

प्रगति प्रतिवेदन  
**PROGRESS REPORT**  
**2018-19**



अखिल भारतीय समन्वित  
गेहूँ एवं जौ अनुसंधान परियोजना

**AICRP on  
Wheat and Barley**



गुणवत्ता  
**QUALITY**

भा.कृ.अनु.प.-भारतीय गेहूँ एवं जौ अनुसंधान संस्थान, करनाल  
**ICAR-Indian Institute of Wheat and Barley Research, Karnal**



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**All India Coordinated Research Project on Wheat & Barley**

**PROGRESS REPORT  
2018 - 19**

**WHEAT QUALITY**

**Sewa Ram  
Sneh Narwal  
O.P. Gupta  
G.P. Singh**



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In the end, it is stated that although utmost care has been taken to avoid any error in presentation of the results in this report, any error/omission is unintended and may please be brought to the notice of the undersigned.

Dated: 31<sup>st</sup> July, 2019

**(Sewa Ram)**  
Principal Investigator  
(Wheat Quality)

## Number of entries evaluated under Advance Varietal Trials

Station	Zone	Condition	No. of entries	
			<i>T. aestivum</i>	<i>T. durum</i>
Almora	NHZ	ITS, RTS, RILS	20	-
Shimla	NHZ	ITS, RTS, RILS	20	-
Malan	NHZ	ITS, RTS, RILS	20	-
Ludhiana	NWPZ	ITS, ILS, RITS	28	-
Hisar	NWPZ	ITS, ILS, RITS	28	-
Delhi	NWPZ	ITS, ILS, RITS	28	-
Pantnagar	NWPZ	ITS, ILS, RITS	28	-
Durgapura	NWPZ	ITS, ILS	18	-
Kanpur	NEPZ	ITS, RITS	19	-
Pusa	NEPZ	ITS, RITS	19	-
Sabour	NEPZ	ITS, RITS	19	-
Vijapur	CZ	ITS, ILS, RITS	16	13
Junagarh	CZ	ITS, ILS, RITS	16	13
Powerkheda	CZ	ITS, ILS, RITS	16	13
Indore	CZ	ITS, ILS, RITS	16	13
Pune	PZ	ITS, ILS, RITS	17	13
Dharwad	PZ	ITS, ILS, RITS	17	13
Niphad	PZ	ITS, ILS, RITS	17	13

### Number of entries evaluated in National Initial Varietal Trials

Trial	Condition	Entries	Zone	Stations
NIVT 1A	ITS	36	NWPZ	Ludhiana, Delhi, Hisar, Pantnagar, Durgapura
			NEPZ	Pusa, Sabour, Varanasi, Kanpur
NIVT 1B	ITS	36	NWPZ	Ludhiana, Delhi, Hisar, Durgapura, Pantnagar
			NEPZ	Sabour, Pusa, Kanpur, Varanasi
NIVT 2	ITS	36	CZ	Indore, Vijapur, Junagarh, Powarkheda
			PZ	Pune, Dharwad, Niphad, Nippani, Ugar
NIVT 3A	ILS	36	NWPZ	Ludhiana, Hisar, Pantnagar, Delhi, Durgapura
			NEPZ	Samastipur, Sabour, Kanpur
NIVT 3B	ILS	25	CZ	Indore, Vijapur, Junagarh, Powarkheda
			PZ	Pune, Dharwad, Niphad
NIVT 4	ITS	25	CZ	Indore, Vijapur, Junagarh, Powarkheda
			PZ	Dharwad, Niphad, Pune, Nippani
NIVT 5A	RITS	25	NWPZ	Ludhiana, Delhi, Hisar, Pantnagar
			NEPZ	Kanpur, Pusa, sabour, Varanasi
NIVT 5B	RITS	25	CZ	P'Kheda, Indore, Vijapur, Junagarh
			PZ	Dharwad, Niphad, Pune, Bagolkot
IVT	RFTS	16	NHZ	Almora, Shimla, Malan

### Number of entries evaluated in Special Trials

Trial	Condition	Entries	Zone	Stations
HYPT		15	NWPZ	Karnal, Ludhiana, Hisar
SPL-VLS		8	NWPZ	Ludhiana, Delhi, Hisar, Pantnagar, Karnal
			NEPZ	Kanpur, Sabour
Dicoccum	ITS	7	PZ	Arabhazi, Dharwad, Pune, Ugar, Kalloli
Alkalinity/ Salinity		7	NWPZ	Karnal, Kanpur, Hisar, Ayodhya

### Number of entries evaluated under Nurseries

Trial	Condition	Entries	Zone	Stations
QCWBN	ITS	52	NWPZ	Ludhiana, Delhi, Pantnagar, Karnal
			NEPZ	Kanpur, Sabour
			CZ	Jabalpur, Vijapur, Indore, P'Kheda
			PZ	Pune, Dharwad

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# **SECTION A**

## **ADVANCE VARIETAL TRIALS**

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## ADVANCE VARIETAL TRIALS

The traits recorded for different advanced trials were Grain Appearance Score, Hectolitre Weight, Grain Protein Content (on 12 % moisture basis), Grain Hardness Index, Sedimentation Value, Phenol test and Iron and Zinc content in both bread wheat and durum wheat and yellow pigment and yellow berry were additional traits recorded in durum wheat.

- The *T. aestivum* entries were tested under Irrigated Timely Sown (ITS), Rainfed Timely Sown (RTS) and Restricted Irrigated Late Sown (RILS) conditions in Northern Hills Zone (NHZ) and the data is given in tables 1-8.
- In North Western Plains Zone (NWPZ), the entries were tested under Irrigated Timely Sown (ITS), Irrigated Late Sown (ILS) and Restricted Irrigated Timely Sown (RITS) conditions and the data is given in tables 9-16.
- The trial was conducted under two conditions namely Irrigated Timely Sown (ITS) and Restricted Irrigated Timely Sown (RITS) in North Eastern Plains Zone (NEPZ) and the data is given in tables 17-24.
- The *T. aestivum* and *T. durum* entries were tested under Irrigated Timely Sown (ITS), Irrigated Late Sown (ILS) and Restricted Irrigated Timely Sown (RITS) conditions in Central Zone and the data is given in tables 25-34.
- In Peninsular Zone, the *T. aestivum* and *T. durum* entries were tested under Irrigated Timely Sown (ITS), Irrigated Late Sown (ILS) and Restricted Irrigated Timely Sown (RITS) conditions and the data is given in tables 35-44.
- One hundred and nine (109) AVT, IVT and special trial entries including checks were evaluated for High Molecular Weight Glutenin Subunits (HMW-GS) encoded by *Glu-A1*, *Glu-B1* and *Glu-D1* loci and the data is given in tables 45-51.

Remark: Grain hardness was measured from one centre of each zone.

**Table 1: Grain appearance score (Max-10) of *T. aestivum* genotypes in Northern Hills Zone (NHZ) AVTs**

Sr. No.	Entries	Code	Almora	Shimla	Malan	Mean
<b>Irrigated Timely Sown</b>						
1	HPW349 (C)	1801	5.6	5.0	5.4	<b>5.3</b>
2	VL907 (C)	1802	5.2	5.0	5.2	<b>5.1</b>
3	HS507 (C)	1803	5.8	4.6	5.4	<b>5.3</b>
4	HS562 (C)	1805	6.0	5.2	5.2	<b>5.5</b>
5	HS652	1804	5.2	5.0	5.0	<b>5.1</b>
<b>Mean</b>			<b>5.6</b>	<b>5.0</b>	<b>5.2</b>	<b>5.3</b>
<b>Rainfed Timely Sown</b>						
1	HPW349 (C)	1801	4.8	5.2	5.8	<b>5.3</b>
2	VL907 (C)	1802	5.2	5.0	6.2	<b>5.5</b>
3	HS507 (C)	1803	5.4	4.8	6.4	<b>5.5</b>
4	HS562 (C)	1805	5.4	5.2	6.0	<b>5.5</b>
5	HS652	1804	5.2	4.8	6.0	<b>5.3</b>
<b>Mean</b>			<b>5.2</b>	<b>5.0</b>	<b>6.1</b>	<b>5.4</b>
<b>Restricted Irrigated Late Sown</b>						
1	VL892 (C)	1801	4.4	5.2	6.0	<b>5.2</b>
2	HS490 (C)	1802	4.6	4.6	5.6	<b>4.9</b>
3	HPW468	1803	6.6	5.0	6.6	<b>6.1</b>
4	HS673	1804	6.2	5.0	6.6	<b>5.9</b>
5	VL3020	1805	6.0	4.4	6.0	<b>5.5</b>
6	UP3041	1806	6.4	5.0	6.6	<b>6.0</b>
7	HPW467	1807	4.6	4.8	6.6	<b>5.3</b>
8	HS674	1808	4.4	4.8	6.2	<b>5.1</b>
9	VL3019	1809	6.2	6.0	6.6	<b>6.3</b>
10	VL3021	1810	4.8	5.4	6.4	<b>5.5</b>
<b>Mean</b>			<b>5.4</b>	<b>5.0</b>	<b>6.3</b>	<b>5.6</b>

**Table 2: Hectolitre weight (Kg/hl) of *T. aestivum* genotypes in Northern Hills Zone (NHZ) AVTs**

Sr. No.	Entries	Code	Almora	Shimla	Malan	Mean
<b>Irrigated Timely Sown</b>						
1	HPW349 (C)	1801	79.3	81.6	82.5	<b>81.1</b>
2	VL907 (C)	1802	76.0	80.0	79.3	<b>78.4</b>
3	HS507 (C)	1803	79.2	81.5	81.3	<b>80.7</b>
4	HS562 (C)	1805	80.4	80.6	81.8	<b>80.9</b>
5	HS652	1804	78.8	81.0	80.2	<b>80.0</b>
<b>Mean</b>			<b>78.7</b>	<b>80.9</b>	<b>81.0</b>	<b>80.2</b>
<b>Rainfed Timely Sown</b>						
1	HPW349 (C)	1801	77.7	78.5	82.8	<b>79.7</b>
2	VL907 (C)	1802	78.0	79.8	80.7	<b>79.5</b>
3	HS507 (C)	1803	78.0	79.3	82.0	<b>79.8</b>
4	HS562 (C)	1805	77.5	78.0	81.3	<b>78.9</b>
5	HS652	1804	77.0	77.5	81.7	<b>78.7</b>
<b>Mean</b>			<b>77.6</b>	<b>78.6</b>	<b>81.7</b>	<b>79.3</b>
<b>Restricted Irrigated Late Sown</b>						
1	VL892 (C)	1801	74.5	81.2	80.1	<b>78.6</b>
2	HS490 (C)	1802	72.0	75.5	77.0	<b>74.8</b>
3	HPW468	1803	79.4	81.5	80.6	<b>80.5</b>
4	HS673	1804	78.8	82.7	81.8	<b>81.1</b>
5	VL3020	1805	74.2	78.2	77.5	<b>76.6</b>
6	UP3041	1806	77.0	80.0	79.0	<b>78.7</b>
7	HPW467	1807	73.4	79.4	79.6	<b>77.5</b>
8	HS674	1808	75.3	80.0	79.5	<b>78.3</b>
9	VL3019	1809	81.0	84.0	81.2	<b>82.1</b>
10	VL3021	1810	74.4	79.6	79.6	<b>77.9</b>
<b>Mean</b>			<b>76.0</b>	<b>80.2</b>	<b>79.6</b>	<b>78.6</b>

**Table 3: Protein content (%) at 12% moisture basis of *T. aestivum* genotypes in Northern Hills Zone (NHZ) AVTs**

Sr. No.	Entries	Code	Almora	Shimla	Malan	Mean
<b>Irrigated Timely Sown</b>						
1	HPW349 (C)	1801	10.73	6.60	7.91	<b>8.41</b>
2	VL907 (C)	1802	11.64	6.74	9.68	<b>9.35</b>
3	HS507 (C)	1803	11.07	7.91	9.43	<b>9.47</b>
4	HS562 (C)	1805	9.83	6.90	8.06	<b>8.26</b>
5	HS652	1804	10.23	6.54	8.48	<b>8.42</b>
<b>Mean</b>			<b>10.70</b>	<b>6.94</b>	<b>8.71</b>	<b>8.78</b>
<b>Rainfed Timely Sown</b>						
1	HPW349 (C)	1801	9.99	7.67	8.88	<b>8.85</b>
2	VL907 (C)	1802	9.40	8.29	9.62	<b>9.10</b>
3	HS507 (C)	1803	10.00	8.03	9.19	<b>9.07</b>
4	HS562 (C)	1805	10.18	7.28	8.78	<b>8.75</b>
5	HS652	1804	10.13	7.38	9.27	<b>8.92</b>
<b>Mean</b>			<b>9.94</b>	<b>7.73</b>	<b>9.15</b>	<b>8.94</b>
<b>Restricted Irrigated Late Sown</b>						
1	VL892 (C)	1801	11.76	8.38	12.96	<b>11.03</b>
2	HS490 (C)	1802	11.94	8.19	11.98	<b>10.71</b>
3	HPW468	1803	12.26	8.58	13.45	<b>11.43</b>
4	HS673	1804	11.80	8.76	12.30	<b>10.95</b>
5	VL3020	1805	11.96	8.49	11.57	<b>10.67</b>
6	UP3041	1806	12.69	8.83	12.56	<b>11.36</b>
7	HPW467	1807	12.32	8.47	12.43	<b>11.07</b>
8	HS674	1808	12.10	8.29	13.67	<b>11.35</b>
9	VL3019	1809	12.81	11.32	14.10	<b>12.74</b>
10	VL3021	1810	12.45	8.95	12.39	<b>11.26</b>
<b>Mean</b>			<b>12.21</b>	<b>8.83</b>	<b>12.74</b>	<b>11.26</b>

**Table 4: Sedimentation value (ml) of *T. aestivum* genotypes in Northern Hills Zone (NHZ) AVTs**

<b>Sr. No.</b>	<b>Entries</b>	<b>Code</b>	<b>Almora</b>	<b>Shimla</b>	<b>Malan</b>	<b>Mean</b>
<b>Irrigated Timely Sown</b>						
1	HPW349 (C)	1801	69.1	52.6	59.7	<b>60.5</b>
2	VL907 (C)	1802	38.5	33.8	44.6	<b>39.0</b>
3	HS507 (C)	1803	47.0	43.2	50.3	<b>46.8</b>
4	HS562 (C)	1805	66.8	47.9	58.8	<b>57.8</b>
5	HS652	1804	54.5	40.9	55.0	<b>50.1</b>
<b>Mean</b>			<b>55.2</b>	<b>43.7</b>	<b>53.7</b>	<b>50.9</b>
<b>Rainfed Timely Sown</b>						
1	HPW349 (C)	1801	68.6	53.1	64.4	<b>62.1</b>
2	VL907 (C)	1802	47.9	34.8	43.2	<b>42.0</b>
3	HS507 (C)	1803	64.9	43.2	50.3	<b>52.8</b>
4	HS562 (C)	1805	76.2	47.5	64.4	<b>62.7</b>
5	HS652	1804	57.3	42.3	59.7	<b>53.1</b>
<b>Mean</b>			<b>63.0</b>	<b>44.2</b>	<b>56.4</b>	<b>54.5</b>
<b>Restricted Irrigated Late Sown</b>						
1	VL892 (C)	1801	50.8	41.3	59.7	<b>50.6</b>
2	HS490 (C)	1802	44.2	33.8	48.9	<b>42.3</b>
3	HPW468	1803	55.0	43.2	47.9	<b>48.7</b>
4	HS673	1804	71.0	50.3	72.4	<b>64.6</b>
5	VL3020	1805	50.3	38.5	50.3	<b>46.4</b>
6	UP3041	1806	50.3	39.5	47.9	<b>45.9</b>
7	HPW467	1807	66.8	50.3	64.4	<b>60.5</b>
8	HS674	1808	70.5	48.9	67.2	<b>62.2</b>
9	VL3019	1809	55.0	44.2	47.9	<b>49.0</b>
10	VL3021	1810	70.1	50.3	64.4	<b>61.6</b>
<b>Mean</b>			<b>58.4</b>	<b>44.0</b>	<b>57.1</b>	<b>53.2</b>

**Table 5: Phenol test (Max-10) of *T. aestivum* genotypes in Northern Hills Zone (NHZ) AVTs**

<b>Sr. No.</b>	<b>Entries</b>	<b>Code</b>	<b>Almora</b>	<b>Shimla</b>	<b>Malan</b>	<b>Mean</b>
<b>Irrigated Timely Sown</b>						
1	HPW349 (C)	1801	8.0	6.0	7.5	<b>7.2</b>
2	VL907 (C)	1802	7.5	6.0	8.0	<b>7.2</b>
3	HS507 (C)	1803	8.0	6.0	8.5	<b>7.5</b>
4	HS562 (C)	1805	8.5	6.5	8.0	<b>7.7</b>
5	HS652	1804	8.0	6.0	8.5	<b>7.5</b>
<b>Mean</b>			<b>8.0</b>	<b>6.1</b>	<b>8.1</b>	<b>7.4</b>
<b>Rainfed Timely Sown</b>						
1	HPW349 (C)	1801	8.5	6.0	7.5	<b>7.3</b>
2	VL907 (C)	1802	7.0	6.0	7.5	<b>6.8</b>
3	HS507 (C)	1803	7.0	6.0	7.0	<b>6.7</b>
4	HS562 (C)	1805	5.0	6.0	7.5	<b>6.2</b>
5	HS652	1804	6.5	6.0	6.5	<b>6.3</b>
<b>Mean</b>			<b>6.8</b>	<b>6.0</b>	<b>7.2</b>	<b>6.7</b>
<b>Restricted Irrigated Late Sown</b>						
1	VL892 (C)	1801	8.0	6.5	7.5	<b>7.3</b>
2	HS490 (C)	1802	7.5	6.0	7.0	<b>6.8</b>
3	HPW468	1803	6.5	4.0	4.5	<b>5.0</b>
4	HS673	1804	6.0	4.0	4.0	<b>4.7</b>
5	VL3020	1805	9.0	4.0	5.0	<b>6.0</b>
6	UP3041	1806	7.5	6.5	7.5	<b>7.2</b>
7	HPW467	1807	8.0	7.0	7.5	<b>7.5</b>
8	HS674	1808	9.0	7.0	7.5	<b>7.8</b>
9	VL3019	1809	9.0	7.5	8.0	<b>8.2</b>
10	VL3021	1810	8.5	7.0	7.5	<b>7.7</b>
<b>Mean</b>			<b>7.9</b>	<b>6.0</b>	<b>6.6</b>	<b>6.8</b>

**Table 6: Hardness index of *T. aestivum* genotypes in Northern Hills Zone (NHZ) AVTs**

Sr. No.	Entries	Code	Almora	Shimla	Malan	Mean
<b>Irrigated Timely Sown</b>						
1	HPW349 (C)	1801			66.8	66.8
2	VL907 (C)	1802			71.8	71.8
3	HS507 (C)	1803			81.9	81.9
4	HS562 (C)	1805			75.6	75.6
5	HS652	1804			74.7	74.7
<b>Mean</b>					<b>74.2</b>	<b>74.2</b>
<b>Rainfed Timely Sown</b>						
1	HPW349 (C)	1801			75.7	75.7
2	VL907 (C)	1802			76.0	76.0
3	HS507 (C)	1803			83.5	83.5
4	HS562 (C)	1805			80.7	80.7
5	HS652	1804			79.4	79.4
<b>Mean</b>					<b>79.1</b>	<b>79.1</b>
<b>Restricted Irrigated Late Sown</b>						
1	VL892 (C)	1801			71.2	71.2
2	HS490 (C)	1802			29.2	29.2
3	HPW468	1803			76.8	76.8
4	HS673	1804			76.1	76.1
5	VL3020	1805			64.1	64.1
6	UP3041	1806			75.8	75.8
7	HPW467	1807			77.1	77.1
8	HS674	1808			61.1	61.1
9	VL3019	1809			73.5	73.5
10	VL3021	1810			70.5	70.5
<b>Mean</b>					<b>67.6</b>	<b>67.6</b>

