



## NIAW 917 — New variety of bread wheat

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Bread wheat (*Triticum aestivum*) is an important cereal crop after rice in India. In Maharashtra, it occupies second position next to sorghum and is cultivated on an area of about 7.557 lakh ha with the total production of 10.163 lakh M.T., having average productivity of 1345 kg/ha as against the national productivity of 2742 kg/ha (2004-05). India is occupying the second position next to China in wheat production from last ten years. India achieved an all time record production of 76.37 million tonnes in the year 1999-2000. In the Peninsular region of the country which comprises the states of Maharashtra, Karnataka, Goa, Andhra Pradesh, and plains of Tamil Nadu, the wheat growing season is comparatively short and leaf and stem rusts are the important diseases. Keeping this fact in view, NIAW 917 has been developed from a cross between two genetically diverse genotypes GW 244 and Bob White following pedigree method of selection. NIAW 917 has been found suitable for commercial cultivation under timely sown high fertility condition of peninsular parts of the country. The principle qualitative characteristics viz., grain appearance score, hectoliter weight, protein content, sedimentation value, high molecular weight glutenin, phenol test and chapatti quality of NIAW 917 have been observed superior to check varieties. The other distinguishable characteristics of NIAW 917 are: medium plant height, dark green medium waxy foliage, good tillering, intermediate leaf width and earhead with normal awn length. It has medium bold, amber, hard grains with round cheeks, narrow crease width and ovoid shape.

NIAW 917 gave consistently higher yield (Table 1) over popular varieties at various locations of Peninsular Zone indicating good adaptability and stability for higher grain yield [1, 2]. NIAW 917 took 70 to 76 days to flower and 105 to 117 days to maturity. It has plant height of 83-90 cm. Estimates of quality characteristics (Table 2) indicated that NIAW 917 has also been found acceptable [3]. Considering the high yield potential and other desirable traits, the Central Sub-Committee on Crop Standards, Notification and Release of Varieties for Agricultural Crops released

**Table 1.** Mean performance of wheat variety NIAW 917 in co-ordinated trials in peninsular zone of India

Name of the trial	Year of testing	No. of trials	Yield q/ha			Per cent increase over check varieties	
			NIAW 917	MACS 2496	GW 190	MACS 2496	GW 190
NIVT 2	2002-03	5	37.0	35.6	36.3	3.93	1.92
				HD 2189	Raj 4037	HD 2189	Raj 4037
AVT I	2003-04	11	44.0	38.7	43.9	13.69	0.22
AVT II	2004-05	10	49.1	40.1	47.1	22.44	4.24
Frequency in the top groups			10/21	0/21	9/21		

**Table 2.** Mean performance for quality characteristics of wheat variety NIAW 917 in co-ordinated trials in Peninsular Zone

Quality characteristics	NIAW 917	HD 2189	RAJ 4037
Grain appearance score (max. score 10)	6.53	6.30	6.40
Hectolitre weight (kg/lit.)	80.97	83.56	83.50
Protein content (%)	12.80	12.81	11.64
Sedimentation value (ml)	39.43	38.33	46.00
High molecular weight glutenin GLU 1 score	9.00	8.00	8.00
Moisture content %	9.68	9.65	9.45
Phenol test (Max. score 10)	4.95	6.95	4.25
Chapati quality (Max. score 10)	7.48	7.71	7.67

NIAW 917 for cultivation under timely sown irrigated conditions of Peninsular Zone in August, 2005 [4].

**Table 3.** Reaction of wheat variety NIAW 917 against major diseases

Reaction to the major diseases	Year	Proposed variety NIAW 917	Check variety	
			HD 2189	RAJ 4037
Brown Rust (Artificial)	2002-03	3.4 (30S)	4.7 (10S)	1.9 (10MS)
	2003-04	1.5 (10MS)	8.5 (20S)	3.3 (30MS)
	2004-05	7.0 (40MS)	10.1 (30S)	4.7 (20MS)
Brown rust (Natural)	2002-03	1.7 (5S)	2.25 (10MS)	0.0
	2003-04	0.0	5S	0.0
	2004-05	10.0 (40S*)	18.0 (40S)	0.4 (5MR)
Black rust (Artificial)	2002-03	2.7 (10MS)	4.5 (40MR)	7.0 (40MR)
	2003-04	2.5 (5MS)	5.3 (15MS)	10.3 (30MS)
	2004-05	3.3 (20MR)	9.3 (30MS)	7.3 (30MS)
Black rust (Natural)	2002-03	10 MS	10MR	5MS
	2003-04	ND	ND	ND
	2004-05	20MR	5MR	10MR
Gene postulation	Sr	31+5+2+	-	2+
	Lr	26+23+1+	13+34+	-
	Yr	9+	2KS+8+	-
Leaf blight natural	2002-03	13	12	35
	2003-04	12	23	12
	2004-05	23	12	23
Black point	2002-03	78	58	68
	2003-04	0	2	4
	2004-05	-	-	-

**Fig. 1.** NIAW - 917

#### References

1. **Anonymous.** 2003. Progress Report. All India co-ordinated Wheat and Barley Improvement project. Directorate Wheat Research, Karnal.
2. **Anonymous.** 2004. Progress Report. All India co-ordinated Wheat and Barley Improvement project. Directorate Wheat Research, Karnal.
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