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Phule Satwik (NIAW 3170) - A New Soft Bread Wheat Variety for Biscuit Purpose

Phule Satwik (NIAW 3170) is a bread wheat variety developed at Agricultural Research Station, MPKV; Niphad (MS) having IC No IC 632135. It is derived through selection from Elite Spring Wheat Yield Trial and has pedigree SKOLL X ROLF 07. The variety was identified and recommended by Varietal Identification Committee Meeting in 58th AGM of All India Coordinated Research Project on Wheat & Barley. It has been released and notified by Central Sub Committee on Crop Standards, India for cultivation in North Western Plain Zone and Peninsular Zone under restricted irrigation condition vide Gazette Notification No. SO 3482 (E) dated 07th October 2020.

INTRODUCTION

Wheat is world's most widely cultivated food grain crop and in India is the second most important staple food. It plays a vital role in stabilizing the food grain production in the country. In India, bread wheat (*Triticum aestivum* L.) is grown in almost all the wheat-growing zones. It is mostly consumed in the form of *chapaties*. Besides, wheat is also used for manufacturing of bread, biscuits flakes, cakes etc. Grain hardness index, biscuit spread factor, bread loaf volume, bread quality score are some of the important quality parameters in bread wheat. Based on mean of three years data (2016-17, 2017-18 & 2018-19) from All India Coordinated experiments, Phule Satwik (NIAW 3170) recorded higher grain yield (36.8 q/ha) was than the checks viz.,

HI 1605 (30.8 q/ha) and DBW 93 (30.6 q/ha) in Peninsular Zone. It also recorded higher grain yield (51.1 q/ha) over checks viz., HI 1620 (51.0 q/ha) and HD 3237 (49.0 q/ha) in North Western Plain Zone. Yield potential of Phule Satwik (NIAW 3170) was highest among all the genotypes in North Western Plain Zone (71.7 q/ha) and Peninsular Zone (44.3 q/ha) under restricted irrigation condition. Average plant height of the variety is 81.0 cm, grains are white coloured, soft, oblong shaped with thousand grain weight of 39.0 g. Agronomically, Phule Satwik is irrigation responsive and has recorded increased yield of 21.84 % and 44.98 % with one and two irrigations respectively over zero irrigation. The variety has shown resistance to leaf rust (gene *Lr13+10+*) stem rust (gene *Sr2+*), yellow rust, karnal bunt, powdery mildew and flag smut under both natural and artificial screening conditions.

Phule Satwik (NIAW 3170) is the only variety with biscuit spread factor (10.18) more than 10 in all coordinated experiments of wheat in India. It is the most soft grain variety among all the genotypes tested in coordinated experiments with grain hardness index of 28.4 in North Western Plain Zone and 43 in Peninsular Zone as against best check HD 3267 (79.4) in North Western Plain Zone and DBW 93 (80.9) in Peninsular Zone. It has better nutritional qualities with 11.96 % of protein content, Iron content 40 ppm, Zinc content 34.7 ppm.

Considering morphological and agronomical features, the new bread wheat variety Phule Satwik (NIAW 3170) is adaptable for restricted irrigation conditions of North Western Plain Zone (Punjab, Haryana, Rajasthan, Utarakhand, Uttar Pradesh Delhi & Jammu & Kashmir) and Peninsular Zone (Maharashtra & Karnataka). With good nutritional and quality parameters, it will be promising variety for bakery industries.

CONCLUSION

The variety Phule Satwik (NIAW 3170) will be easily adopted by the farmers of Peninsular Zone and North Western Plains Zone of India under restricted irrigation condition as it has high yield potential coupled with best quality parameters suitable for bakery Industries.

REFERENCES

Progress Reports of AICRP on Wheat and Barley 2016-17, 2017-18, 2018-19.

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