**Table 7: Grain Iron content (ppm) of *T. aestivum* genotypes in Northern Hills Zone (NHZ) AVTs**

Sr. No.	Entries	Code	Almora	Shimla	Malan	Mean
<b>Irrigated Timely Sown</b>						
1	HPW349 (C)	1801	35.9	33.5	43.4	<b>37.6</b>
2	VL907 (C)	1802	36.8	34.5	42.0	<b>37.8</b>
3	HS507 (C)	1803	37.4	37.4	48.4	<b>41.1</b>
4	HS562 (C)	1805	38.6	35.0	36.0	<b>36.5</b>
5	HS652	1804	36.5	36.5	39.0	<b>37.3</b>
<b>Mean</b>			<b>37.0</b>	<b>35.4</b>	<b>41.8</b>	<b>38.1</b>
<b>Rainfed Timely Sown</b>						
1	HPW349 (C)	1801	37.8	34.8	42.3	<b>38.3</b>
2	VL907 (C)	1802	38.5	37.0	45.9	<b>40.5</b>
3	HS507 (C)	1803	42.2	35.2	37.9	<b>38.4</b>
4	HS562 (C)	1805	41.7	42.0	43.0	<b>42.2</b>
5	HS652	1804	41.4	36.0	37.6	<b>38.3</b>
<b>Mean</b>			<b>40.3</b>	<b>37.0</b>	<b>41.3</b>	<b>39.6</b>
<b>Restricted Irrigated Late Sown</b>						
1	VL892 (C)	1801	36.5	35.3	43.7	<b>38.5</b>
2	HS490 (C)	1802	36.8	41.0	38.3	<b>38.7</b>
3	HPW468	1803	39.8	36.8	45.0	<b>40.5</b>
4	HS673	1804	39.0	38.6	48.5	<b>42.0</b>
5	VL3020	1805	36.3	33.8	47.0	<b>39.0</b>
6	UP3041	1806	43.1	37.1	43.5	<b>41.2</b>
7	HPW467	1807	38.1	33.1	42.3	<b>37.8</b>
8	HS674	1808	36.4	34.5	48.2	<b>39.7</b>
9	VL3019	1809	39.4	46.4	38.6	<b>41.5</b>
10	VL3021	1810	38.9	36.6	35.9	<b>37.1</b>
<b>Mean</b>			<b>38.4</b>	<b>37.3</b>	<b>43.1</b>	<b>39.6</b>



**Table 8: Grain Zinc content (ppm) of *T. aestivum* genotypes in Northern Hills Zone (NHZ) AVTs**

<b>Sr. No.</b>	<b>Entries</b>	<b>Code</b>	<b>Almora</b>	<b>Shimla</b>	<b>Malan</b>	<b>Mean</b>
<b>Irrigated Timely Sown</b>						
1	HPW349 (C)	1801	48.6	34.2	31.8	<b>38.2</b>
2	VL907 (C)	1802	45.1	27.7	27.7	<b>33.5</b>
3	HS507 (C)	1803	43.7	32.9	32.2	<b>36.3</b>
4	HS562 (C)	1805	46.0	30.6	28.0	<b>34.9</b>
5	HS652	1804	48.0	32.2	35.5	<b>38.6</b>
<b>Mean</b>			<b>46.3</b>	<b>31.5</b>	<b>31.0</b>	<b>36.3</b>
<b>Rainfed Timely Sown</b>						
1	HPW349 (C)	1801	31.0	28.5	23.5	<b>27.7</b>
2	VL907 (C)	1802	27.6	27.5	23.0	<b>26.0</b>
3	HS507 (C)	1803	29.6	27.4	20.5	<b>25.8</b>
4	HS562 (C)	1805	29.3	26.8	23.0	<b>26.4</b>
5	HS652	1804	31.6	25.5	23.3	<b>26.8</b>
<b>Mean</b>			<b>29.8</b>	<b>27.1</b>	<b>22.7</b>	<b>26.5</b>
<b>Restricted Irrigated Late Sown</b>						
1	VL892 (C)	1801	45.1	31.2	30.6	<b>35.6</b>
2	HS490 (C)	1802	43.7	31.6	32.3	<b>35.9</b>
3	HPW468	1803	42.5	30.1	33.5	<b>35.4</b>
4	HS673	1804	53.6	40.9	32.6	<b>42.4</b>
5	VL3020	1805	39.9	28.3	22.9	<b>30.4</b>
6	UP3041	1806	57.2	35.4	32.7	<b>41.8</b>
7	HPW467	1807	42.2	28.7	28.4	<b>33.1</b>
8	HS674	1808	35.4	32.9	32.0	<b>33.4</b>
9	VL3019	1809	53.2	40.6	34.7	<b>42.8</b>
10	VL3021	1810	40.7	30.2	28.0	<b>33.0</b>
<b>Mean</b>			<b>45.4</b>	<b>33.0</b>	<b>30.8</b>	<b>36.4</b>

**Table 9: Grain appearance score (Max-10) of *T. aestivum* genotypes in North Western Plains Zone (NWPZ) AVTs**

Sr. No.	Entries	Code	Ludhiana	Hisar	Delhi	Pantnagar	Durgapura	Mean
<b>Irrigated Timely Sown</b>								
1	DBW 221*	105	6.0	6.0	6.2	5.8	6.2	<b>6.0</b>
2	DBW 222*	106	5.8	6.4	6.2	5.8	6.4	<b>6.1</b>
3	WH1105 (C)	101	6.0	6.8	6.2	6.0	6.6	<b>6.3</b>
4	HD3226(I) (C)	102	6.2	7.0	6.4	6.0	6.4	<b>6.4</b>
5	HD3086 (C)	103	6.6	7.2	6.2	6.0	6.6	<b>6.5</b>
6	PBW550 (C)	107	5.4	6.8	6.2	6.0	6.4	<b>6.2</b>
7	HD2967 (C)	109	5.8	6.4	6.0	5.8	6.2	<b>6.0</b>
8	DPW621-50 (C)	111	5.8	6.4	6.0	5.6	6.2	<b>6.0</b>
9	DBW88 (C)	112	5.6	6.4	6.0	5.4	6.2	<b>5.9</b>
10	PBW820 <sup>M</sup>	104	5.8	6.4	6.0	5.8	6.4	<b>6.1</b>
11	PBW821 <sup>M</sup>	108	6.0	6.4	6.2	6.0	6.6	<b>6.2</b>
12	NW 7049	110	6.4	7.0	6.2	6.0	6.6	<b>6.4</b>
<b>Mean</b>			<b>6.0</b>	<b>6.6</b>	<b>6.2</b>	<b>5.9</b>	<b>6.4</b>	<b>6.2</b>
<b>Irrigated Late Sown</b>								
1	PBW 771*	206	6.4	6.6	6.2	6.2	6.6	<b>6.4</b>
2	PBW752(I) (C)	201	6.8	6.6	6.0	6.0	6.6	<b>6.4</b>
3	DBW173 (C)	202	6.4	6.4	6.0	6.0	6.2	<b>6.2</b>
4	WH1021 (C)	203	6.2	6.2	5.8	6.0	6.2	<b>6.1</b>
5	HD3059 (C)	204	6.6	6.0	6.0	5.8	6.2	<b>6.1</b>
6	WH1124 (C)	205	6.6	6.8	6.0	6.0	6.8	<b>6.4</b>
<b>Mean</b>			<b>6.5</b>	<b>6.4</b>	<b>6.0</b>	<b>6.0</b>	<b>6.4</b>	<b>6.3</b>
<b>Restricted Irrigated Timely Sown</b>								
1	HI 1628*	303	6.4	7.0	6.2	6.2		<b>6.5</b>
2	NIAW 3170*	309	6.0	6.4	5.8	6.0		<b>6.1</b>
3	BRW 3806* <sup>#</sup>	308	5.8	6.2	6.0	6.2		<b>6.1</b>
4	HI1620(I) (C)	301	6.2	6.8	6.4	6.2		<b>6.4</b>
5	WH1142 (C)	304	5.2	6.0	6.2	6.0		<b>5.9</b>
6	HD3043 (C)	305	5.0	7.0	6.0	6.0		<b>6.0</b>
7	PBW644 (C)	306	5.8	7.2	6.2	6.6		<b>6.5</b>
8	HD3237(I) (C)	307	6.2	6.0	5.8	6.0		<b>6.0</b>
9	WH1080 (C)	310	5.8	6.0	5.8	6.0		<b>5.9</b>
10	PBW 796	302	6.2	7.2	6.4	6.2		<b>6.5</b>
<b>Mean</b>			<b>5.9</b>	<b>6.6</b>	<b>6.1</b>	<b>6.1</b>		<b>6.2</b>

**Table 10: Hectolitre weight (Kg/hl) of *T. aestivum* genotypes in North Western Plains Zone (NWPZ) AVTs**

Sr. No.	Entries	Code	Ludhiana	Hisar	Delhi	Pantnagar	Durgapura	Mean
<b>Irrigated Timely Sown</b>								
1	DBW 221*	105	77.7	81.6	83.5	80.0	82.0	<b>81.0</b>
2	DBW 222*	106	72.0	79.5	78.4	78.4	78.6	<b>77.4</b>
3	WH1105 (C)	101	75.3	81.0	80.8	80.2	80.8	<b>79.6</b>
4	HD3226(I) (C)	102	77.6	79.0	80.0	79.0	78.0	<b>78.7</b>
5	HD3086 (C)	103	78.3	80.2	81.0	79.7	81.0	<b>80.0</b>
6	PBW550 (C)	107	68.3	80.6	80.0	80.0	80.0	<b>77.8</b>
7	HD2967 (C)	109	73.6	80.6	80.6	79.0	77.5	<b>78.3</b>
8	DPW621-50 (C)	111	73.2	80.5	79.0	78.2	79.2	<b>78.0</b>
9	DBW88 (C)	112	72.5	81.0	80.7	79.4	79.5	<b>78.6</b>
10	PBW820 <sup>M</sup>	104	75.3	78.6	79.6	79.3	80.6	<b>78.7</b>
11	PBW821 <sup>M</sup>	108	77.5	81.8	81.0	80.0	81.8	<b>80.4</b>
12	NW 7049	110	78.6	80.0	80.0	79.4	80.0	<b>79.6</b>
<b>Mean</b>			<b>75.0</b>	<b>80.4</b>	<b>80.4</b>	<b>79.4</b>	<b>79.9</b>	<b>79.0</b>
<b>Irrigated Late Sown</b>								
1	PBW 771*	206	78.0	80.6	79.6	79.4	76.3	<b>78.8</b>
2	PBW752(I) (C)	201	79.6	80.5	77.6	82.0	76.6	<b>79.3</b>
3	DBW173 (C)	202	76.6	79.5	77.5	79.6	73.2	<b>77.3</b>
4	WH1021 (C)	203	77.0	80.4	76.3	76.5	74.8	<b>77.0</b>
5	HD3059 (C)	204	77.5	79.5	76.4	80.8	73.6	<b>77.6</b>
6	WH1124 (C)	205	76.2	80.8	76.8	76.5	76.5	<b>77.4</b>
<b>Mean</b>			<b>77.5</b>	<b>80.2</b>	<b>77.4</b>	<b>79.1</b>	<b>75.2</b>	<b>77.9</b>
<b>Restricted Irrigated Timely Sown</b>								
1	HI 1628*	303	75.3	82.2	77.3	80.6		<b>78.9</b>
2	NIAW 3170*	309	72.2	80.0	80.0	79.0		<b>77.8</b>
3	BRW 3806* <sup>#</sup>	308	68.7	79.0	77.3	79.0		<b>76.0</b>
4	HI1620(I) (C)	301	74.3	81.0	77.0	80.8		<b>78.3</b>
5	WH1142 (C)	304	72.2	82.0	80.6	80.0		<b>78.7</b>
6	HD3043 (C)	305	72.0	81.8	81.6	81.8		<b>79.3</b>
7	PBW644 (C)	306	70.5	80.0	81.2	80.4		<b>78.0</b>
8	HD3237(I) (C)	307	75.0	80.7	78.2	80.2		<b>78.5</b>
9	WH1080 (C)	310	70.5	81.0	76.6	79.4		<b>76.9</b>
10	PBW 796	302	76.2	82.0	80.0	80.4		<b>79.7</b>
<b>Mean</b>			<b>72.7</b>	<b>81.0</b>	<b>79.0</b>	<b>80.2</b>		<b>78.2</b>

**Table 11: Protein content (%) at 12% moisture basis of *T. aestivum* genotypes in North Western Plains Zone (NWPZ) AVTs**

Sr. No.	Entries	Code	Ludhiana	Hisar	Delhi	Pantnagar	Durgapura	Mean
<b>Irrigated Timely Sown</b>								
1	DBW 221*	105	11.55	10.38	12.72	9.38	11.02	<b>11.01</b>
2	DBW 222*	106	11.64	9.49	12.05	9.06	10.87	<b>10.62</b>
3	WH1105 (C)	101	11.58	11.36	12.85	8.78	11.34	<b>11.18</b>
4	HD3226(I) (C)	102	12.46	12.05	14.26	10.95	13.28	<b>12.60</b>
5	HD3086 (C)	103	11.20	10.67	12.32	8.66	10.87	<b>10.74</b>
6	PBW550 (C)	107	11.96	10.76	13.31	10.02	12.63	<b>11.74</b>
7	HD2967 (C)	109	11.36	10.46	13.18	8.45	12.38	<b>11.17</b>
8	DPW621-50 (C)	111	11.44	10.60	13.08	9.84	10.94	<b>11.18</b>
9	DBW88 (C)	112	11.70	10.04	13.40	10.45	12.48	<b>11.61</b>
10	PBW820 <sup>M</sup>	104	11.59	12.22	14.26	9.10	11.67	<b>11.77</b>
11	PBW821 <sup>M</sup>	108	10.20	10.12	12.99	9.48	10.61	<b>10.68</b>
12	NW 7049	110	10.94	10.75	12.61	9.59	10.65	<b>10.91</b>
<b>Mean</b>			<b>11.47</b>	<b>10.74</b>	<b>13.09</b>	<b>9.48</b>	<b>11.56</b>	<b>11.27</b>
<b>Irrigated Late Sown</b>								
1	PBW 771*	206	11.14	9.83	11.67	9.64	12.75	<b>11.00</b>
2	PBW752(I) (C)	201	11.90	10.90	14.28	10.42	13.07	<b>12.11</b>
3	DBW173 (C)	202	12.27	10.02	12.54	9.51	13.31	<b>11.53</b>
4	WH1021 (C)	203	11.96	9.11	12.59	12.18	12.85	<b>11.74</b>
5	HD3059 (C)	204	12.48	10.01	12.69	10.22	13.12	<b>11.70</b>
6	WH1124 (C)	205	12.25	9.73	12.35	10.18	12.35	<b>11.37</b>
<b>Mean</b>			<b>12.00</b>	<b>9.93</b>	<b>12.69</b>	<b>10.36</b>	<b>12.91</b>	<b>11.58</b>
<b>Restricted Irrigated Timely Sown</b>								
1	HI 1628*	303	11.81	8.75	12.04	8.44		<b>10.26</b>
2	NIAW 3170*	309	11.73	9.67	11.84	10.11		<b>10.84</b>
3	BRW 3806* <sup>#</sup>	308	11.16	8.41	10.73	7.84		<b>9.54</b>
4	HI1620(I) (C)	301	12.49	8.88	12.50	9.18		<b>10.76</b>
5	WH1142 (C)	304	12.81	8.66	11.42	8.14		<b>10.26</b>
6	HD3043 (C)	305	12.91	9.08	11.56	8.71		<b>10.56</b>
7	PBW644 (C)	306	11.41	9.07	11.07	8.83		<b>10.09</b>
8	HD3237(I) (C)	307	11.79	9.32	11.96	8.78		<b>10.46</b>
9	WH1080 (C)	310	12.08	9.12	11.91	8.20		<b>10.33</b>
10	PBW 796	302	11.45	9.29	11.83	8.53		<b>10.27</b>
<b>Mean</b>			<b>11.96</b>	<b>9.02</b>	<b>11.69</b>	<b>8.68</b>		<b>10.34</b>

**Table 12: Sedimentation value (ml) of *T. aestivum* genotypes in North Western Plains Zone (NWPZ) AVTs**

Sr. No.	Entries	Code	Ludhiana	Hisar	Delhi	Pantnagar	Durgapura	Mean
<b>Irrigated Timely Sown</b>								
1	DBW 221*	105	50.8	47.5	62.1	52.6	57.3	<b>54.1</b>
2	DBW 222*	106	55.9	47.9	62.1	50.3	57.3	<b>54.7</b>
3	WH1105 (C)	101	74.8	54.5	64.4	52.6	66.3	<b>62.5</b>
4	HD3226(I) (C)	102	72.4	62.1	71.5	59.7	66.8	<b>66.5</b>
5	HD3086 (C)	103	52.6	43.2	48.9	43.2	43.2	<b>46.2</b>
6	PBW550 (C)	107	53.6	43.7	55.0	43.2	59.7	<b>51.0</b>
7	HD2967 (C)	109	51.2	52.2	62.1	47.9	66.3	<b>55.9</b>
8	DPW621-50 (C)	111	62.5	54.5	66.8	52.2	66.8	<b>60.5</b>
9	DBW88 (C)	112	60.2	50.3	69.1	50.3	71.5	<b>60.3</b>
10	PBW820 <sup>M</sup>	104	55.5	52.6	65.4	47.9	63.9	<b>57.1</b>
11	PBW821 <sup>M</sup>	108	55.5	50.3	64.4	54.1	69.1	<b>58.7</b>
12	NW 7049	110	57.3	45.1	71.9	47.9	54.5	<b>55.4</b>
<b>Mean</b>			<b>58.5</b>	<b>50.3</b>	<b>63.6</b>	<b>50.2</b>	<b>61.9</b>	<b>56.9</b>
<b>Irrigated Late Sown</b>								
1	PBW 771*	206	43.2	37.6	51.7	38.5	43.2	<b>42.9</b>
2	PBW752(I) (C)	201	73.8	62.1	71.9	62.1	64.4	<b>66.9</b>
3	DBW173 (C)	202	73.8	57.3	73.8	60.2	69.1	<b>66.9</b>
4	WH1021 (C)	203	47.0	39.0	50.3	43.2	41.8	<b>44.3</b>
5	HD3059 (C)	204	74.3	53.1	73.8	62.1	66.8	<b>66.0</b>
6	WH1124 (C)	205	64.4	50.3	72.9	57.3	52.6	<b>59.5</b>
<b>Mean</b>			<b>62.8</b>	<b>49.9</b>	<b>65.7</b>	<b>53.9</b>	<b>56.3</b>	<b>57.7</b>
<b>Restricted Irrigated Timely Sown</b>								
1	HI 1628*	303	52.6	43.7	73.8	38.1		<b>52.1</b>
2	NIAW 3170*	309	48.4	43.7	47.9	47.9		<b>47.0</b>
3	BRW 3806* <sup>#</sup>	308	55.5	47.9	72.4	42.8		<b>54.6</b>
4	HI1620(I) (C)	301	69.1	52.6	72.4	45.1		<b>59.8</b>
5	WH1142 (C)	304	54.5	39.5	62.1	36.2		<b>48.1</b>
6	HD3043 (C)	305	47.5	38.1	43.2	38.1		<b>41.7</b>
7	PBW644 (C)	306	46.1	41.8	45.6	41.8		<b>43.8</b>
8	HD3237(I) (C)	307	47.9	43.2	51.7	47.5		<b>47.6</b>
9	WH1080 (C)	310	67.7	46.5	64.4	49.3		<b>57.0</b>
10	PBW 796	302	50.8	49.8	66.8	47.9		<b>53.8</b>
<b>Mean</b>			<b>54.0</b>	<b>44.7</b>	<b>60.0</b>	<b>43.5</b>		<b>50.5</b>

**Table 13: Phenol test (Max-10) of *T. aestivum* genotypes in North Western Plains Zone (NWPZ) AVTs**

Sr. No.	Entries	Code	Ludhiana	Hisar	Delhi	Pantnagar	Durgapura	Mean
<b>Irrigated Timely Sown</b>								
1	DBW 221*	105	7.5	7.0	7.0	7.5	6.0	<b>7.0</b>
2	DBW 222*	106	8.0	8.0	7.5	7.5	7.5	<b>7.7</b>
3	WH1105 (C)	101	8.0	8.0	8.5	8.5	8.5	<b>8.3</b>
4	HD3226(I) (C)	102	7.0	7.5	7.5	8.0	6.0	<b>7.2</b>
5	HD3086 (C)	103	7.5	7.5	7.5	9.0	6.0	<b>7.5</b>
6	PBW550 (C)	107	7.0	7.5	8.5	8.5	8.0	<b>7.9</b>
7	HD2967 (C)	109	7.5	7.0	7.5	8.5	6.5	<b>7.4</b>
8	DPW621-50 (C)	111	8.5	8.0	8.0	8.0	7.5	<b>8.0</b>
9	DBW88 (C)	112	9.0	8.5	8.0	7.5	7.0	<b>8.0</b>
10	PBW820 <sup>M</sup>	104	7.5	8.5	8.0	8.0	8.0	<b>8.0</b>
11	PBW821 <sup>M</sup>	108	7.0	6.5	7.5	8.0	7.5	<b>7.3</b>
12	NW 7049	110	7.5	7.0	7.5	8.0	6.0	<b>7.2</b>
<b>Mean</b>			<b>7.7</b>	<b>7.6</b>	<b>7.8</b>	<b>8.1</b>	<b>7.0</b>	<b>7.6</b>
<b>Irrigated Late Sown</b>								
1	PBW 771*	206	8.0	7.0	7.0	7.5	6.0	<b>7.1</b>
2	PBW752(I) (C)	201	8.5	8.0	8.5	9.0	8.0	<b>8.4</b>
3	DBW173 (C)	202	8.5	8.5	9.0	9.0	8.0	<b>8.6</b>
4	WH1021 (C)	203	7.0	8.0	7.5	8.5	7.5	<b>7.7</b>
5	HD3059 (C)	204	8.0	8.5	7.5	8.5	7.5	<b>8.0</b>
6	WH1124 (C)	205	8.0	8.0	7.5	8.0	6.0	<b>7.5</b>
<b>Mean</b>			<b>8.0</b>	<b>8.0</b>	<b>7.8</b>	<b>8.4</b>	<b>7.2</b>	<b>7.9</b>
<b>Restricted Irrigated Timely Sown</b>								
1	HI 1628*	303	7.0	7.0	7.5	7.0		<b>7.1</b>
2	NIAW 3170*	309	6.5	6.5	8.0	6.5		<b>6.9</b>
3	BRW 3806* <sup>#</sup>	308	6.5	7.0	7.5	6.5		<b>6.9</b>
4	HI1620(I) (C)	301	8.0	8.0	8.5	7.5		<b>8.0</b>
5	WH1142 (C)	304	7.0	7.0	7.0	7.0		<b>7.0</b>
6	HD3043 (C)	305	6.5	6.5	7.5	7.0		<b>6.9</b>
7	PBW644 (C)	306	6.5	7.0	7.0	7.0		<b>6.9</b>
8	HD3237(I) (C)	307	6.5	6.5	7.0	7.0		<b>6.8</b>
9	WH1080 (C)	310	6.5	6.0	7.5	7.0		<b>6.8</b>
10	PBW 796	302	3.5	4.0	5.0	5.0		<b>4.4</b>
<b>Mean</b>			<b>6.5</b>	<b>6.6</b>	<b>7.3</b>	<b>6.8</b>		<b>6.8</b>

