS 6478 Durum wheat: Godavari, Poshan, MACS 3949, UAS 415, UAS 428, DDW 48 Emmer wheat: DDK 1025,

						DDK 1029, MACS 2971
Late Sown Irrigated	15 Nov – 15 Dec	4–5 irrigations	125–150 kg/ha	18 cm between two rows	80:40:40 (N:P:K)	Bread wheat: Phule Samadhan, NIAW 34, Phule Shashwat, AKAW 4627, PDKV Sardar, MACS 6222, Pusa Wheat (HD 2932), Pusa Amulya, Pusa Wani, RAJ 4083

CONCLUSION

The development of improved wheat varieties tailored for Maharashtra plays a crucial role in enhancing productivity and resilience. These varieties are specifically bred for restricted irrigation, timely sown, and late sown conditions, ensuring adaptability across diverse environments. ICAR-IIWBR, State Agricultural Universities, and AICRP centers have significantly contributed to varietal development for the Peninsular Zone. The recommended varieties offer resistance to major diseases, tolerance to heat stress, and stability in yield performance. Their adoption can help farmers mitigate risks posed by climate variability and resource limitations. By selecting varieties as per sowing condition and irrigation availability, farmers can maximize returns.

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