**Table 14: Hardness index of *T. aestivum* genotypes in North Western Plains Zone (NWPZ) AVTs**

Sr. No.	Entries	Code	Ludhiana	Hisar	Delhi	Pantnagar	Durgapura	Mean
<b>Irrigated Timely Sown</b>								
1	DBW 221*	105			74.4			<b>74.4</b>
2	DBW 222*	106			76.5			<b>76.5</b>
3	WH1105 (C)	101			72.3			<b>72.3</b>
4	HD3226(I) (C)	102			76.0			<b>76.0</b>
5	HD3086 (C)	103			77.2			<b>77.2</b>
6	PBW550 (C)	107			81.3			<b>81.3</b>
7	HD2967 (C)	109			76.0			<b>76.0</b>
8	DPW621-50 (C)	111			81.0			<b>81.0</b>
9	DBW88 (C)	112			78.5			<b>78.5</b>
10	PBW820 <sup>M</sup>	104			80.2			<b>80.2</b>
11	PBW821 <sup>M</sup>	108			85.7			<b>85.7</b>
12	NW 7049	110			81.1			<b>81.1</b>
<b>Mean</b>					<b>78.4</b>			<b>78.4</b>
<b>Irrigated Late Sown</b>								
1	PBW 771*	206			81.5			<b>81.5</b>
2	PBW752(I) (C)	201			86.4			<b>86.4</b>
3	DBW173 (C)	202			81.7			<b>81.7</b>
4	WH1021 (C)	203			84.4			<b>84.4</b>
5	HD3059 (C)	204			87.0			<b>87.0</b>
6	WH1124 (C)	205			87.4			<b>87.4</b>
<b>Mean</b>					<b>84.7</b>			<b>84.7</b>
<b>Restricted Irrigated Timely Sown</b>								
1	HI 1628*	303			84.8			<b>84.8</b>
2	NIAW 3170*	309			26.8			<b>26.8</b>
3	BRW 3806* <sup>#</sup>	308			80.9			<b>80.9</b>
4	HI1620(I) (C)	301			81.1			<b>81.1</b>
5	WH1142 (C)	304			90.1			<b>90.1</b>
6	HD3043 (C)	305			86.8			<b>86.8</b>
7	PBW644 (C)	306			82.9			<b>82.9</b>
8	HD3237(I) (C)	307			79.7			<b>79.7</b>
9	WH1080 (C)	310			82.3			<b>82.3</b>
10	PBW 796	302			70.5			<b>70.5</b>
<b>Mean</b>					<b>76.6</b>			<b>76.6</b>

**Table 15: Grain iron content (ppm) of *T. aestivum* genotypes in North Western Plains Zone (NWPZ) AVTs**

Sr. No.	Entries	Code	Ludhiana	Hisar	Delhi	Pantnagar	Durgapura	Mean
<b>Irrigated Timely Sown</b>								
1	DBW 221*	105	30.3	38.2	43.7	44.1	39.2	<b>39.1</b>
2	DBW 222*	106	26.4	33.9	44.8	35.1	37.0	<b>35.4</b>
3	WH1105 (C)	101	30.6	40.4	40.9	41.8	39.4	<b>38.6</b>
4	HD3226(I) (C)	102	33.1	37.2	41.6	34.7	36.9	<b>36.7</b>
5	HD3086 (C)	103	34.9	40.9	41.5	45.3	39.6	<b>40.4</b>
6	PBW550 (C)	107	27.7	38.7	39.9	41.9	38.0	<b>37.2</b>
7	HD2967 (C)	109	29.3	36.0	37.9	38.3	40.1	<b>36.3</b>
8	DPW621-50 (C)	111	27.7	37.8	42.9	37.9	37.5	<b>36.8</b>
9	DBW88 (C)	112	29.2	37.2	39.7	40.8	39.5	<b>37.3</b>
10	PBW820 <sup>M</sup>	104	32.3	39.2	42.7	42.4	38.7	<b>39.1</b>
11	PBW821 <sup>M</sup>	108	28.9	33.8	39.0	38.5	34.1	<b>34.9</b>
12	NW 7049	110	31.8	36.3	44.0	36.7	33.9	<b>36.5</b>
<b>Mean</b>			<b>30.2</b>	<b>37.5</b>	<b>41.5</b>	<b>39.8</b>	<b>37.8</b>	<b>37.4</b>
<b>Irrigated Late Sown</b>								
1	PBW 771*	206	35.3	35.3	40.2	42.7	40.9	<b>38.9</b>
2	PBW752(I) (C)	201	35.6	36.5	39.1	41.0	44.7	<b>39.4</b>
3	DBW173 (C)	202	35.3	39.1	41.0	43.7	42.5	<b>40.3</b>
4	WH1021 (C)	203	33.8	43.0	36.6	38.4	44.6	<b>39.3</b>
5	HD3059 (C)	204	33.5	34.8	40.7	38.6	42.4	<b>38.0</b>
6	WH1124 (C)	205	32.9	35.0	42.6	42.2	40.9	<b>38.7</b>
<b>Mean</b>			<b>34.4</b>	<b>37.3</b>	<b>40.0</b>	<b>41.1</b>	<b>42.7</b>	<b>39.1</b>
<b>Restricted Irrigated Timely Sown</b>								
1	HI 1628*	303	27.9	32.1	33.8	32.5		<b>31.6</b>
2	NIAW 3170*	309	29.5	36.4	37.4	35.6		<b>34.7</b>
3	BRW 3806* <sup>#</sup>	308	27.1	35.3	32.4	32.6		<b>31.9</b>
4	HI1620(I) (C)	301	34.5	30.9	37.3	34.5		<b>34.3</b>
5	WH1142 (C)	304	37.1	30.8	33.8	34.8		<b>34.1</b>
6	HD3043 (C)	305	31.9	34.5	33.9	28.6		<b>32.2</b>
7	PBW644 (C)	306	34.7	41.1	35.6	34.9		<b>36.6</b>
8	HD3237(I) (C)	307	33.4	33.5	36.2	34.8		<b>34.5</b>
9	WH1080 (C)	310	27.0	32.9	34.9	32.3		<b>31.8</b>
10	PBW 796	302	31.3	41.7	34.7	35.1		<b>35.7</b>
<b>Mean</b>			<b>31.4</b>	<b>34.9</b>	<b>35.0</b>	<b>33.6</b>		<b>33.7</b>



**Table 16: Grain Zinc content (ppm) of *T. aestivum* genotypes in North Western Plains Zone (NWPZ) AVTs**

Sr. No.	Entries	Code	Ludhiana	Hisar	Delhi	Pantnagar	Durgapura	Mean
<b>Irrigated Timely Sown</b>								
1	DBW 221*	105	27.0	41.0	49.4	33.2	44.3	<b>39.0</b>
2	DBW 222*	106	25.7	34.4	40.1	25.6	42.2	<b>33.6</b>
3	WH1105 (C)	101	30.6	46.7	44.9	30.0	48.5	<b>40.1</b>
4	HD3226(I) (C)	102	30.6	37.9	45.7	27.2	43.3	<b>36.9</b>
5	HD3086 (C)	103	32.6	39.1	42.0	25.8	41.2	<b>36.1</b>
6	PBW550 (C)	107	33.4	49.1	50.1	32.3	47.9	<b>42.6</b>
7	HD2967 (C)	109	28.4	38.9	45.0	29.2	47.5	<b>37.8</b>
8	DPW621-50 (C)	111	26.8	36.3	40.7	27.3	39.0	<b>34.0</b>
9	DBW88 (C)	112	29.0	34.8	42.7	28.5	42.1	<b>35.4</b>
10	PBW820 <sup>M</sup>	104	27.6	38.7	45.5	29.0	38.3	<b>35.8</b>
11	PBW821 <sup>M</sup>	108	29.1	41.2	46.6	27.0	39.8	<b>36.7</b>
12	NW 7049	110	30.9	41.9	39.8	27.5	41.0	<b>36.2</b>
<b>Mean</b>			<b>29.3</b>	<b>40.0</b>	<b>44.4</b>	<b>28.6</b>	<b>42.9</b>	<b>37.0</b>
<b>Irrigated Late Sown</b>								
1	PBW 771*	206	46.0	47.9	51.2	31.3	43.8	<b>44.0</b>
2	PBW752(I) (C)	201	47.2	45.1	56.2	29.7	44.3	<b>44.5</b>
3	DBW173 (C)	202	35.8	43.5	48.1	31.6	42.8	<b>40.4</b>
4	WH1021 (C)	203	46.4	45.0	52.6	25.7	41.4	<b>42.2</b>
5	HD3059 (C)	204	36.8	38.2	51.6	26.2	38.7	<b>38.3</b>
6	WH1124 (C)	205	39.3	38.6	47.2	28.9	40.3	<b>38.9</b>
<b>Mean</b>			<b>41.9</b>	<b>43.1</b>	<b>51.1</b>	<b>28.9</b>	<b>41.9</b>	<b>41.4</b>
<b>Restricted Irrigated Timely Sown</b>								
1	HI 1628*	303	27.0	31.6	64.7	27.0		<b>37.6</b>
2	NIAW 3170*	309	24.4	36.7	54.7	31.5		<b>36.8</b>
3	BRW 3806* <sup>#</sup>	308	24.4	36.5	55.5	28.3		<b>36.2</b>
4	HI1620(I) (C)	301	23.7	29.6	58.9	28.9		<b>35.3</b>
5	WH1142 (C)	304	30.8	29.3	56.4	31.5		<b>37.0</b>
6	HD3043 (C)	305	33.2	42.0	64.0	28.0		<b>41.8</b>
7	PBW644 (C)	306	29.6	36.9	61.8	29.7		<b>39.5</b>
8	HD3237(I) (C)	307	26.9	30.1	57.9	31.3		<b>36.5</b>
9	WH1080 (C)	310	24.2	30.4	47.3	28.7		<b>32.7</b>
10	PBW 796	302	24.7	36.1	44.8	26.2		<b>32.9</b>
<b>Mean</b>			<b>26.9</b>	<b>33.9</b>	<b>56.6</b>	<b>29.1</b>		<b>36.6</b>

**Table 17: Grain appearance score (Max-10) of *T. aestivum* genotypes in North Eastern Plains Zone (NEPZ) AVTs**

Sr. No.	Entries	Code	Kanpur	Pusa	Sabour	Mean
<b>Irrigated Timely Sown</b>						
1	HD3249* <sup>#Q</sup>	101	6.6	7.2	7.2	<b>7.0</b>
2	HD2733 (C)	102	6.4	7.0	6.0	<b>6.5</b>
3	DBW39 (C)	105	6.6	6.6	5.8	<b>6.3</b>
4	DBW187(I) (C)	108	6.8	6.8	6.8	<b>6.8</b>
5	K0307 (C)	110	6.6	6.6	5.8	<b>6.3</b>
6	HD2967 (C)	111	6.0	6.4	5.8	<b>6.1</b>
7	PBW 781	103	6.2	6.8	5.4	<b>6.1</b>
8	DBW 257	104	6.2	7.0	6.3	<b>6.5</b>
9	HD 3277	106	6.2	7.2	6.0	<b>6.5</b>
10	RAJ 4529	107	6.0	5.6	5.8	<b>5.8</b>
11	WH 1239	109	6.2	6.0	6.6	<b>6.3</b>
<b>Mean</b>			<b>6.3</b>	<b>6.7</b>	<b>6.1</b>	<b>6.4</b>
<b>Restricted Irrigated Timely Sown</b>						
1	DBW 252* <sup>#</sup>	306	6.4	5.8	6.0	<b>6.1</b>
2	K1317 (C)	301	7.2	7.2	6.8	<b>7.1</b>
3	HI1612 (C)	302	6.4	6.4	6.4	<b>6.4</b>
4	HD3171 (C)	304	6.2	6.4	6.2	<b>6.3</b>
5	HD2888 (C)	305	6.6	6.6	7.0	<b>6.7</b>
6	K8027 (C)	307	6.8	6.2	7.0	<b>6.7</b>
7	HD 3293	303	6.2	6.4	6.2	<b>6.3</b>
8	DBW 273	308	6.2	6.0	6.2	<b>6.1</b>
<b>Mean</b>			<b>6.5</b>	<b>6.4</b>	<b>6.5</b>	<b>6.5</b>

**Table 18: Hectolitre weight (Kg/hl) of *T. aestivum* genotypes in North Eastern Plains Zone (NEPZ) AVTs**

Sr. No.	Entries	Code	Kanpur	Pusa	Sabour	Mean
<b>Irrigated Timely Sown</b>						
1	HD3249* <sup>#Q</sup>	101	82.0	81.0	78.2	<b>80.4</b>
2	HD2733 (C)	102	81.4	78.6	76.4	<b>78.8</b>
3	DBW39 (C)	105	81.6	78.4	74.5	<b>78.2</b>
4	DBW187(I) (C)	108	81.9	80.0	77.0	<b>79.6</b>
5	K0307 (C)	110	82.4	79.7	77.1	<b>79.7</b>
6	HD2967 (C)	111	81.1	79.0	73.7	<b>77.9</b>
7	PBW 781	103	82.5	81.4	75.1	<b>79.7</b>
8	DBW 257	104	82.0	80.0	75.6	<b>79.2</b>
9	HD 3277	106	80.6	78.0	73.6	<b>77.4</b>
10	RAJ 4529	107	79.5	78.0	73.7	<b>77.1</b>
11	WH 1239	109	79.6	78.3	75.3	<b>77.7</b>
<b>Mean</b>			<b>81.3</b>	<b>79.3</b>	<b>75.5</b>	<b>78.7</b>
<b>Restricted Irrigated Timely Sown</b>						
1	DBW 252* <sup>#</sup>	306	82.4	79.5	77.1	<b>79.7</b>
2	K1317 (C)	301	84.3	82.0	78.7	<b>81.7</b>
3	HI1612 (C)	302	82.1	78.3	77.1	<b>79.2</b>
4	HD3171 (C)	304	82.6	81.0	77.9	<b>80.5</b>
5	HD2888 (C)	305	84.0	82.0	80.0	<b>82.0</b>
6	K8027 (C)	307	83.7	81.8	78.2	<b>81.2</b>
7	HD 3293	303	81.0	79.0	76.6	<b>78.9</b>
8	DBW 273	308	83.0	79.0	76.8	<b>79.6</b>
<b>Mean</b>			<b>82.9</b>	<b>80.3</b>	<b>77.8</b>	<b>80.3</b>

**Table 19: Protein content (%) at 12% moisture basis of *T. aestivum* genotypes in North Eastern Plains Zone (NEPZ) AVTs**

Sr. No.	Entries	Code	Kanpur	Pusa	Sabour	Mean
<b>Irrigated Timely Sown</b>						
1	HD3249* <sup>#Q</sup>	101	10.74	9.91	12.04	<b>10.90</b>
2	HD2733 (C)	102	11.81	9.60	11.43	<b>10.95</b>
3	DBW39 (C)	105	11.44	10.02	12.44	<b>11.30</b>
4	DBW187(I) (C)	108	10.83	9.73	11.71	<b>10.76</b>
5	K0307 (C)	110	11.62	10.52	11.97	<b>11.37</b>
6	HD2967 (C)	111	12.11	10.17	11.22	<b>11.17</b>
7	PBW 781	103	12.53	11.07	12.52	<b>12.04</b>
8	DBW 257	104	10.64	9.27	10.70	<b>10.20</b>
9	HD 3277	106	11.45	10.35	11.52	<b>11.11</b>
10	RAJ 4529	107	10.25	9.32	11.09	<b>10.22</b>
11	WH 1239	109	10.16	9.00	10.84	<b>10.00</b>
<b>Mean</b>			<b>11.23</b>	<b>9.91</b>	<b>11.59</b>	<b>10.91</b>
<b>Restricted Irrigated Timely Sown</b>						
1	DBW 252* <sup>#</sup>	306	10.61	9.03	9.44	<b>9.69</b>
2	K1317 (C)	301	10.43	7.83	10.74	<b>9.66</b>
3	HI1612 (C)	302	9.77	10.22	9.71	<b>9.90</b>
4	HD3171 (C)	304	9.40	8.34	9.74	<b>9.16</b>
5	HD2888 (C)	305	11.93	10.41	11.25	<b>11.20</b>
6	K8027 (C)	307	10.08	7.87	10.38	<b>9.44</b>
7	HD 3293	303	10.14	7.74	9.37	<b>9.08</b>
8	DBW 273	308	9.11	8.16	9.99	<b>9.09</b>
<b>Mean</b>			<b>10.18</b>	<b>8.70</b>	<b>10.08</b>	<b>9.65</b>

**Table 20: Sedimentation value (ml) of *T. aestivum* genotypes in North Eastern Plains Zone (NEPZ) AVTs**

Sr. No.	Entries	Code	Kanpur	Pusa	Sabour	Mean
<b>Irrigated Timely Sown</b>						
1	HD3249* <sup>#Q</sup>	101	64.9	67.2	71.0	<b>67.7</b>
2	HD2733 (C)	102	44.2	51.7	58.3	<b>51.4</b>
3	DBW39 (C)	105	43.2	50.3	60.2	<b>51.2</b>
4	DBW187(I) (C)	108	59.2	71.5	71.0	<b>67.2</b>
5	K0307 (C)	110	34.8	43.2	46.1	<b>41.3</b>
6	HD2967 (C)	111	47.9	70.1	67.7	<b>61.9</b>
7	PBW 781	103	64.4	68.2	71.0	<b>67.9</b>
8	DBW 257	104	52.6	66.8	71.5	<b>63.6</b>
9	HD 3277	106	50.3	59.7	59.7	<b>56.6</b>
10	RAJ 4529	107	43.2	55.0	55.5	<b>51.2</b>
11	WH 1239	109	52.6	60.2	72.4	<b>61.7</b>
<b>Mean</b>			<b>50.7</b>	<b>60.3</b>	<b>64.0</b>	<b>58.3</b>
<b>Restricted Irrigated Timely Sown</b>						
1	DBW 252* <sup>#</sup>	306	50.3	58.3	63.5	<b>57.3</b>
2	K1317 (C)	301	47.9	51.7	55.5	<b>51.7</b>
3	HI1612 (C)	302	62.1	57.3	71.9	<b>63.8</b>
4	HD3171 (C)	304	52.6	52.6	59.7	<b>55.0</b>
5	HD2888 (C)	305	40.9	41.8	46.1	<b>42.9</b>
6	K8027 (C)	307	38.5	27.2	43.2	<b>36.3</b>
7	HD 3293	303	42.3	43.2	46.1	<b>43.9</b>
8	DBW 273	308	42.3	50.3	50.3	<b>47.6</b>
<b>Mean</b>			<b>47.1</b>	<b>47.8</b>	<b>54.5</b>	<b>49.8</b>

**Table 21: Phenol test (Max-10) of *T. aestivum* genotypes in North Eastern Plains Zone (NEPZ) AVTs**

Sr. No.	Entries	Code	Kanpur	Pusa	Sabour	Mean
<b>Irrigated Timely Sown</b>						
1	HD3249* <sup>#Q</sup>	101	9.0	8.5	7.0	<b>8.2</b>
2	HD2733 (C)	102	8.5	8.0	7.0	<b>7.8</b>
3	DBW39 (C)	105	3.0	6.0	5.5	<b>4.8</b>
4	DBW187(I) (C)	108	9.0	9.0	7.5	<b>8.5</b>
5	K0307 (C)	110	6.0	8.0	7.5	<b>7.2</b>
6	HD2967 (C)	111	6.0	8.0	6.5	<b>6.8</b>
7	PBW 781	103	8.0	9.0	8.0	<b>8.3</b>
8	DBW 257	104	7.5	8.5	8.0	<b>8.0</b>
9	HD 3277	106	6.5	8.0	8.0	<b>7.5</b>
10	RAJ 4529	107	7.5	8.0	7.0	<b>7.5</b>
11	WH 1239	109	8.5	8.5	7.5	<b>8.2</b>
<b>Mean</b>			<b>7.2</b>	<b>8.1</b>	<b>7.2</b>	<b>7.5</b>
<b>Restricted Irrigated Timely Sown</b>						
1	DBW 252* <sup>#</sup>	306	6.5	6.5	6.0	<b>6.3</b>
2	K1317 (C)	301	3.5	6.0	4.5	<b>4.7</b>
3	HI1612 (C)	302	8.5	7.0	7.0	<b>7.5</b>
4	HD3171 (C)	304	6.0	6.5	6.0	<b>6.2</b>
5	HD2888 (C)	305	4.5	4.0	6.0	<b>4.8</b>
6	K8027 (C)	307	4.5	4.5	5.0	<b>4.7</b>
7	HD 3293	303	7.5	7.0	7.0	<b>7.2</b>
8	DBW 273	308	6.5	7.0	7.5	<b>7.0</b>
<b>Mean</b>			<b>5.9</b>	<b>6.1</b>	<b>6.1</b>	<b>6.0</b>

**Table 22: Hardness index of *T. aestivum* genotypes in North Eastern Plains Zone (NEPZ) AVTs**

Sr. No.	Entries	Code	Kanpur	Pusa	Sabour	Mean
<b>Irrigated Timely Sown</b>						
1	HD3249* <sup>#Q</sup>	101	66.1			<b>66.1</b>
2	HD2733 (C)	102	68.6			<b>68.6</b>
3	DBW39 (C)	105	69.8			<b>69.8</b>
4	DBW187(I) (C)	108	63.6			<b>63.6</b>
5	K0307 (C)	110	73.0			<b>73.0</b>
6	HD2967 (C)	111	68.3			<b>68.3</b>
7	PBW 781	103	77.4			<b>77.4</b>
8	DBW 257	104	75.2			<b>75.2</b>
9	HD 3277	106	66.6			<b>66.6</b>
10	RAJ 4529	107	65.4			<b>65.4</b>
11	WH 1239	109	66.5			<b>66.5</b>
<b>Mean</b>			<b>69.1</b>			<b>69.1</b>
<b>Restricted Irrigated Timely Sown</b>						
1	DBW 252* <sup>#</sup>	306	71.1			<b>71.1</b>
2	K1317 (C)	301	71.6			<b>71.6</b>
3	HI1612 (C)	302	78.5			<b>78.5</b>
4	HD3171 (C)	304	59.2			<b>59.2</b>
5	HD2888 (C)	305	77.1			<b>77.1</b>
6	K8027 (C)	307	67.1			<b>67.1</b>
7	HD 3293	303	62.3			<b>62.3</b>
8	DBW 273	308	64.9			<b>64.9</b>
<b>Mean</b>			<b>68.9</b>			<b>68.9</b>

**Table 23: Grain Iron content (ppm) of *T. aestivum* genotypes in North Eastern Plains Zone (NEPZ) AVTs**

Sr. No.	Entries	Code	Kanpur	Pusa	Sabour	Mean
<b>Irrigated Timely Sown</b>						
1	HD3249* <sup>#Q</sup>	101	39.5	51.6	43.6	<b>44.9</b>
2	HD2733 (C)	102	37.6	46.6	36.6	<b>40.3</b>
3	DBW39 (C)	105	38.9	43.4	37.7	<b>40.0</b>
4	DBW187(I) (C)	108	38.5	50.1	38.9	<b>42.5</b>
5	K0307 (C)	110	40.7	54.5	41.0	<b>45.4</b>
6	HD2967 (C)	111	36.8	44.7	35.5	<b>39.0</b>
7	PBW 781	103	39.9	45.1	32.1	<b>39.0</b>
8	DBW 257	104	37.1	45.0	40.1	<b>40.7</b>
9	HD 3277	106	39.3	46.3	34.3	<b>40.0</b>
10	RAJ 4529	107	33.1	40.8	35.3	<b>36.4</b>
11	WH 1239	109	33.8	43.9	35.9	<b>37.9</b>
<b>Mean</b>			<b>37.7</b>	<b>47.1</b>	<b>37.4</b>	<b>40.7</b>
<b>Restricted Irrigated Timely Sown</b>						
1	DBW 252* <sup>#</sup>	306	42.4	34.6	34.0	<b>37.0</b>
2	K1317 (C)	301	38.5	39.0	32.2	<b>36.6</b>
3	HI1612 (C)	302	37.6	39.6	33.5	<b>36.9</b>
4	HD3171 (C)	304	35.0	37.5	34.0	<b>35.5</b>
5	HD2888 (C)	305	39.9	51.7	39.5	<b>43.7</b>
6	K8027 (C)	307	39.4	44.2	35.1	<b>39.6</b>
7	HD 3293	303	38.1	35.3	31.6	<b>35.0</b>
8	DBW 273	308	32.0	39.8	31.0	<b>34.3</b>
<b>Mean</b>			<b>37.9</b>	<b>40.7</b>	<b>33.9</b>	<b>37.5</b>



**Table 24: Grain Zinc content (ppm) of *T. aestivum* genotypes in North Eastern Plains Zone (NEPZ) AVTs**

Sr. No.	Entries	Code	Kanpur	Pusa	Sabour	Mean
<b>Irrigated Timely Sown</b>						
1	HD3249* <sup>#Q</sup>	101	36.1	27.7	23.8	<b>29.2</b>
2	HD2733 (C)	102	35.2	35.6	27.3	<b>32.7</b>
3	DBW39 (C)	105	37.0	29.2	28.9	<b>31.7</b>
4	DBW187(I) (C)	108	32.6	26.7	26.2	<b>28.5</b>
5	K0307 (C)	110	34.5	37.0	29.4	<b>33.6</b>
6	HD2967 (C)	111	30.3	28.6	24.6	<b>27.8</b>
7	PBW 781	103	32.4	30.5	24.5	<b>29.1</b>
8	DBW 257	104	30.7	25.1	26.8	<b>27.5</b>
9	HD 3277	106	34.0	29.0	26.9	<b>30.0</b>
10	RAJ 4529	107	27.1	23.0	29.3	<b>26.5</b>
11	WH 1239	109	33.0	26.3	27.0	<b>28.8</b>
<b>Mean</b>			<b>33.0</b>	<b>29.0</b>	<b>26.8</b>	<b>29.6</b>
<b>Restricted Irrigated Timely Sown</b>						
1	DBW 252* <sup>#</sup>	306	36.1	28.2	28.2	<b>30.8</b>
2	K1317 (C)	301	38.9	41.9	29.3	<b>36.7</b>
3	HI1612 (C)	302	41.0	23.7	28.7	<b>31.1</b>
4	HD3171 (C)	304	32.8	29.5	25.1	<b>29.1</b>
5	HD2888 (C)	305	47.5	35.6	41.6	<b>41.6</b>
6	K8027 (C)	307	43.9	35.7	35.8	<b>38.5</b>
7	HD 3293	303	39.8	23.1	29.5	<b>30.8</b>
8	DBW 273	308	34.1	33.8	33.2	<b>33.7</b>
<b>Mean</b>			<b>39.3</b>	<b>31.4</b>	<b>31.4</b>	<b>34.0</b>

**Table 25: Grain appearance score (Max-10) of *T. aestivum* and *T. durum* genotypes in Central Zone (CZ) AVTs**

Sr. No.	Entries	Code	Vijapur	Junagarh	P'Kheda	Indore	Mean
<b>Irrigated Timely Sown</b>							
<i>T. aestivum</i>							
1	GW322 (C)	105	6.2	5.8	6.6	6.2	<b>6.2</b>
2	HI1544 (C)	106	6.4	6.0	6.8	6.8	<b>6.5</b>
3	HD3343 <sup>M</sup>	104	6.0	5.8	6.6	6.2	<b>6.2</b>
4	PBW 822 <sup>B</sup>	111	7.4	6.2	7.0	6.6	<b>6.8</b>
5	HD 3345 <sup>B</sup>	112	7.2	5.8	7.6	6.4	<b>6.8</b>
<b>Mean</b>			<b>6.6</b>	<b>5.9</b>	<b>6.9</b>	<b>6.4</b>	<b>6.5</b>
<i>T. durum</i>							
1	HI8713(d) (C)	101	7.2	7.0	6.8	6.8	<b>7.0</b>
2	HI8737(d) (C)	107	7.4	7.4	7.0	7.8	<b>7.4</b>
3	NIDW 1158 (d)	102	7.2	6.8	6.8	7.0	<b>7.0</b>
4	HI 8811 (d)	103	7.6	7.0	7.4	7.8	<b>7.5</b>
5	HI 8812 (d)	108	7.8	7.2	7.4	8.0	<b>7.6</b>
6	GW 1348 (d)	109	7.4	7.0	6.8	6.8	<b>7.0</b>
7	DDW 49 (d)	110	7.8	7.2	7.6	7.8	<b>7.6</b>
8	DDW 48 (d)	113	7.2	6.8	7.4	7.8	<b>7.3</b>
<b>Mean</b>			<b>7.5</b>	<b>7.1</b>	<b>7.2</b>	<b>7.5</b>	<b>7.3</b>
<b>Irrigated Late Sown</b>							
<i>T. aestivum</i>							
1	HD2932 (C)	201	6.0	6.0	6.4	6.2	<b>6.2</b>
2	HD2864 (C)	202	6.0	5.8	6.2	6.0	<b>6.0</b>
3	MP3336 (C)	203	7.2	6.4	6.6	6.4	<b>6.7</b>
4	MP4010 (C)	204	7.2	6.6	6.2	6.8	<b>6.7</b>
5	CG1029	205	6.2	6.4	6.2	6.8	<b>6.4</b>
6	UAS3002	206	5.6	5.0	6.4	5.8	<b>5.7</b>
7	HI1633	207	7.2	6.4	6.4	6.6	<b>6.7</b>
8	HI1634	208	7.2	6.0	6.2	6.2	<b>6.4</b>
<b>Mean</b>			<b>6.6</b>	<b>6.1</b>	<b>6.3</b>	<b>6.4</b>	<b>6.3</b>
<i>T. durum</i>							
1	HI8808 (d)	209	7.2	6.2	6.2	7.2	<b>6.7</b>
2	HI8807 (d)	210	7.0	6.8	6.4	7.4	<b>6.9</b>
<b>Mean</b>			<b>7.1</b>	<b>6.5</b>	<b>6.3</b>	<b>7.3</b>	<b>6.8</b>
<b>Restricted Irrigated Timely Sown</b>							
<i>T. aestivum</i>							
1	DBW110 (C)	302	6.6	5.0	7.4	6.8	<b>6.5</b>
2	MP3288 (C)	304	6.8	5.4	7.2	7.4	<b>6.7</b>
3	DBW 277	305	6.4	4.5	6.8	6.8	<b>6.1</b>
<b>Mean</b>			<b>6.6</b>	<b>5.0</b>	<b>7.1</b>	<b>7.0</b>	<b>6.4</b>
<i>T. durum</i>							
1	UAS 466(d)*	303	6.8	5.0	7.6	8.0	<b>6.9</b>
2	DDW 47(d)* <sup>Q</sup>	306	6.2	5.4	7.4	7.6	<b>6.7</b>
3	HI8627(d) (C)	301	6.8	5.2	7.8	8.0	<b>7.0</b>
<b>Mean</b>			<b>6.6</b>	<b>5.2</b>	<b>7.6</b>	<b>7.9</b>	<b>6.8</b>

**Table 26: Hectolitre weight (Kg/hl) of *T. aestivum* and *T. durum* genotypes in Central Zone (CZ) AVTs**

Sr. No.	Entries	Code	Vijapur	Junagarh	P'Kheda	Indore	Mean
<b>Irrigated Timely Sown</b>							
<i>T. aestivum</i>							
1	GW322 (C)	105	81.0	81.3	79.6	80.6	<b>80.6</b>
2	HI1544 (C)	106	84.0	81.7	82.9	83.3	<b>83.0</b>
3	HD3343 <sup>M</sup>	104	78.0	80.5	79.6	79.0	<b>79.3</b>
4	PBW 822 <sup>B</sup>	111	82.0	82.0	82.5	81.0	<b>81.9</b>
5	HD 3345 <sup>B</sup>	112	83.2	82.0	81.5	81.7	<b>82.1</b>
<b>Mean</b>			<b>81.6</b>	<b>81.5</b>	<b>81.2</b>	<b>81.1</b>	<b>81.4</b>
<i>T. durum</i>							
1	HI8713(d) (C)	101	82.0	84.0	84.2	83.0	<b>83.3</b>
2	HI8737(d) (C)	107	85.0	84.0	84.8	85.0	<b>84.7</b>
3	NIDW 1158 (d)	102	81.5	81.4	81.2	80.5	<b>81.2</b>
4	HI 8811 (d)	103	85.4	83.4	85.4	85.7	<b>85.0</b>
5	HI 8812 (d)	108	85.0	83.3	84.2	85.0	<b>84.4</b>
6	GW 1348 (d)	109	84.0	83.2	83.1	82.4	<b>83.2</b>
7	DDW 49 (d)	110	85.0	83.7	86.8	85.2	<b>85.2</b>
8	DDW 48 (d)	113	82.0	83.0	84.5	81.4	<b>82.7</b>
<b>Mean</b>			<b>83.7</b>	<b>83.3</b>	<b>84.3</b>	<b>83.5</b>	<b>83.7</b>
<b>Irrigated Late Sown</b>							
<i>T. aestivum</i>							
1	HD2932 (C)	201	92.5	82.0	78.1	78.0	<b>82.7</b>
2	HD2864 (C)	202	85.3	83.8	80.3	82.6	<b>83.0</b>
3	MP3336 (C)	203	84.3	83.0	80.2	80.4	<b>82.0</b>
4	MP4010 (C)	204	85.5	83.0	80.1	82.0	<b>82.7</b>
5	CG1029	205	83.8	82.3	80.4	79.6	<b>81.5</b>
6	UAS3002	206	82.0	81.3	77.3	76.2	<b>79.2</b>
7	HI1633	207	84.1	82.5	79.9	79.5	<b>81.5</b>
8	HI1634	208	85.6	82.6	78.9	80.0	<b>81.8</b>
<b>Mean</b>			<b>85.4</b>	<b>82.6</b>	<b>79.4</b>	<b>79.8</b>	<b>81.8</b>
<i>T. durum</i>							
1	HI8808 (d)	209	85.8	82.6	80.4	81.5	<b>82.6</b>
2	HI8807 (d)	210	86.4	83.4	81.8	82.5	<b>83.5</b>
<b>Mean</b>			<b>86.1</b>	<b>83.0</b>	<b>81.1</b>	<b>82.0</b>	<b>83.1</b>
<b>Restricted Irrigated Timely Sown</b>							
<i>T. aestivum</i>							
1	DBW110 (C)	302	77.5	75.0	80.3	82.0	<b>78.7</b>
2	MP3288 (C)	304	80.0	78.5	82.3	83.3	<b>81.0</b>
3	DBW 277	305	78.6	74.5	81.1	82.7	<b>79.2</b>
<b>Mean</b>			<b>78.7</b>	<b>76.0</b>	<b>81.2</b>	<b>82.7</b>	<b>79.7</b>
<i>T. durum</i>							
1	UAS 466(d)*	303	79.0	77.0	84.4	84.7	<b>81.3</b>
2	DDW 47(d)* <sup>Q</sup>	306	79.3	76.5	82.4	83.7	<b>80.5</b>
3	HI8627(d) (C)	301	79.7	79.6	84.6	85.2	<b>82.3</b>
<b>Mean</b>			<b>79.3</b>	<b>77.7</b>	<b>83.8</b>	<b>84.5</b>	<b>81.3</b>

**Table 27: Protein content (%) at 12% moisture basis of *T. aestivum* and *T. durum* genotypes in Central Zone (CZ) AVTs**

Sr. No.	Entries	Code	Vijapur	Junagarh	P'Kheda	Indore	Mean
<b>Irrigated Timely Sown</b>							
<i>T. aestivum</i>							
1	GW322 (C)	105	9.43	12.35	11.15	8.46	<b>10.35</b>
2	HI1544 (C)	106	10.88	12.68	10.47	9.31	<b>10.84</b>
3	HD3343 <sup>M</sup>	104	10.23	13.09	10.15	9.02	<b>10.62</b>
4	PBW 822 <sup>B</sup>	111	11.61	13.71	11.07	10.35	<b>11.68</b>
5	HD 3345 <sup>B</sup>	112	11.59	13.37	10.10	10.69	<b>11.44</b>
<b>Mean</b>			<b>10.75</b>	<b>13.04</b>	<b>10.59</b>	<b>9.57</b>	<b>10.99</b>
<i>T. durum</i>							
1	HI8713(d) (C)	101	11.69	13.29	9.68	8.22	<b>10.72</b>
2	HI8737(d) (C)	107	11.85	13.27	10.75	9.98	<b>11.46</b>
3	NIDW 1158 (d)	102	10.94	12.49	10.25	9.29	<b>10.74</b>
4	HI 8811 (d)	103	11.82	13.41	10.10	9.44	<b>11.19</b>
5	HI 8812 (d)	108	11.50	13.20	10.12	9.24	<b>11.02</b>
6	GW 1348 (d)	109	12.56	14.21	10.84	9.90	<b>11.88</b>
7	DDW 49 (d)	110	12.24	14.44	10.01	9.86	<b>11.63</b>
8	DDW 48 (d)	113	12.15	13.96	9.85	9.93	<b>11.47</b>
<b>Mean</b>			<b>11.85</b>	<b>13.53</b>	<b>10.20</b>	<b>9.48</b>	<b>11.27</b>
<b>Irrigated Late Sown</b>							
<i>T. aestivum</i>							
1	HD2932 (C)	201	9.61	16.13	12.61	12.08	<b>12.61</b>
2	HD2864 (C)	202	10.85	14.31	11.90	11.77	<b>12.21</b>
3	MP3336 (C)	203	10.70	14.78	13.39	11.96	<b>12.71</b>
4	MP4010 (C)	204	10.84	15.42	12.66	11.72	<b>12.66</b>
5	CG1029	205	9.84	14.42	12.25	11.50	<b>12.00</b>
6	UAS3002	206	9.80	14.86	12.81	13.11	<b>12.64</b>
7	HI1633	207	9.96	15.15	11.97	11.65	<b>12.18</b>
8	HI1634	208	10.18	14.84	12.01	12.25	<b>12.32</b>
<b>Mean</b>			<b>10.22</b>	<b>14.99</b>	<b>12.45</b>	<b>12.00</b>	<b>12.42</b>
<i>T. durum</i>							
1	HI8808 (d)	209	10.06	14.36	12.24	13.04	<b>12.43</b>
2	HI8807 (d)	210	8.97	13.99	12.58	12.55	<b>12.02</b>
<b>Mean</b>			<b>9.51</b>	<b>14.18</b>	<b>12.41</b>	<b>12.80</b>	<b>12.22</b>
<b>Restricted Irrigated Timely Sown</b>							
<i>T. aestivum</i>							
1	DBW110 (C)	302	14.42	16.14	10.75	9.41	<b>12.68</b>
2	MP3288 (C)	304	14.17	16.21	10.91	9.88	<b>12.79</b>
3	DBW 277	305	14.60	16.34	11.00	9.76	<b>12.93</b>
<b>Mean</b>			<b>14.40</b>	<b>16.23</b>	<b>10.88</b>	<b>9.68</b>	<b>12.80</b>
<i>T. durum</i>							
1	UAS 466(d)*	303	15.37	17.20	9.92	10.14	<b>13.16</b>
2	DDW 47(d)* <sup>Q</sup>	306	16.15	16.74	11.66	10.11	<b>13.66</b>
3	HI8627(d) (C)	301	16.00	16.31	10.77	9.67	<b>13.19</b>
<b>Mean</b>			<b>15.84</b>	<b>16.75</b>	<b>10.78</b>	<b>9.97</b>	<b>13.34</b>

**Table 28: Sedimentation value (ml) of *T. aestivum* and *T. durum* genotypes in Central Zone (CZ) AVTs**

Sr. No.	Entries	Code	Vijapur	Junagarh	P'Kheda	Indore	Mean
<b>Irrigated Timely Sown</b>							
<i>T. aestivum</i>							
1	GW322 (C)	105	40.9	45.6	40.4	41.3	<b>42.1</b>
2	HI1544 (C)	106	43.7	48.4	44.2	46.5	<b>45.7</b>
3	HD3343 <sup>M</sup>	104	40.9	39.9	39.0	40.9	<b>40.2</b>
4	PBW 822 <sup>B</sup>	111	43.2	49.8	62.5	47.0	<b>50.6</b>
5	HD 3345 <sup>B</sup>	112	64.4	61.6	48.9	71.5	<b>61.6</b>
<b>Mean</b>			<b>46.6</b>	<b>49.1</b>	<b>47.0</b>	<b>49.4</b>	<b>48.0</b>
<i>T. durum</i>							
1	HI8713(d) (C)	101	29.1	26.3	29.1	29.1	<b>28.4</b>
2	HI8737(d) (C)	107	43.2	42.3	38.5	37.6	<b>40.4</b>
3	NIDW 1158 (d)	102	31.0	34.8	33.8	31.0	<b>32.6</b>
4	HI 8811 (d)	103	30.5	26.8	31.5	30.5	<b>29.8</b>
5	HI 8812 (d)	108	33.3	27.2	30.1	31.5	<b>30.5</b>
6	GW 1348 (d)	109	29.1	29.1	28.2	27.2	<b>28.4</b>
7	DDW 49 (d)	110	44.6	38.1	42.3	45.6	<b>42.6</b>
8	DDW 48 (d)	113	38.5	35.2	33.8	40.9	<b>37.1</b>
<b>Mean</b>			<b>34.9</b>	<b>32.5</b>	<b>33.4</b>	<b>34.2</b>	<b>33.7</b>
<b>Irrigated Late Sown</b>							
<i>T. aestivum</i>							
1	HD2932 (C)	201	54.5	60.6	53.6	55.0	<b>55.9</b>
2	HD2864 (C)	202	47.9	52.6	45.6	48.9	<b>48.8</b>
3	MP3336 (C)	203	39.0	43.2	41.3	41.8	<b>41.3</b>
4	MP4010 (C)	204	43.2	48.9	44.6	45.6	<b>45.6</b>
5	CG1029	205	39.0	43.2	39.0	43.2	<b>41.1</b>
6	UAS3002	206	40.9	57.3	57.8	56.9	<b>53.2</b>
7	HI1633	207	46.1	56.4	47.9	43.2	<b>48.4</b>
8	HI1634	208	45.1	55.0	50.8	50.3	<b>50.3</b>
<b>Mean</b>			<b>44.5</b>	<b>52.2</b>	<b>47.6</b>	<b>48.1</b>	<b>48.1</b>
<i>T. durum</i>							
1	HI8808 (d)	209	33.8	33.8	36.6	49.8	<b>38.5</b>
2	HI8807 (d)	210	33.8	31.0	41.3	38.5	<b>36.2</b>
<b>Mean</b>			<b>33.8</b>	<b>32.4</b>	<b>39.0</b>	<b>44.2</b>	<b>37.3</b>
<b>Restricted Irrigated Timely Sown</b>							
<i>T. aestivum</i>							
1	DBW110 (C)	302	69.6	73.8	59.2	60.6	<b>65.8</b>
2	MP3288 (C)	304	66.8	72.9	54.5	59.7	<b>63.5</b>
3	DBW 277	305	73.4	70.1	65.8	65.8	<b>68.8</b>
<b>Mean</b>			<b>69.9</b>	<b>72.3</b>	<b>59.9</b>	<b>62.1</b>	<b>66.0</b>
<i>T. durum</i>							
1	UAS 466(d)*	303	59.7	52.6	51.2	43.2	<b>51.7</b>
2	DDW 47(d)* <sup>Q</sup>	306	46.1	33.3	39.0	38.5	<b>39.2</b>
3	HI8627(d) (C)	301	39.5	32.4	30.1	27.7	<b>32.4</b>
<b>Mean</b>			<b>48.4</b>	<b>39.5</b>	<b>40.1</b>	<b>36.5</b>	<b>41.1</b>

**Table 29: Phenol test (Max-10) of *T. aestivum* and *T. durum* genotypes in Central Zone (CZ) AVTs**

Sr. No.	Entries	Code	Vijapur	Junagarh	P'Kheda	Indore	Mean
<b>Irrigated Timely Sown</b>							
<i>T. aestivum</i>							
1	GW322 (C)	105	7.0	7.5	7.0	6.5	<b>7.0</b>
2	HI1544 (C)	106	6.5	7.5	7.0	6.0	<b>6.8</b>
3	HD3343 <sup>M</sup>	104	7.0	7.0	6.5	6.5	<b>6.8</b>
4	PBW 822 <sup>B</sup>	111	8.0	8.0	3.0	8.0	<b>6.8</b>
5	HD 3345 <sup>B</sup>	112	3.0	3.0	8.0	4.5	<b>4.6</b>
<b>Mean</b>			<b>6.3</b>	<b>6.6</b>	<b>6.3</b>	<b>6.3</b>	<b>6.4</b>
<i>T. durum</i>							
1	HI8713(d) (C)	101	0.0	0.0	0.0	0.0	<b>0.0</b>
2	HI8737(d) (C)	107	0.0	0.0	0.0	0.0	<b>0.0</b>
3	NIDW 1158 (d)	102	0.0	0.0	0.0	0.0	<b>0.0</b>
4	HI 8811 (d)	103	0.0	0.0	0.0	0.0	<b>0.0</b>
5	HI 8812 (d)	108	0.0	0.0	0.0	0.0	<b>0.0</b>
6	GW 1348 (d)	109	0.0	0.0	0.0	0.0	<b>0.0</b>
7	DDW 49 (d)	110	0.0	0.0	0.0	0.0	<b>0.0</b>
8	DDW 48 (d)	113	0.0	0.0	0.0	0.0	<b>0.0</b>
<b>Mean</b>			<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Irrigated Late Sown</b>							
<i>T. aestivum</i>							
1	HD2932 (C)	201	3.0	3.0	2.5	4.0	<b>3.1</b>
2	HD2864 (C)	202	2.5	2.5	2.5	4.0	<b>2.9</b>
3	MP3336 (C)	203	2.5	3.0	3.0	4.0	<b>3.1</b>
4	MP4010 (C)	204	6.0	7.0	6.5	7.0	<b>6.6</b>
5	CG1029	205	7.0	7.0	7.0	7.5	<b>7.1</b>
6	UAS3002	206	7.5	7.5	7.0	7.0	<b>7.3</b>
7	HI1633	207	6.5	7.5	7.0	7.0	<b>7.0</b>
8	HI1634	208	6.5	7.5	7.0	7.0	<b>7.0</b>
<b>Mean</b>			<b>5.2</b>	<b>5.6</b>	<b>5.3</b>	<b>5.9</b>	<b>5.5</b>
<i>T. durum</i>							
1	HI8808 (d)	209	0.0	0.0	0.0	0.0	<b>0.0</b>
2	HI8807 (d)	210	0.0	0.0	0.0	0.0	<b>0.0</b>
<b>Mean</b>			<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Restricted Irrigated Timely Sown</b>							
<i>T. aestivum</i>							
1	DBW110 (C)	302	7.5	7.5	8.0	7.5	<b>7.6</b>
2	MP3288 (C)	304	7.5	7.5	7.5	8.0	<b>7.6</b>
3	DBW 277	305	7.5	7.5	7.5	8.0	<b>7.6</b>
<b>Mean</b>			<b>7.5</b>	<b>7.5</b>	<b>7.7</b>	<b>7.8</b>	<b>7.6</b>
<i>T. durum</i>							
1	UAS 466(d)*	303	0.0	0.0	1.0	0.0	<b>0.3</b>
2	DDW 47(d)* <sup>Q</sup>	306	0.0	0.0	0.0	0.0	<b>0.0</b>
3	HI8627(d) (C)	301	0.0	0.0	0.0	0.0	<b>0.0</b>
<b>Mean</b>			<b>0.0</b>	<b>0.0</b>	<b>0.3</b>	<b>0.0</b>	<b>0.1</b>

**Table 30: Yellow pigment (ppm) of *T. aestivum* and *T. durum* genotypes in Central Zone (CZ) AVTs**

Sr. No.	Entries	Code	Vijapur	Junagarh	P'Kheda	Indore	Mean
<b>Irrigated Timely Sown</b>							
<i>T. aestivum</i>							
1	GW322 (C)	105	2.25	1.99	2.11	2.11	<b>2.11</b>
2	HI1544 (C)	106	2.06	1.71	1.73	1.92	<b>1.83</b>
3	HD3343 <sup>M</sup>	104	2.67	2.11	1.94	2.20	<b>2.24</b>
4	PBW 822 <sup>B</sup>	111	2.69	2.39	1.78	2.41	<b>2.29</b>
5	HD 3345 <sup>B</sup>	112	2.53	2.27	2.11	2.08	<b>2.30</b>
<b>Mean</b>			<b>2.44</b>	<b>2.09</b>	<b>1.93</b>	<b>2.14</b>	<b>2.15</b>
<i>T. durum</i>							
1	HI8713(d) (C)	101	6.77	6.04	5.82	6.60	<b>6.21</b>
2	HI8737(d) (C)	107	4.44	3.75	3.61	4.04	<b>3.93</b>
3	NIDW 1158 (d)	102	5.49	4.81	4.41	5.57	<b>4.91</b>
4	HI 8811 (d)	103	5.09	4.53	4.39	4.58	<b>4.67</b>
5	HI 8812 (d)	108	5.73	5.07	5.28	5.05	<b>5.36</b>
6	GW 1348 (d)	109	4.06	3.56	3.71	4.18	<b>3.78</b>
7	DDW 49 (d)	110	5.00	4.79	4.67	5.14	<b>4.82</b>
8	DDW 48 (d)	113	6.46	5.92	5.49	5.75	<b>5.96</b>
<b>Mean</b>			<b>5.38</b>	<b>4.81</b>	<b>4.67</b>	<b>5.11</b>	<b>4.95</b>
<b>Irrigated Late Sown</b>							
<i>T. aestivum</i>							
1	HD2932 (C)	201	2.27	2.48	2.32	2.81	<b>2.36</b>
2	HD2864 (C)	202	2.41	2.25	2.39	2.91	<b>2.35</b>
3	MP3336 (C)	203	2.11	2.03	1.92	2.39	<b>2.02</b>
4	MP4010 (C)	204	2.25	2.32	2.34	2.79	<b>2.30</b>
5	CG1029	205	2.62	2.69	3.07	3.21	<b>2.80</b>
6	UAS3002	206	3.89	3.02	3.80	4.32	<b>3.57</b>
7	HI1633	207	2.25	2.15	2.32	2.62	<b>2.24</b>
8	HI1634	208	2.46	1.96	2.27	2.27	<b>2.23</b>
<b>Mean</b>			<b>2.53</b>	<b>2.36</b>	<b>2.55</b>	<b>2.91</b>	<b>2.48</b>
<i>T. durum</i>							
1	HI8808 (d)	209	5.49	4.15	6.04	6.74	<b>5.23</b>
2	HI8807 (d)	210	5.47	4.81	6.25	6.37	<b>5.51</b>
<b>Mean</b>			<b>5.48</b>	<b>4.48</b>	<b>6.14</b>	<b>6.55</b>	<b>5.37</b>
<b>Restricted Irrigated Timely Sown</b>							
<i>T. aestivum</i>							
1	DBW110 (C)	302	1.89	2.08	1.89	1.82	<b>1.96</b>
2	MP3288 (C)	304	2.43	2.65	2.39	2.27	<b>2.49</b>
3	DBW 277	305	3.05	3.21	2.62	2.29	<b>2.96</b>
<b>Mean</b>			<b>2.46</b>	<b>2.65</b>	<b>2.30</b>	<b>2.13</b>	<b>2.47</b>
<i>T. durum</i>							
1	UAS 466(d)*	303	5.33	5.28	4.79	4.81	<b>5.13</b>
2	DDW 47(d)* <sup>Q</sup>	306	7.97	7.90	6.91	7.12	<b>7.59</b>
3	HI8627(d) (C)	301	5.78	5.38	5.40	5.89	<b>5.52</b>
<b>Mean</b>			<b>6.36</b>	<b>6.18</b>	<b>5.70</b>	<b>5.94</b>	<b>6.08</b>

**Table 31: Hardness index of *T. aestivum* and *T. durum* genotypes in Central Zone (CZ) AVTs**

Sr. No.	Entries	Code	Vijapur	Junagarh	P'Kheda	Indore	Mean
<b>Irrigated Timely Sown</b>							
<i>T. aestivum</i>							
1	GW322 ©	105		80.4			<b>80.4</b>
2	HI1544 (C)	106		82.2			<b>82.2</b>
3	HD3343 <sup>M</sup>	104		78.7			<b>78.7</b>
4	PBW 822 <sup>B</sup>	111		79.9			<b>79.9</b>
5	HD 3345 <sup>B</sup>	112		82.6			<b>82.6</b>
	<b>Mean</b>			<b>80.8</b>			<b>80.8</b>
<i>T. durum</i>							
1	HI8713(d) (C)	101		82.0			<b>82.0</b>
2	HI8737(d) (C)	107		81.1			<b>81.1</b>
3	NIDW 1158 (d)	102		80.0			<b>80.0</b>
4	HI 8811 (d)	103		79.8			<b>79.8</b>
5	HI 8812 (d)	108		80.6			<b>80.6</b>
6	GW 1348 (d)	109		75.9			<b>75.9</b>
7	DDW 49 (d)	110		75.7			<b>75.7</b>
8	DDW 48 (d)	113		79.5			<b>79.5</b>
	<b>Mean</b>			<b>79.3</b>			<b>79.3</b>
<b>Irrigated Late Sown</b>							
<i>T. aestivum</i>							
1	HD2932 (C)	201		67.6			<b>67.6</b>
2	HD2864 (C)	202		74.6			<b>74.6</b>
3	MP3336 (C)	203		72.9			<b>72.9</b>
4	MP4010 (C)	204		69.4			<b>69.4</b>
5	CG1029	205		63.5			<b>63.5</b>
6	UAS3002	206		73.7			<b>73.7</b>
7	HI1633	207		75.8			<b>75.8</b>
8	HI1634	208		77.8			<b>77.8</b>
	<b>Mean</b>			<b>71.9</b>			<b>71.9</b>
<i>T. durum</i>							
1	HI8808 (d)	209		73.9			<b>73.9</b>
2	HI8807 (d)	210		82.6			<b>82.6</b>
	<b>Mean</b>			<b>78.3</b>			<b>78.3</b>
<b>Restricted Irrigated Timely Sown</b>							
<i>T. aestivum</i>							
1	DBW110 (C)	302		81.8			<b>81.8</b>
2	MP3288 (C)	304		78.9			<b>78.9</b>
3	DBW 277	305		84.7			<b>84.7</b>
	<b>Mean</b>			<b>81.8</b>			<b>81.1</b>
<i>T. durum</i>							
1	UAS 466(d)*	303		85.0			<b>85.0</b>
2	DDW 47(d)* <sup>Q</sup>	306		87.6			<b>87.6</b>
3	HI8627(d) (C)	301		86.8			<b>86.8</b>
	<b>Mean</b>			<b>86.5</b>			<b>86.5</b>



**Table 32: Grain Iron content (ppm) of *T. aestivum* and *T. durum* genotypes in Central Zone (CZ) AVTs**

Sr. No.	Entries	Code	Vijapur	Junagarh	P'Kheda	Indore	Mean
<b>Irrigated Timely Sown</b>							
<i>T. aestivum</i>							
1	GW322 (C)	105	30.9	36.4	38.9	44.3	<b>37.6</b>
2	HI1544 (C)	106	32.5	48.2	37.7	44.2	<b>40.7</b>
3	HD3343 <sup>M</sup>	104	29.9	39.0	35.4	40.4	<b>36.2</b>
4	PBW 822 <sup>B</sup>	111	34.8	37.8	37.2	42.1	<b>38.0</b>
5	HD 3345 <sup>B</sup>	112	33.5	41.1	38.9	44.2	<b>39.4</b>
<b>Mean</b>			<b>32.3</b>	<b>40.5</b>	<b>37.6</b>	<b>43.0</b>	<b>38.4</b>
<i>T. durum</i>							
1	HI8713(d) (C)	101	32.5	39.6	38.1	39.4	<b>37.4</b>
2	HI8737(d) (C)	107	40.8	43.2	38.1	44.4	<b>41.6</b>
3	NIDW 1158 (d)	102	34.8	37.2	35.9	37.5	<b>36.4</b>
4	HI 8811 (d)	103	37.5	40.2	37.8	40.5	<b>39.0</b>
5	HI 8812 (d)	108	35.3	39.5	42.5	42.8	<b>40.0</b>
6	GW 1348 (d)	109	36.0	39.2	36.9	39.4	<b>37.9</b>
7	DDW 49 (d)	110	35.2	45.4	35.0	43.1	<b>39.7</b>
8	DDW 48 (d)	113	37.4	40.3	36.4	40.6	<b>38.7</b>
<b>Mean</b>			<b>36.2</b>	<b>40.6</b>	<b>37.6</b>	<b>41.0</b>	<b>38.8</b>
<b>Irrigated Late Sown</b>							
<i>T. aestivum</i>							
1	HD2932 (C)	201	30.6	41.2	35.4	41.5	<b>37.2</b>
2	HD2864 (C)	202	30.6	41.3	38.7	43.7	<b>38.6</b>
3	MP3336 (C)	203	30.0	40.5	38.7	41.1	<b>37.6</b>
4	MP4010 (C)	204	34.2	46.7	39.5	38.9	<b>39.8</b>
5	CG1029	205	33.5	43.8	37.9	46.5	<b>40.4</b>
6	UAS3002	206	25.9	39.7	35.1	39.8	<b>35.1</b>
7	HI1633	207	28.3	40.8	39.0	40.3	<b>37.1</b>
8	HI1634	208	31.5	44.4	37.7	43.9	<b>39.4</b>
<b>Mean</b>			<b>30.6</b>	<b>42.3</b>	<b>37.8</b>	<b>42.0</b>	<b>38.1</b>
<i>T. durum</i>							
1	HI8808 (d)	209	30.5	42.7	41.4	50.7	<b>41.3</b>
2	HI8807 (d)	210	28.7	41.6	40.2	51.0	<b>40.4</b>
<b>Mean</b>			<b>29.6</b>	<b>42.2</b>	<b>40.8</b>	<b>50.9</b>	<b>40.9</b>
<b>Restricted Irrigated Timely Sown</b>							
<i>T. aestivum</i>							
1	DBW110 (C)	302	36.4	35.3	36.2	44.7	<b>38.2</b>
2	MP3288 (C)	304	35.9	38.8	38.9	44.5	<b>39.5</b>
3	DBW 277	305	37.7	39.2	39.7	43.6	<b>40.1</b>
<b>Mean</b>			<b>36.7</b>	<b>37.8</b>	<b>38.3</b>	<b>44.3</b>	<b>39.2</b>
<i>T. durum</i>							
1	UAS 466(d)*	303	37.0	38.1	35.3	41.1	<b>37.9</b>
2	DDW 47(d)* <sup>Q</sup>	306	36.3	38.7	44.0	45.5	<b>41.1</b>
3	HI8627(d) (C)	301	38.4	36.3	43.0	42.4	<b>40.0</b>
<b>Mean</b>			<b>37.2</b>	<b>37.7</b>	<b>40.8</b>	<b>43.0</b>	<b>39.7</b>

**Table 33: Grain Zinc content (ppm) of *T. aestivum* and *T. durum* genotypes in Central Zone (CZ) AVTs**

Sr. No.	Entries	Code	Vijapur	Junagarh	P'Kheda	Indore	Mean
<b>Irrigated Timely Sown</b>							
<i>T. aestivum</i>							
1	GW322 (C)	105	40.8	32.9	42.6	36.2	<b>38.1</b>
2	HI1544 (C)	106	39.8	36.0	31.3	35.4	<b>35.6</b>
3	HD3343 <sup>M</sup>	104	40.4	40.5	30.8	40.3	<b>38.0</b>
4	PBW 822 <sup>B</sup>	111	46.6	35.8	37.5	40.3	<b>40.1</b>
5	HD 3345 <sup>B</sup>	112	43.8	38.9	31.7	42.8	<b>39.3</b>
<b>Mean</b>			<b>42.3</b>	<b>36.8</b>	<b>34.8</b>	<b>39.0</b>	<b>38.2</b>
<i>T. durum</i>							
1	HI8713(d) (C)	101	42.1	40.8	34.4	34.7	<b>38.0</b>
2	HI8737(d) (C)	107	46.2	40.4	36.8	46.3	<b>42.4</b>
3	NIDW 1158 (d)	102	45.3	33.8	34.0	34.6	<b>36.9</b>
4	HI 8811 (d)	103	44.4	34.5	35.9	39.5	<b>38.6</b>
5	HI 8812 (d)	108	41.5	41.5	35.8	39.6	<b>39.6</b>
6	GW 1348 (d)	109	44.3	33.7	35.3	37.6	<b>37.7</b>
7	DDW 49 (d)	110	43.5	41.2	36.9	43.6	<b>41.3</b>
8	DDW 48 (d)	113	42.7	37.7	31.2	36.9	<b>37.1</b>
<b>Mean</b>			<b>43.8</b>	<b>38.0</b>	<b>35.0</b>	<b>39.1</b>	<b>39.0</b>
<b>Irrigated Late Sown</b>							
<i>T. aestivum</i>							
1	HD2932 (C)	201	32.2	38.5	32.3	36.0	<b>34.8</b>
2	HD2864 (C)	202	32.4	38.0	33.3	33.9	<b>34.4</b>
3	MP3336 (C)	203	35.3	37.3	37.1	37.3	<b>36.8</b>
4	MP4010 (C)	204	39.3	45.6	36.4	38.1	<b>39.9</b>
5	CG1029	205	31.3	44.0	29.9	37.6	<b>35.7</b>
6	UAS3002	206	30.4	45.2	33.3	39.8	<b>37.2</b>
7	HI1633	207	30.9	39.2	35.0	38.5	<b>35.9</b>
8	HI1634	208	30.1	40.4	34.0	36.7	<b>35.3</b>
<b>Mean</b>			<b>32.7</b>	<b>41.0</b>	<b>33.9</b>	<b>37.2</b>	<b>36.2</b>
<i>T. durum</i>							
1	HI8808 (d)	209	34.3	36.9	38.0	44.3	<b>38.4</b>
2	HI8807 (d)	210	30.6	38.6	42.1	44.5	<b>39.0</b>
<b>Mean</b>			<b>32.5</b>	<b>37.8</b>	<b>40.1</b>	<b>44.4</b>	<b>38.7</b>
<b>Restricted Irrigated Timely Sown</b>							
<i>T. aestivum</i>							
1	DBW110 (C)	302	44.5	39.4	24.6	37.4	<b>36.5</b>
2	MP3288 (C)	304	34.8	35.7	26.5	39.3	<b>34.1</b>
3	DBW 277	305	36.7	42.9	34.8	35.1	<b>37.4</b>
<b>Mean</b>			<b>38.7</b>	<b>39.3</b>	<b>28.6</b>	<b>37.3</b>	<b>36.0</b>
<i>T. durum</i>							
1	UAS 466(d)*	303	37.3	43.5	32.5	38.1	<b>37.9</b>
2	DDW 47(d)* <sup>Q</sup>	306	40.8	42.9	29.0	39.5	<b>38.1</b>
3	HI8627(d) (C)	301	43.8	46.8	31.0	37.9	<b>39.9</b>
<b>Mean</b>			<b>40.6</b>	<b>44.4</b>	<b>30.8</b>	<b>38.5</b>	<b>38.6</b>

**Table 34: Yellow berry (%) of *T. durum* genotypes in Central Zone (CZ) AVTs**

Sr. No.	Entries	Code	Vijapur	Junagarh	P'Kheda	Indore	Mean
<b>Irrigated Timely Sown</b>							
1	HI8713(d) (C)	101	1	25	0	15	10
2	HI8737(d) (C)	107	1	4	0	10	4
3	NIDW 1158 (d)	102	3	10	0	10	6
4	HI 8811 (d)	103	1	3	0	7	3
5	HI 8812 (d)	108	0	4	0	5	2
6	GW 1348 (d)	109	1	15	0	15	8
7	DDW 49 (d)	110	0	0	0	3	1
8	DDW 48 (d)	113	0	1	0	5	2
<b>Mean</b>			1	8	0	9	4
<b>Irrigated Late Sown</b>							
1	HI8808 (d)	209	4	0	0	0	1
2	HI8807 (d)	210	8	0	0	0	2
<b>Mean</b>			6	0	0	0	2
<b>Restricted Irrigated Timely Sown</b>							
1	UAS 466(d)*	303	0	0	0	1	0
2	DDW 47(d)* <sup>Q</sup>	306	0	4	0	0	1
3	HI8627(d) (C)	301	0	2	0	1	1
<b>Mean</b>			0	2	0	1	1

**Table 35: Grain appearance score (Max-10) of *T. aestivum* and *T. durum* genotypes in Peninsular Zone (PZ) AVTs**

Sr. No.	Entries	Code	Pune	Dharwad	Niphad	Mean
<b>Irrigated Timely Sown</b>						
<i>T. aestivum</i>						
1	MACS6222 (C)	106	6.2	6.8	6.0	<b>6.3</b>
2	GW 322 (C)	107	5.4	6.6	6.4	<b>6.1</b>
3	MACS6478 (C)	109	6.4	6.6	7.0	<b>6.7</b>
4	PBW 823 <sup>B</sup>	101	4.8	6.2	5.4	<b>5.5</b>
5	UAS 3001	104	5.8	6.6	5.6	<b>6.0</b>
6	HD3343 <sup>M</sup>	110	5.8	6.2	6.6	<b>6.2</b>
<b>Mean</b>			<b>5.7</b>	<b>6.5</b>	<b>6.2</b>	<b>6.1</b>
<i>T. durum</i>						
1	UAS428 (d) (C)	102	7.4	7.8	7.0	<b>7.4</b>
2	MACS3949 (d) (C)	105	7.2	8.0	7.4	<b>7.5</b>
3	DDW 49 (d)	103	7.2	7.2	7.2	<b>7.2</b>
4	DDW 48 (d)	108	7.4	7.8	7.6	<b>7.6</b>
5	WHD 963 (d)	111	6.4	7.6	6.2	<b>6.7</b>
<b>Mean</b>			<b>7.1</b>	<b>7.7</b>	<b>7.1</b>	<b>7.3</b>
<b>Irrigated Late Sown</b>						
<i>T. aestivum</i> and <i>T. durum</i>						
1	Raj4083 (C)	204	6.4	7.4	6.8	<b>6.9</b>
2	HD2932 (C)	205	6.2	6.4	6.6	<b>6.4</b>
3	HD3090 (C)	207	5.6	7.4	6.4	<b>6.5</b>
4	GW509	206	7.2	7.8	6.6	<b>7.2</b>
5	UAS 3002	203	5.4	6.0	6.0	<b>5.8</b>
6	HI1633	202	6.4	7.4	6.8	<b>6.9</b>
7	HI8807(d)	201	7.4	7.2	7.0	<b>7.2</b>
<b>Mean</b>			<b>6.4</b>	<b>7.1</b>	<b>6.6</b>	<b>6.7</b>
<b>Restricted Irrigated Timely Sown</b>						
<i>T. aestivum</i>						
1	NIAW 3170*	301	6.6	5.8	6.2	<b>6.2</b>
2	MACS 6695*	307	6.4	7.0	6.8	<b>6.7</b>
3	MACS 6696*	310	6.6	7.0	6.8	<b>6.8</b>
4	DBW93 (C)	304	6.4	7.0	6.0	<b>6.5</b>
5	HI1605 (C)	309	6.4	7.0	6.8	<b>6.7</b>
<b>Mean</b>			<b>6.5</b>	<b>6.8</b>	<b>6.5</b>	<b>6.6</b>
<i>T. durum</i>						
1	GW 1346(d)*	302	6.6	7.2	7.6	<b>7.1</b>
2	MACS 4058(d)*	303	7.4	7.6	7.8	<b>7.6</b>
3	HI 8805(d)*	305	7.6	7.6	7.8	<b>7.7</b>
4	HI 8802(d)*	312	7.2	7.6	8.0	<b>7.6</b>
5	AKDW2997-16(d) (C)	306	6.8	7.2	7.4	<b>7.1</b>
6	UAS446(d) (C)	308	6.2	7.0	7.2	<b>6.8</b>
7	NIDW 1149(d)	311	7.0	7.2	7.6	<b>7.3</b>
<b>Mean</b>			<b>7.0</b>	<b>7.3</b>	<b>7.6</b>	<b>7.3</b>

**Table 36: Hectolitre weight (Kg/hl) of *T. aestivum* and *T. durum* genotypes in Peninsular Zone (PZ) AVTs**

Sr. No.	Entries	Code	Pune	Dharwad	Niphad	Mean
<b>Irrigated Timely Sown</b>						
<i>T. aestivum</i>						
1	MACS6222 (C)	106	82.9	83.0	81.0	<b>82.3</b>
2	GW 322 (C)	107	78.9	80.0	79.0	<b>79.3</b>
3	MACS6478 (C)	109	79.5	80.3	76.6	<b>78.8</b>
4	PBW 823 <sup>B</sup>	101	75.9	82.0	79.0	<b>79.0</b>
5	UAS 3001	104	82.9	82.0	81.6	<b>82.2</b>
6	HD3343 <sup>M</sup>	110	76.3	78.0	77.7	<b>77.3</b>
<b>Mean</b>			<b>79.4</b>	<b>80.9</b>	<b>79.2</b>	<b>79.8</b>
<i>T. durum</i>						
1	UAS428 (d) (C)	102	83.4	83.0	82.2	<b>82.9</b>
2	MACS3949 (d) (C)	105	84.6	84.4	83.0	<b>84.0</b>
3	DDW 49 (d)	103	85.0	84.4	84.5	<b>84.6</b>
4	DDW 48 (d)	108	84.7	85.4	83.8	<b>84.6</b>
5	WHD 963 (d)	111	81.7	80.7	80.0	<b>80.8</b>
<b>Mean</b>			<b>83.9</b>	<b>83.6</b>	<b>82.7</b>	<b>83.4</b>
<b>Irrigated Late Sown</b>						
<i>T. aestivum</i> and <i>T. durum</i>						
1	Raj4083 (C)	204	81.6	82.4	82.0	<b>82.0</b>
2	HD2932 (C)	205	80.6	81.4	81.0	<b>81.0</b>
3	HD3090 (C)	207	79.5	80.0	80.0	<b>79.8</b>
4	GW509	206	81.6	82.3	82.0	<b>82.0</b>
5	UAS 3002	203	80.0	81.3	81.0	<b>80.8</b>
6	HI1633	202	82.4	83.0	83.1	<b>82.8</b>
7	HI8807(d)	201	85.5	83.8	84.0	<b>84.4</b>
<b>Mean</b>			<b>81.6</b>	<b>82.0</b>	<b>81.9</b>	<b>81.8</b>
<b>Restricted Irrigated Timely Sown</b>						
<i>T. aestivum</i>						
1	NIAW 3170*	301	78.7	81.8	81.0	<b>80.5</b>
2	MACS 6695*	307	81.5	82.5	82.8	<b>82.3</b>
3	MACS 6696*	310	81.8	82.7	83.0	<b>82.5</b>
4	DBW93 (C)	304	82.1	81.6	83.0	<b>82.2</b>
5	HI1605 (C)	309	81.7	83.8	83.2	<b>82.9</b>
<b>Mean</b>			<b>81.2</b>	<b>82.5</b>	<b>82.6</b>	<b>82.1</b>
<i>T. durum</i>						
1	GW 1346(d)*	302	76.5	78.0	79.0	<b>77.8</b>
2	MACS 4058(d)*	303	81.3	82.6	82.6	<b>82.2</b>
3	HI 8805(d)*	305	83.1	83.7	83.7	<b>83.5</b>
4	HI 8802(d)*	312	83.4	83.4	84.4	<b>83.7</b>
5	AKDW2997-16(d) (C)	306	81.0	81.7	81.8	<b>81.5</b>
6	UAS446(d) (C)	308	82.1	82.7	83.0	<b>82.6</b>
7	NIDW 1149(d)	311	80.5	81.2	82.0	<b>81.2</b>
<b>Mean</b>			<b>81.1</b>	<b>81.9</b>	<b>82.4</b>	<b>81.8</b>

**Table 37: Protein content (%) at 12% moisture basis of *T. aestivum* and *T. durum* genotypes in Peninsular Zone (PZ) AVTs**

Sr. No.	Entries	Code	Pune	Dharwad	Niphad	Mean
<b>Irrigated Timely Sown</b>						
<i>T. aestivum</i>						
1	MACS6222 (C)	106	11.64	11.83	11.85	<b>11.77</b>
2	GW 322 (C)	107	10.21	11.38	10.61	<b>10.73</b>
3	MACS6478 (C)	109	11.81	13.09	12.44	<b>12.45</b>
4	PBW 823 <sup>B</sup>	101	12.55	12.96	13.46	<b>12.99</b>
5	UAS 3001	104	10.96	12.22	10.33	<b>11.17</b>
6	HD3343 <sup>M</sup>	110	11.38	11.78	10.75	<b>11.30</b>
<b>Mean</b>			<b>11.42</b>	<b>12.21</b>	<b>11.57</b>	<b>11.74</b>
<i>T. durum</i>						
1	UAS428 (d) (C)	102	11.70	11.36	11.56	<b>11.54</b>
2	MACS3949 (d) (C)	105	11.80	11.88	12.24	<b>11.97</b>
3	DDW 49 (d)	103	11.88	10.82	11.37	<b>11.35</b>
4	DDW 48 (d)	108	12.00	11.77	11.69	<b>11.82</b>
5	WHD 963 (d)	111	11.96	11.81	11.38	<b>11.72</b>
<b>Mean</b>			<b>11.87</b>	<b>11.53</b>	<b>11.65</b>	<b>11.68</b>
<b>Irrigated Late Sown</b>						
<i>T. aestivum</i> and <i>T. durum</i>						
1	Raj4083 (C)	204	11.96	11.34	11.51	<b>11.60</b>
2	HD2932 (C)	205	12.52	11.67	12.32	<b>12.17</b>
3	HD3090 (C)	207	12.03	11.95	12.00	<b>11.99</b>
4	GW509	206	12.16	12.12	10.98	<b>11.75</b>
5	UAS 3002	203	11.54	11.25	11.34	<b>11.38</b>
6	HI1633	202	12.00	11.53	12.08	<b>11.87</b>
7	HI8807(d)	201	11.49	11.55	12.08	<b>11.71</b>
<b>Mean</b>			<b>11.96</b>	<b>11.63</b>	<b>11.76</b>	<b>11.78</b>
<b>Restricted Irrigated Timely Sown</b>						
<i>T. aestivum</i>						
1	NIAW 3170*	301	12.3	10.4	12.2	<b>11.64</b>
2	MACS 6695*	307	11.6	11.6	12.6	<b>11.93</b>
3	MACS 6696*	310	12.5	11.7	12.4	<b>12.22</b>
4	DBW93 (C)	304	13.1	12.1	12.5	<b>12.55</b>
5	HI1605 (C)	309	12.6	11.0	12.1	<b>11.89</b>
<b>Mean</b>			<b>12.4</b>	<b>11.4</b>	<b>12.4</b>	<b>12.0</b>
<i>T. durum</i>						
1	GW 1346(d)*	302	12.0	10.6	11.5	<b>11.35</b>
2	MACS 4058(d)*	303	13.6	11.2	12.4	<b>12.38</b>
3	HI 8805(d)*	305	13.0	10.2	12.9	<b>12.03</b>
4	HI 8802(d)*	312	13.0	11.1	12.5	<b>12.20</b>
5	AKDW2997-16(d) (C)	306	12.2	10.1	11.8	<b>11.37</b>
6	UAS446(d) (C)	308	13.0	11.3	13.5	<b>12.58</b>
7	NIDW 1149(d)	311	12.3	10.1	11.6	<b>11.35</b>
<b>Mean</b>			<b>12.7</b>	<b>10.7</b>	<b>12.3</b>	<b>11.9</b>

**Table 38: Sedimentation value (ml) of *T. aestivum* and *T. durum* genotypes in Peninsular Zone (PZ) AVTs**

Sr. No.	Entries	Code	Pune	Dharwad	Niphad	Mean
<b>Irrigated Timely Sown</b>						
<i>T. aestivum</i>						
1	MACS6222 (C)	106	35.7	45.6	44.6	<b>42.0</b>
2	GW 322 (C)	107	35.7	43.2	45.6	<b>41.5</b>
3	MACS6478 (C)	109	44.6	58.8	62.1	<b>55.2</b>
4	PBW 823 <sup>B</sup>	101	47.5	67.2	55.5	<b>56.7</b>
5	UAS 3001	104	45.1	47.5	55.0	<b>49.2</b>
6	HD3343 <sup>M</sup>	110	33.8	47.9	46.1	<b>42.6</b>
<b>Mean</b>			<b>40.4</b>	<b>51.7</b>	<b>51.5</b>	<b>47.9</b>
<i>T. durum</i>						
1	UAS428 (d) (C)	102	25.8	40.9	31.9	<b>32.9</b>
2	MACS3949 (d) (C)	105	38.5	51.2	53.1	<b>47.6</b>
3	DDW 49 (d)	103	37.6	47.9	47.0	<b>44.2</b>
4	DDW 48 (d)	108	31.5	43.2	45.1	<b>39.9</b>
5	WHD 963 (d)	111	27.7	47.9	44.2	<b>39.9</b>
<b>Mean</b>			<b>32.2</b>	<b>46.2</b>	<b>44.3</b>	<b>40.9</b>
<b>Irrigated Late Sown</b>						
<i>T. aestivum and T. durum</i>						
1	Raj4083 (C)	204	53.1	57.3	55.5	<b>55.3</b>
2	HD2932 (C)	205	47.5	55.0	55.0	<b>52.5</b>
3	HD3090 (C)	207	40.4	52.2	49.8	<b>47.5</b>
4	GW509	206	33.8	39.9	38.5	<b>37.4</b>
5	UAS 3002	203	47.9	49.8	50.3	<b>49.3</b>
6	HI1633	202	38.5	50.8	52.2	<b>47.2</b>
7	HI8807(d)	201	29.1	41.8	38.5	<b>36.5</b>
<b>Mean</b>			<b>41.5</b>	<b>49.6</b>	<b>48.5</b>	<b>46.5</b>
<b>Restricted Irrigated Timely Sown</b>						
<i>T. aestivum</i>						
1	NIAW 3170*	301	59.7	54.5	66.8	<b>60.3</b>
2	MACS 6695*	307	68.6	59.7	70.5	<b>66.3</b>
3	MACS 6696*	310	71.0	58.8	72.9	<b>67.5</b>
4	DBW93 (C)	304	50.8	44.6	45.6	<b>47.0</b>
5	HI1605 (C)	309	74.8	62.5	63.9	<b>67.1</b>
<b>Mean</b>			<b>65.0</b>	<b>56.0</b>	<b>63.9</b>	<b>61.6</b>
<i>T. durum</i>						
1	GW 1346(d)*	302	28.2	24.4	26.3	<b>26.3</b>
2	MACS 4058(d)*	303	39.9	40.9	39.0	<b>39.9</b>
3	HI 8805(d)*	305	41.3	44.2	43.2	<b>42.9</b>
4	HI 8802(d)*	312	40.9	46.5	40.9	<b>42.8</b>
5	AKDW2997-16(d) (C)	306	44.2	46.1	45.6	<b>45.3</b>
6	UAS446(d) (C)	308	63.9	51.2	55.9	<b>57.0</b>
7	NIDW 1149(d)	311	41.3	33.8	36.2	<b>37.1</b>
<b>Mean</b>			<b>42.8</b>	<b>41.0</b>	<b>41.0</b>	<b>41.6</b>

**Table 39: Phenol test (Max-10) of *T. aestivum* and *T. durum* genotypes in Peninsular Zone (PZ) AVTs**

Sr. No.	Entries	Code	Pune	Dharwad	Niphad	Mean
<b>Irrigated Timely Sown</b>						
<i>T. aestivum</i>						
1	MACS6222 (C)	106	7.5	7.5	7.0	<b>7.3</b>
2	GW 322 (C)	107	6.5	7.5	7.0	<b>7.0</b>
3	MACS6478 (C)	109	2.5	2.5	2.5	<b>2.5</b>
4	PBW 823 <sup>B</sup>	101	8.0	7.0	7.0	<b>7.3</b>
5	UAS 3001	104	6.5	7.0	7.5	<b>7.0</b>
6	HD3343 <sup>M</sup>	110	6.5	7.5	7.0	<b>7.0</b>
<b>Mean</b>			<b>6.3</b>	<b>6.5</b>	<b>6.3</b>	<b>6.4</b>
<i>T. durum</i>						
1	UAS428 (d) (C)	102	0.0	0.0	0.0	<b>0.0</b>
2	MACS3949 (d) (C)	105	0.0	0.0	0.0	<b>0.0</b>
3	DDW 49 (d)	103	0.0	0.0	0.0	<b>0.0</b>
4	DDW 48 (d)	108	0.0	0.0	0.0	<b>0.0</b>
5	WHD 963 (d)	111	0.0	0.0	0.0	<b>0.0</b>
<b>Mean</b>			<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Irrigated Late Sown</b>						
<i>T. aestivum</i> and <i>T. durum</i>						
1	Raj4083 (C)	204	7.5	7.0	6.5	<b>7.0</b>
2	HD2932 (C)	205	3.5	3.0	2.0	<b>2.8</b>
3	HD3090 (C)	207	6.0	8.5	9.0	<b>7.8</b>
4	GW509	206	6.0	7.5	6.5	<b>6.7</b>
5	UAS 3002	203	7.0	7.5	7.0	<b>7.2</b>
6	HI1633	202	6.5	8.0	6.5	<b>7.0</b>
7	HI8807(d)	201	0.0	0.0	0.0	<b>0.0</b>
<b>Mean</b>			<b>5.2</b>	<b>5.9</b>	<b>5.4</b>	<b>5.5</b>
<b>Restricted Irrigated Timely Sown</b>						
<i>T. aestivum</i>						
1	NIAW 3170*	301	7.5	7.5	6.5	<b>7.2</b>
2	MACS 6695*	307	4.0	3.0	3.5	<b>3.5</b>
3	MACS 6696*	310	3.5	3.5	0.0	<b>2.3</b>
4	DBW93 (C)	304	7.5	7.5	6.0	<b>7.0</b>
5	HI1605 (C)	309	3.5	3.0	3.0	<b>3.2</b>
<b>Mean</b>			<b>5.2</b>	<b>4.9</b>	<b>3.8</b>	<b>4.6</b>
<i>T. durum</i>						
1	GW 1346(d)*	302	0.0	0.0	0.0	<b>0.0</b>
2	MACS 4058(d)*	303	0.0	0.0	0.0	<b>0.0</b>
3	HI 8805(d)*	305	0.0	0.0	0.0	<b>0.0</b>
4	HI 8802(d)*	312	0.0	0.0	0.0	<b>0.0</b>
5	AKDW2997-16(d) (C)	306	0.0	0.0	0.0	<b>0.0</b>
6	UAS446(d) (C)	308	0.0	0.0	0.0	<b>0.0</b>
7	NIDW 1149(d)	311	0.0	0.0	0.0	<b>0.0</b>
<b>Mean</b>			<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>



**Table 40: Yellow pigment (ppm) of *T. aestivum* and *T. durum* genotypes in Peninsular Zone (PZ) AVTs**

Sr. No.	Entries	Code	Pune	Dharwad	Niphad	Mean
<b>Irrigated Timely Sown</b>						
<i>T. aestivum</i>						
1	MACS6222 (C)	106	3.12	3.14	2.55	<b>2.94</b>
2	GW 322 (C)	107	2.41	2.25	2.11	<b>2.25</b>
3	MACS6478 (C)	109	3.49	3.31	2.83	<b>3.21</b>
4	PBW 823 <sup>B</sup>	101	3.73	3.26	2.81	<b>3.27</b>
5	UAS 3001	104	3.75	3.80	3.35	<b>3.64</b>
6	HD3343 <sup>M</sup>	110	2.79	2.53	2.18	<b>2.50</b>
<b>Mean</b>			<b>3.22</b>	<b>3.05</b>	<b>2.64</b>	<b>2.97</b>
<i>T. durum</i>						
1	UAS428 (d) (C)	102	4.41	4.67	3.56	<b>4.22</b>
2	MACS3949 (d) (C)	105	5.59	5.49	4.58	<b>5.22</b>
3	DDW 49 (d)	103	4.95	5.49	4.58	<b>5.01</b>
4	DDW 48 (d)	108	5.26	5.85	5.38	<b>5.49</b>
5	WHD 963 (d)	111	6.29	6.32	5.85	<b>6.15</b>
<b>Mean</b>			<b>5.30</b>	<b>5.57</b>	<b>4.79</b>	<b>5.22</b>
<b>Irrigated Late Sown</b>						
<i>T. aestivum and T. durum</i>						
1	Raj4083 (C)	204	2.29	2.03	2.36	<b>2.23</b>
2	HD2932 (C)	205	2.41	2.32	2.27	<b>2.33</b>
3	HD3090 (C)	207	2.81	2.34		<b>2.58</b>
4	GW509	206	1.94	1.85	1.66	<b>1.81</b>
5	UAS 3002	203	3.92	3.52	3.05	<b>3.49</b>
6	HI1633	202	2.55	2.15	1.96	<b>2.22</b>
7	HI8807(d)	201	5.80	5.54	5.24	<b>5.53</b>
<b>Mean</b>			<b>3.10</b>	<b>2.82</b>	<b>2.76</b>	<b>2.89</b>
<b>Restricted Irrigated Timely Sown</b>						
<i>T. aestivum</i>						
1	NIAW 3170*	301	2.43	2.34	2.01	<b>2.26</b>
2	MACS 6695*	307	2.58	2.51	2.13	<b>2.40</b>
3	MACS 6696*	310	2.79	2.39	2.13	<b>2.43</b>
4	DBW93 (C)	304	3.59	3.54	3.35	<b>3.49</b>
5	HI1605 (C)	309	2.13	2.27	1.75	<b>2.05</b>
<b>Mean</b>			<b>2.70</b>	<b>2.61</b>	<b>2.27</b>	<b>2.53</b>
<i>T. durum</i>						
1	GW 1346(d)*	302	3.54	3.28	3.33	<b>3.38</b>
2	MACS 4058(d)*	303	3.31	3.05	3.05	<b>3.13</b>
3	HI 8805(d)*	305	5.24	5.00	4.79	<b>5.01</b>
4	HI 8802(d)*	312	6.32	6.27	5.89	<b>6.16</b>
5	AKDW2997-16(d) (C)	306	3.75	3.61	3.24	<b>3.53</b>
6	UAS446(d) (C)	308	5.42	5.19	5.05	<b>5.22</b>
7	NIDW 1149(d)	311	4.48	3.96	4.22	<b>4.22</b>
<b>Mean</b>			<b>4.58</b>	<b>4.34</b>	<b>4.22</b>	<b>4.38</b>

**Table 41: Hardness index of *T. aestivum* and *T. durum* genotypes in Peninsular Zone (PZ) AVTs**

Sr. No.	Entries	Code	Pune	Dharwad	Niphad	Mean
<b>Irrigated Timely Sown</b>						
<i>T. aestivum</i>						
1	MACS6222 (C)	106		83.2		83.2
2	GW 322 (C)	107		85.3		85.3
3	MACS6478 (C)	109		79.1		79.1
4	PBW 823 <sup>B</sup>	101		62.3		62.3
5	UAS 3001	104		81.5		81.5
6	HD3343 <sup>M</sup>	110		78.6		78.6
<b>Mean</b>				<b>78.3</b>		<b>78.3</b>
<i>T. durum</i>						
1	UAS428 (d) (C)	102		84.8		84.8
2	MACS3949 (d) (C)	105		83.7		83.7
3	DDW 49 (d)	103		93.0		93.0
4	DDW 48 (d)	108		80.1		80.1
5	WHD 963 (d)	111		89.5		89.5
<b>Mean</b>				<b>86.2</b>		<b>86.2</b>
<b>Irrigated Late Sown</b>						
<i>T. aestivum and T. durum</i>						
1	Raj4083 (C)	204		80.5		80.5
2	HD2932 (C)	205		79.0		79.0
3	HD3090 (C)	207		86.5		86.5
4	GW509	206		77.8		77.8
5	UAS 3002	203		81.1		81.1
6	HI1633	202		86.7		86.7
7	HI8807(d)	201		94.9		94.9
<b>Mean</b>				<b>83.8</b>		<b>83.8</b>
<b>Restricted Irrigated Timely Sown</b>						
<i>T. aestivum</i>						
1	NIAW 3170*	301		41.0		41.0
2	MACS 6695*	307		77.5		77.5
3	MACS 6696*	310		76.7		76.7
4	DBW93 (C)	304		80.1		80.1
5	HI1605 (C)	309		91.2		91.2
<b>Mean</b>				<b>73.3</b>		<b>73.3</b>
<i>T. durum</i>						
1	GW 1346(d)*	302		87.6		87.6
2	MACS 4058(d)*	303		81.4		81.4
3	HI 8805(d)*	305		81.4		81.4
4	HI 8802(d)*	312		91.3		91.3
5	AKDW2997-16(d) (C)	306		89.7		89.7
6	UAS446(d) (C)	308		86.4		86.4
7	NIDW 1149(d)	311		79.5		79.5
<b>Mean</b>				<b>85.3</b>		<b>85.3</b>

**Table 42: Grain Iron content (ppm) of *T. aestivum* and *T. durum* genotypes in Peninsular Zone (PZ) AVTs**

Sr. No.	Entries	Code	Pune	Dharwad	Niphad	Mean
<b>Irrigated Timely Sown</b>						
<i>T. aestivum</i>						
1	MACS6222 (C)	106	31.5	41.9	37.7	<b>37.0</b>
2	GW 322 (C)	107	35.5	41.6	36.4	<b>37.8</b>
3	MACS6478 (C)	109	30.7	41.0	35.5	<b>35.7</b>
4	PBW 823 <sup>B</sup>	101	35.0	46.1	41.7	<b>40.9</b>
5	UAS 3001	104	32.1	38.1	33.5	<b>34.6</b>
6	HD3343 <sup>M</sup>	110	30.7	39.8	36.4	<b>35.6</b>
<b>Mean</b>			<b>32.6</b>	<b>41.4</b>	<b>36.9</b>	<b>37.0</b>
<i>T. durum</i>						
1	UAS428 (d) (C)	102	34.8	43.5	41.4	<b>39.9</b>
2	MACS3949 (d) (C)	105	33.5	45.6	42.3	<b>40.5</b>
3	DDW 49 (d)	103	34.4	47.0	39.5	<b>40.3</b>
4	DDW 48 (d)	108	34.4	44.3	37.0	<b>38.6</b>
5	WHD 963 (d)	111	36.6	43.1	38.9	<b>39.5</b>
<b>Mean</b>			<b>34.7</b>	<b>44.7</b>	<b>39.8</b>	<b>39.8</b>
<b>Irrigated Late Sown</b>						
<i>T. aestivum and T. durum</i>						
1	Raj4083 (C)	204	42.2	46.6	40.3	<b>43.0</b>
2	HD2932 (C)	205	37.2	43.2	35.5	<b>38.6</b>
3	HD3090 (C)	207	38.0	46.8	37.6	<b>40.8</b>
4	GW509	206	41.5	49.1	43.1	<b>44.6</b>
5	UAS 3002	203	34.4	41.2	34.5	<b>36.7</b>
6	HI1633	202	40.3	47.6	39.4	<b>42.4</b>
7	HI8807(d)	201	37.5	44.3	39.5	<b>40.4</b>
<b>Mean</b>			<b>38.7</b>	<b>45.5</b>	<b>38.6</b>	<b>40.9</b>
<b>Restricted Irrigated Timely Sown</b>						
<i>T. aestivum</i>						
1	NIAW 3170*	301	41.7	41.2	39.5	<b>40.8</b>
2	MACS 6695*	307	37.5	40.3	40.6	<b>39.5</b>
3	MACS 6696*	310	35.6	42.3	39.2	<b>39.0</b>
4	DBW93 (C)	304	36.9	46.3	41.4	<b>41.5</b>
5	HI1605 (C)	309	40.1	42.1	37.2	<b>39.8</b>
<b>Mean</b>			<b>38.4</b>	<b>42.4</b>	<b>39.6</b>	<b>40.1</b>
<i>T. durum</i>						
1	GW 1346(d)*	302	37.8	37.1	35.5	<b>36.8</b>
2	MACS 4058(d)*	303	38.0	37.6	37.8	<b>37.8</b>
3	HI 8805(d)*	305	42.0	38.7	37.6	<b>39.4</b>
4	HI 8802(d)*	312	41.2	42.0	40.5	<b>41.2</b>
5	AKDW2997-16(d) (C)	306	38.7	37.1	36.4	<b>37.4</b>
6	UAS446(d) (C)	308	39.2	39.4	39.4	<b>39.3</b>
7	NIDW 1149(d)	311	39.4	39.2	40.5	<b>39.7</b>
<b>Mean</b>			<b>39.5</b>	<b>38.7</b>	<b>38.2</b>	<b>38.8</b>

**Table 43: Grain Zinc content (ppm) of *T. aestivum* and *T. durum* genotypes in Peninsular Zone (PZ) AVTs**

Sr. No.	Entries	Code	Pune	Dharwad	Niphad	Mean
<b>Irrigated Timely Sown</b>						
<i>T. aestivum</i>						
1	MACS6222 (C)	106	36.8	28.9	37.4	<b>34.4</b>
2	GW 322 (C)	107	40.5	30.0	37.4	<b>36.0</b>
3	MACS6478 (C)	109	35.8	27.5	37.3	<b>33.5</b>
4	PBW 823 <sup>B</sup>	101	43.5	35.0	44.3	<b>40.9</b>
5	UAS 3001	104	36.3	29.0	32.7	<b>32.7</b>
6	HD3343 <sup>M</sup>	110	35.3	32.5	36.0	<b>34.6</b>
<b>Mean</b>			<b>38.0</b>	<b>30.5</b>	<b>37.5</b>	<b>35.3</b>
<i>T. durum</i>						
1	UAS428 (d) (C)	102	44.3	33.0	40.3	<b>39.2</b>
2	MACS3949 (d) (C)	105	40.9	31.6	44.6	<b>39.0</b>
3	DDW 49 (d)	103	42.5	33.3	38.6	<b>38.1</b>
4	DDW 48 (d)	108	47.0	32.3	40.3	<b>39.9</b>
5	WHD 963 (d)	111	44.4	31.4	34.3	<b>36.7</b>
<b>Mean</b>			<b>43.8</b>	<b>32.3</b>	<b>39.6</b>	<b>38.6</b>
<b>Irrigated Late Sown</b>						
<i>T. aestivum</i> and <i>T. durum</i>						
1	Raj4083 (C)	204	40.9	37.9	33.6	<b>37.5</b>
2	HD2932 (C)	205	40.2	37.1	31.2	<b>36.2</b>
3	HD3090 (C)	207	42.7	41.8	34.1	<b>39.5</b>
4	GW509	206	51.2	45.2	42.5	<b>46.3</b>
5	UAS 3002	203	38.7	36.7	33.3	<b>36.2</b>
6	HI1633	202	45.0	40.7	32.3	<b>39.3</b>
7	HI8807(d)	201	45.9	44.7	37.4	<b>42.7</b>
<b>Mean</b>			<b>43.5</b>	<b>40.6</b>	<b>34.9</b>	<b>39.7</b>
<b>Restricted Irrigated Timely Sown</b>						
<i>T. aestivum</i>						
1	NIAW 3170*	301	39.6	35.7	29.5	<b>34.9</b>
2	MACS 6695*	307	35.7	33.7	27.5	<b>32.3</b>
3	MACS 6696*	310	35.9	33.7	32.2	<b>33.9</b>
4	DBW93 (C)	304	35.4	38.6	30.0	<b>34.7</b>
5	HI1605 (C)	309	33.2	33.4	26.9	<b>31.2</b>
<b>Mean</b>			<b>36.0</b>	<b>35.0</b>	<b>29.2</b>	<b>33.4</b>
<i>T. durum</i>						
1	GW 1346(d)*	302	36.5	34.6	31.3	<b>34.1</b>
2	MACS 4058(d)*	303	41.7	41.8	33.2	<b>38.9</b>
3	HI 8805(d)*	305	37.5	38.2	27.9	<b>34.5</b>
4	HI 8802(d)*	312	43.0	44.3	30.1	<b>39.1</b>
5	AKDW2997-16(d) (C)	306	36.2	37.4	29.0	<b>34.2</b>
6	UAS446(d) (C)	308	37.0	36.2	30.7	<b>34.6</b>
7	NIDW 1149(d)	311	37.4	37.0	30.8	<b>35.1</b>
<b>Mean</b>			<b>38.5</b>	<b>38.5</b>	<b>30.4</b>	<b>35.8</b>

**Table 44: Yellow berry (%) of *T. durum* genotypes in Peninsular Zone (PZ) AVTs**

Sr. No.	Entries	Code	Pune	Dharwad	Niphad	Mean
<b>Irrigated Timely Sown</b>						
1	UAS428 (d) (C)	102	3	1	0	<b>1</b>
2	MACS3949 (d) (C)	105	0	0	0	<b>0</b>
3	DDW 49 (d)	103	0	1	0	<b>0</b>
4	DDW 48 (d)	108	2	1	0	<b>1</b>
5	WHD 963 (d)	111	0	0	0	<b>0</b>
<b>Mean</b>			<b>1</b>	<b>1</b>	<b>0</b>	<b>1</b>
<b>Irrigated Late Sown</b>						
7	HI8807(d)	201	0	7	0	<b>2</b>
<b>Mean</b>			<b>0</b>	<b>7</b>	<b>0</b>	<b>2</b>
<b>Restricted Irrigated Timely Sown</b>						
1	GW 1346(d)*	302	0	3	0	<b>1</b>
2	MACS 4058(d)*	303	0	0	0	<b>0</b>
3	HI 8805(d)*	305	0	2	0	<b>1</b>
4	HI 8802(d)*	312	0	0	0	<b>0</b>
5	AKDW2997-16(d) (C)	306	0	1	0	<b>0</b>
6	UAS446(d) (C)	308	0	0	0	<b>0</b>
7	NIDW 1149(d)	311	0	4	0	<b>1</b>
<b>Mean</b>			<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>

**Table 45 : High Molecular Weight Glutenin Subunits of *T. aestivum* genotypes in Northern Hills Zone AVTs**

Sr. No.	Entry	Code	Glu-D1	Glu-A1	Glu-B1	Glu-1 Score
<b>Irrigated Timely Sown</b>						
1	HPW349 (C)	1801	5+10	1	7	8
2	VL907 (C)	1802	5+10	1	17+18	10
3	HS507 (C)	1803	5+10	1	7	8
4	HS562 (C)	1805	5+10	1	17+18	10
5	HS652	1804	2+12	N	17+18	6
<b>Restricted Irrigated Late Sown</b>						
1	VL892 (C)	1801	2+12	2*	7	6
2	HS490 (C)	1802	2+12	2*	7	6
3	HPW468	1803	2+12	2*	7	6
4	HS673	1804	5+10	N	7	6
5	VL3020	1805	2+12	2*	7	6
6	UP3041	1806	2+12	2*	7	6
7	HPW467	1807	2+12	2*	7	6
8	HS674	1808	2+12	2*	7	6
9	VL3019	1809	5+10	N	7	6
10	VL3021	1810	5+10	1	17+18	10

**Table 46 : High Molecular weight Glutenin Subunits of *T. aestivum* genotypes in North Western Plains Zone AVTs**

Sr. No.	Entry	Code	Glu-D1	Glu-A1	Glu-B1	Glu-1 Score
<b>Irrigated Timely Sown</b>						
1	DBW 221*	105	5+10	1	17+18	10
2	DBW 222*	106	5+10	2*	17+18	10
3	WH1105 (C)	101	5+10	2*	7	8
4	HD3226(I) (C)	102	5+10	1	13+16	10
5	HD3086 (C)	103	5+10	1	17+18	10
6	PBW550 (C)	107	5+10	2*	7+9	9
7	HD2967 (C)	109	5+10	2*	17+18	10
8	DPW621-50 (C)	111	5+10	2*	17+18	10
9	DBW88 (C)	112	5+10	2*	17+18	10
10	PBW820 <sup>M</sup>	104	2+12	2*	7	6
11	PBW821 <sup>M</sup>	108	5+10	2*	7+8	10
12	NW 7049	110	5+10	2*	17+18	10
<b>Irrigated Late Sown</b>						
1	PBW 771*	206	5+10	N	7+9	7
2	PBW752(I) (C)	201	5+10	2*	17+18	10
3	DBW173 (C)	202	5+10	2*	17+18	10
4	WH1021 (C)	203	2+12	2*	7+8	8
5	HD3059 (C)	204	5+10	2*	17+18	10
6	WH1124 (C)	205	5+10	1	17+18	10
<b>Restricted Irrigated Timely Sown</b>						
1	HI 1628*	303	5+10	2*	7	8
2	NIAW 3170*	309	2+12	N	17+18	7
3	BRW 3806* <sup>#</sup>	308	5+10	2*	7	8
4	HI1620(I) (C)	301	5+10	2*	17+18	10
5	WH1142 (C)	304	5+10	1	7	8
6	HD3043 (C)	305	5+10	2*	7	8
7	PBW644 (C)	306	2+12	1	7+8	8
8	HD3237(I) (C)	307	5+10	2*	7	8
9	WH1080 (C)	310	5+10	1	7	8
10	PBW 796	302	5+10	2*	17+18	10

**Table 47: High Molecular Weight Glutenin Subunits of *T. aestivum* genotypes in North Eastern Plains Zone AVTs**

Sr. No.	Entry	Code	Glu-D1	Glu-A1	Glu-B1	Glu-1 Score
<b>Irrigated Timely Sown</b>						
1	HD3249* <sup>#Q</sup>	101	5+10	N	17+18	8
2	HD2733 (C)	102	5+10	2*	7+9	9
3	DBW39 (C)	105	5+10	2*	7+9	9
4	DBW187(I) (C)	108	5+10	2*	17+18	10
5	K0307 (C)	110	2+12	2*	17+18	8
6	HD2967 (C)	111	5+10	2*	17+18	10
7	PBW 781	103	5+10	2*	7	8
8	DBW 257	104	5+10	1	17+18	10
9	HD 3277	106	5+10	2*	17+18	10
10	RAJ 4529	107	2+12	2*	7	6
11	WH 1239	109	5+10	2*	7	8
<b>Restricted Irrigated Timely Sown</b>						
1	DBW 252* <sup>#</sup>	306	5+10	N	7	6
2	K1317 (C)	301	2+12	N	7	4
3	HI1612 (C)	302	5+10	2*	7	8
4	HD3171 (C)	304	5+10	2*	7	8
5	HD2888 (C)	305	2+12	N	20	4
6	K8027 (C)	307	2+12	2*	17+18	8
7	HD 3293	303	5+10	2*	7	8
8	DBW 273	308	5+10	2*	13+16	10

**Table 48 : High Molecular weight Glutenin Subunits of *T. aestivum* genotypes in Central Zone AVTs**

Sr. No.	Entry	Code	Glu-D1	Glu-A1	Glu-B1	Glu-1 Score
<b>Irrigated Timely Sown</b>						
1	GW322 (C)	105	2+12	2*	7+8	8
2	HI1544 (C)	106	2+12	N	7+8	6
3	HD3343 <sup>M</sup>	104	5+10	1	7	8
4	PBW 822 <sup>B</sup>	111	2+12	2*	7	6
5	HD 3345 <sup>B</sup>	112	5+10	2*	7	8
<b>Irrigated Late Sown</b>						
1	CG1029	205	2+12	2*	7+8	8
2	UAS3002	206	5+10	1	7+8	8
3	HI1633	207	5+10	2*	7	8
4	HI1634	208	5+10	2*	7	8
<b>Restricted Irrigated Timely Sown</b>						
1	DBW110 (C)	302	5+10	1	7	8
2	MP3288 (C)	304	2+12	2*	7+9	7
3	DBW 277	305	2+12	2*	17+18	8



**Table 49 : High Molecular Weight Glutenin Subunits of *T. aestivum* genotypes in Peninsular Zone AVTs**

Sr. No.	Entry	Code	Glu-D1	Glu-A1	Glu-B1	Glu-1 Score
<b>Irrigated Timely Sown</b>						
1	MACS6222 (C)	106	2+12	2*	7+9	7
2	MACS6478 (C)	109	2+12	1	17+18	8
3	PBW 823 <sup>B</sup>	101	5+10	2*	7+8	10
4	UAS 3001	104	5+10	1	7	8
5	HD3343 <sup>M</sup>	110	5+10	1	17+18	10
<b>Irrigated Late Sown</b>						
1	HI1633	202	5+10	2*	7	8
2	UAS 3002	203	5+10	1	7	8
3	GW509	206	2+12	N	7	4
<b>Restricted Irrigated Timely Sown</b>						
1	NIAW 3170*	301	2+12	N	17+18	6
2	MACS 6695*	307	2+12	N	17+18	6
3	MACS 6696*	310	2+12	N	17+18	6
4	DBW93 (C)	304	5+10	2*	17+18	10
5	HI1605 (C)	309	5+10	2*	7	8

**Table 51 : High Molecular Weight Glutenin Subunits of *T. aestivum* genotypes in HYPT trial**

Sr. No.	Entry	Code	Glu-D1	Glu-A1	Glu-B1	Glu-1 Score
1	HD3317	1	5+10	1	7	8
2	WH1254	2	2+12	1	7	6
3	DBW301	3	5+10	2*	6+8	8
4	WH1270	4	5+10	2*	7	8
5	PBW824	6	5+10	2*	7	8
6	UP3043	7	5+10	1	7	8
7	DBW187	8	5+10	2*	17+18	10
8	DBW303	10	5+10	2*	7	8
9	DBW304	11	5+10	2*	17+18	10
10	UP3042	12	5+10	2*	7	8
11	DBW302	13	5+10	2*	7	8
12	PBW825	14	2+12	2*	7	6
13	HD3347	15	5+10	1	17+18	10
14	HD2967 (C)	5	5+10	2*	17+18	10
15	HD3086 (C)	9	5+10	1	17+18	10

**Table 50: High Molecular weight Glutenin Subunits of *T. aestivum* genotypes in SPL-VLS**

<b>Sr. No.</b>	<b>Entry</b>	<b>Code</b>	<b>Glu-D1</b>	<b>Glu-A1</b>	<b>Glu-B1</b>	<b>Glu-1 Score</b>
1	HD3271*	104	5+10	N	17+18	8
2	HI1621*	107	5+10	N	7	6
3	PBW757 (C)	101	5+10	2*	17+18	10
4	DBW14 (C)	105	2+12	2*	7+8	8
5	DBW71 (C)	106	5+10	2*	17+18	10
6	HD3298	103	5+10	2*	7	8
7	PBW 797	108	5+10	2*	17+18	10

# **SECTION B**

## **SPECIAL TRIALS**

**i. HYPT**

**ii. SPL-VLS**

**iii. Dicocum**

**iv. Salinity/Alkalinity**

## **SPECIAL TRIALS**

### **High Yield Potential Trial (Tables 1 - 8)**

Under this trial, fifteen entries including two checks from three centres (Karnal, Ludhiana and Hisar) were evaluated for grain appearance, hectolitre weight, protein content, sedimentation value, hardness index, phenol test and Iron & Zinc content.

### **Very Late Sown Trial (Tables 9-16)**

The grain samples were evaluated from Karnal, Delhi, Ludhiana, Pantnagar and Hisar in NWPZ and Kanpur & Sabour in NEPZ under very late sown condition. The entries including checks were analysed for grain appearance, hectolitre weight, protein content, grain hardness Index, sedimentation value, phenol test and Iron & Zinc content.

### **Dicoccum Trial (Tables 17-20)**

Four dicoccum entries along with three checks from five centres of PZ namely Dharwad, Arabhavi, Kalloli, Ugar and Pune were analysed for 1000 grain weight (TGW), protein content, sedimentation value and yellow pigments content.

### **Salinity/Alkalinity Trial (Tables 21 – 25)**

Under this trial, four entries along with three checks from four centres i.e, Karnal, Kanpur, Hisar and Ayodhya were analysed for grain appearance, hectolitre weight, protein content and phenol test.

### HYPT Trial

**Table 1 : Grain appearance score (Max.10) of *T. aestivum* entries of HYPT Trial**

Sr. No.	Entry	Trial Code	Karnal	Ludhiana	Hisar	Mean
1	HD3317	1	5.7	5.2	7.0	<b>6.0</b>
2	WH1254	2	4.9	5.0	6.0	<b>5.3</b>
3	DBW301	3	5.4	4.8	6.4	<b>5.5</b>
4	WH1270	4	5.8	4.8	6.6	<b>5.7</b>
5	PBW824	6	6.2	4.8	7.4	<b>6.1</b>
6	UP3043	7	5.6	5.0	7.0	<b>5.9</b>
7	DBW187	8	5.3	4.8	6.6	<b>5.6</b>
8	DBW303	10	6.4	5.0	6.8	<b>6.1</b>
9	DBW304	11	5.5	4.8	6.6	<b>5.6</b>
10	UP3042	12	6.4	4.8	7.2	<b>6.1</b>
11	DBW302	13	6.4	4.8	7.4	<b>6.2</b>
12	PBW825	14	5.8	4.6	7.0	<b>5.8</b>
13	HD3347	15	5.9	4.8	7.0	<b>5.9</b>
14	HD2967 (C)	5	5.2	5.0	6.6	<b>5.6</b>
15	HD3086 (C)	9	6.3	5.0	7.0	<b>6.1</b>
<b>Mean</b>			<b>5.8</b>	<b>4.9</b>	<b>6.8</b>	<b>5.8</b>

**Table 2 : Hectolitre weight (kg/hl) of *T. aestivum* entries of HYPT Trial**

Sr. No.	Entry	Trial Code	Karnal	Ludhiana	Hisar	Mean
1	HD3317	1	80.2	78.4	80.5	<b>79.7</b>
2	WH1254	2	75.9	68.0	75.8	<b>73.2</b>
3	DBW301	3	79.0	75.3	80.7	<b>78.3</b>
4	WH1270	4	81.4	76.0	80.4	<b>79.3</b>
5	PBW824	6	80.8	76.4	82.0	<b>79.7</b>
6	UP3043	7	81.0	77.0	79.0	<b>79.0</b>
7	DBW187	8	79.3	75.5	79.0	<b>77.9</b>
8	DBW303	10	81.6	77.2	80.7	<b>79.8</b>
9	DBW304	11	79.8	74.3	79.0	<b>77.7</b>
10	UP3042	12	81.7	77.6	81.0	<b>80.1</b>
11	DBW302	13	81.2	79.0	80.0	<b>80.1</b>
12	PBW825	14	80.9	76.5	79.4	<b>78.9</b>
13	HD3347	15	81.5	77.7	80.7	<b>80.0</b>
14	HD2967 (C)	5	79.6	75.0	78.0	<b>77.5</b>
15	HD3086 (C)	9	80.2	76.3	80.4	<b>79.0</b>
<b>Mean</b>			<b>80.3</b>	<b>76.0</b>	<b>79.8</b>	<b>78.7</b>

**Table 3 : Protein Content (%) at 12% Moisture basis of *T. aestivum* entries of HYPT Trial**

Sr. No.	Entry	Trial Code	Karnal	Ludhiana	Hisar	Mean
1	HD3317	1	10.81	10.89	12.67	<b>11.46</b>
2	WH1254	2	10.65	12.26	11.51	<b>11.48</b>
3	DBW301	3	11.53	11.74	11.44	<b>11.57</b>
4	WH1270	4	10.76	11.67	11.70	<b>11.37</b>
5	PBW824	6	10.93	11.28	10.95	<b>11.06</b>
6	UP3043	7	10.66	11.12	11.57	<b>11.12</b>
7	DBW187	8	11.15	11.81	12.11	<b>11.69</b>
8	DBW303	10	11.10	11.63	11.72	<b>11.48</b>
9	DBW304	11	10.88	12.10	12.70	<b>11.89</b>
10	UP3042	12	11.40	11.92	11.86	<b>11.73</b>
11	DBW302	13	10.96	11.04	11.66	<b>11.22</b>
12	PBW825	14	10.94	11.65	12.03	<b>11.54</b>
13	HD3347	15	11.23	11.74	11.81	<b>11.59</b>
14	HD2967 (C)	5	10.45	10.78	11.53	<b>10.92</b>
15	HD3086 (C)	9	11.41	11.68	11.61	<b>11.57</b>
<b>Mean</b>			<b>10.99</b>	<b>11.56</b>	<b>11.79</b>	<b>11.45</b>

**Table 4 : Sedimentation value (ml) of *T. aestivum* entries of HYPT Trial**

Sr. No.	Entry	Trial Code	Karnal	Ludhiana	Hisar	Mean
1	HD3317	1	48	41	46	<b>45</b>
2	WH1254	2	61	55	53	<b>56</b>
3	DBW301	3	60	45	46	<b>50</b>
4	WH1270	4	47	45	43	<b>45</b>
5	PBW824	6	45	40	43	<b>43</b>
6	UP3043	7	48	43	44	<b>45</b>
7	DBW187	8	64	51	60	<b>58</b>
8	DBW303	10	65	50	46	<b>54</b>
9	DBW304	11	63	51	62	<b>59</b>
10	UP3042	12	60	52	53	<b>55</b>
11	DBW302	13	58	43	46	<b>49</b>
12	PBW825	14	54	44	46	<b>48</b>
13	HD3347	15	60	44	46	<b>50</b>
14	HD2967 (C)	5	55	47	51	<b>51</b>
15	HD3086 (C)	9	59	50	45	<b>52</b>
<b>Mean</b>			<b>56</b>	<b>47</b>	<b>49</b>	<b>51</b>

**Table 5 : Hardness index of *T. aestivum* entries of HYPT Trial**

Sr. No.	Entry	Trial Code	Karnal	Ludhiana	Hisar	Mean
1	HD3317	1	73.5			73.5
2	WH1254	2	72.4			72.4
3	DBW301	3	92.1			92.1
4	WH1270	4	75.9			75.9
5	PBW824	6	79.2			79.2
6	UP3043	7	72.1			72.1
7	DBW187	8	73.8			73.8
8	DBW303	10	75.3			75.3
9	DBW304	11	75.9			75.9
10	UP3042	12	71.4			71.4
11	DBW302	13	86.4			86.4
12	PBW825	14	70.5			70.5
13	HD3347	15	76.1			76.1
14	HD2967 (C)	5	76.1			76.1
15	HD3086 (C)	9	76.9			76.9
<b>Mean</b>			<b>76.5</b>			<b>76.5</b>

**Table 6 : Phenol test score (Max. 10) of *T. aestivum* entries of HYPT Trial**

Sr. No.	Entry	Trial Code	Karnal	Ludhiana	Hisar	Mean
1	HD3317	1	6.0	6.5	6.5	<b>6.3</b>
2	WH1254	2	4.0	3.5	4.0	<b>3.8</b>
3	DBW301	3	8.0	6.0	7.0	<b>7.0</b>
4	WH1270	4	6.0	6.0	7.0	<b>6.3</b>
5	PBW824	6	8.0	6.5	7.5	<b>7.3</b>
6	UP3043	7	4.0	3.5	4.0	<b>3.8</b>
7	DBW187	8	8.0	6.5	7.5	<b>7.3</b>
8	DBW303	10	6.5	6.0	7.5	<b>6.7</b>
9	DBW304	11	7.5	7.0	8.5	<b>7.7</b>
10	UP3042	12	6.0	5.5	7.5	<b>6.3</b>
11	DBW302	13	7.0	5.0	8.0	<b>6.7</b>
12	PBW825	14	7.5	6.0	6.5	<b>6.7</b>
13	HD3347	15	7.0	6.0	8.0	<b>7.0</b>
14	HD2967 (C)	5	6.5	6.0	7.5	<b>6.7</b>
15	HD3086 (C)	9	7.0	6.0	7.5	<b>6.8</b>
<b>Mean</b>			<b>6.6</b>	<b>5.7</b>	<b>7.0</b>	<b>6.4</b>

**Table 7 : Grain iron content (ppm) of *T. aestivum* entries of HYPT Trial**

Sr. No.	Entry	Trial Code	Karnal	Ludhiana	Hisar	Mean
1	HD3317	1	32.9	33.0	40.7	<b>35.5</b>
2	WH1254	2	31.8	28.1	33.7	<b>31.2</b>
3	DBW301	3	35.0	32.5	36.5	<b>34.7</b>
4	WH1270	4	35.6	35.7	39.3	<b>36.9</b>
5	PBW824	6	35.5	31.0	37.6	<b>34.7</b>
6	UP3043	7	34.8	30.5	35.5	<b>33.6</b>
7	DBW187	8	34.3	34.7	36.1	<b>35.0</b>
8	DBW303	10	32.1	32.9	36.7	<b>33.9</b>
9	DBW304	11	36.0	38.3	40.8	<b>38.4</b>
10	UP3042	12	34.8	32.5	34.6	<b>34.0</b>
11	DBW302	13	36.7	33.1	36.6	<b>35.5</b>
12	PBW825	14	34.6	35.9	34.8	<b>35.1</b>
13	HD3347	15	36.4	34.1	36.4	<b>35.6</b>
14	HD2967 (C)	5	32.8	32.1	34.6	<b>33.2</b>
15	HD3086 (C)	9	36.9	33.6	40.0	<b>36.8</b>
<b>Mean</b>			<b>34.7</b>	<b>33.2</b>	<b>36.9</b>	<b>34.9</b>

**Table 8 : Grain zinc content (ppm) of *T. aestivum* entries of HYPT Trial**

Sr. No.	Entry	Trial Code	Karnal	Ludhiana	Hisar	Mean
1	HD3317	1	31.6	41.4	47.6	<b>40.2</b>
2	WH1254	2	30.0	32.5	37.1	<b>33.2</b>
3	DBW301	3	31.1	42.1	44.5	<b>39.2</b>
4	WH1270	4	30.8	37.1	44.2	<b>37.4</b>
5	PBW824	6	29.6	39.5	46.6	<b>38.6</b>
6	UP3043	7	30.0	31.8	44.7	<b>35.5</b>
7	DBW187	8	24.2	36.6	35.6	<b>32.1</b>
8	DBW303	10	27.2	39.3	41.8	<b>36.1</b>
9	DBW304	11	29.2	47.7	45.7	<b>40.9</b>
10	UP3042	12	30.8	33.7	40.6	<b>35.0</b>
11	DBW302	13	31.3	40	44.6	<b>38.6</b>
12	PBW825	14	28.9	39.2	41.8	<b>36.6</b>
13	HD3347	15	32.5	37.4	42.7	<b>37.5</b>
14	HD2967 (C)	5	28.2	32.1	39.3	<b>33.2</b>
15	HD3086 (C)	9	29.0	38.6	41.1	<b>36.2</b>
<b>Mean</b>			<b>29.6</b>	<b>37.9</b>	<b>42.5</b>	<b>36.7</b>



### Very Late Sown (SPL-VLS) Trial

**Table 9 : Grain appearance score (Max.10) of *T. aestivum* entries of SPL-VLS Trial**

Sr. No.	Entry	Trial Code	NWPZ						NEPZ			Overall Mean
			Karnal	Ludhiana	Pantnagar	Delhi	Hisar	Mean	Kanpur	Sabour	Mean	
1	HD3271*	104	5.8	4.8	5.6	5.8	6.0	<b>5.6</b>	6.6	4.6	<b>5.6</b>	<b>5.6</b>
2	HI1621*	107	5.6	5.6	5.8	6.0	7.0	<b>6.0</b>	6.8	5.4	<b>6.1</b>	<b>6.1</b>
3	PBW757 (C)	101	6.0	5.6	6.4	6.2	6.8	<b>6.2</b>	5.8	4.0	<b>4.9</b>	<b>5.6</b>
4	WR544 (C)	102	5.8	5.8	6.4	6.4	7.4	<b>6.4</b>	5.6	4.2	<b>4.9</b>	<b>5.6</b>
5	DBW14 (C)	105	5.8	5.0	5.8	5.8	6.8	<b>5.8</b>	5.8	5.0	<b>5.4</b>	<b>5.6</b>
6	DBW71 (C)	106	5.8	5.2	5.8	6.0	6.8	<b>5.9</b>	5.8	4.4	<b>5.1</b>	<b>5.5</b>
7	HD3298	103	5.8	5.0	5.6	5.8	6.8	<b>5.8</b>	5.8	4.8	<b>5.3</b>	<b>5.6</b>
8	PBW 797	108	6.6	5.6	5.6	6.2	7.0	<b>6.2</b>	6.0	4.6	<b>5.3</b>	<b>5.8</b>
<b>Mean</b>			<b>5.9</b>	<b>5.3</b>	<b>5.9</b>	<b>6.0</b>	<b>6.8</b>	<b>6.0</b>	<b>6.0</b>	<b>4.6</b>	<b>5.3</b>	<b>5.7</b>

**Table 10 : Hectolitre weight (kg/hl) of *T. aestivum* entries of SPL-VLS Trial**

Sr. No.	Entry	Trial Code	NWPZ						NEPZ			Overall Mean
			Karnal	Ludhiana	Pantnagar	Delhi	Hisar	Mean	Kanpur	Sabour	Mean	
1	HD3271*	104	76.4	73.6	72.0	73.5	77.3	<b>74.6</b>	81.8	72.7	<b>77.3</b>	<b>75.9</b>
2	HI1621*	107	78.4	76.4	73.0	78.5	80.4	<b>77.3</b>	82.7	77.2	<b>80.0</b>	<b>78.6</b>
3	PBW757 (C)	101	81.8	78.2	78.8	79.0	79.0	<b>79.4</b>	74.5	67.4	<b>71.0</b>	<b>75.2</b>
4	WR544 (C)	102	82.7	79.5	79.4	81.6	83.0	<b>81.2</b>	76.4	71.2	<b>73.8</b>	<b>77.5</b>
5	DBW14 (C)	105	78.5	73.0	73.0	77.0	78.8	<b>76.1</b>	78.5	72.1	<b>75.3</b>	<b>75.7</b>
6	DBW71 (C)	106	80.3	77.3	77.0	78.8	80.7	<b>78.8</b>	80.3	73.0	<b>76.7</b>	<b>77.7</b>
7	HD3298	103	74.5	75.3	73.3	75.0	78.8	<b>75.4</b>	78.4	71.2	<b>74.8</b>	<b>75.1</b>
8	PBW 797	108	79.3	77.0	72.5	76.3	80.0	<b>77.0</b>	79.3	71.0	<b>75.2</b>	<b>76.1</b>
<b>Mean</b>			<b>79.0</b>	<b>76.3</b>	<b>74.9</b>	<b>77.5</b>	<b>79.8</b>	<b>77.5</b>	<b>79.0</b>	<b>72.0</b>	<b>75.5</b>	<b>76.5</b>

**Table 11 : Protein content (%) at 12% Moisture basis of *T. aestivum* entries of SPL-VLS Trial**

Sr. No.	Entry	Trial Code	NWPZ						NEPZ			Overall Mean
			Karnal	Ludhiana	Pantnagar	Delhi	Hisar	Mean	Kanpur	Sabour	Mean	
1	HD3271*	104	11.90	12.55	11.40	12.98	12.21	<b>12.21</b>	11.72	13.79	<b>12.76</b>	<b>12.48</b>
2	HI1621*	107	12.87	12.28	12.30	12.71	13.10	<b>12.65</b>	13.52	13.53	<b>13.53</b>	<b>13.09</b>
3	PBW757 (C)	101	11.10	11.55	11.41	12.95	12.11	<b>11.82</b>	11.74	13.44	<b>12.59</b>	<b>12.21</b>
4	WR544 (C)	102	11.17	12.05	12.07	13.96	12.66	<b>12.38</b>	12.76	13.28	<b>13.02</b>	<b>12.70</b>
5	DBW14 (C)	105	12.06	12.33	12.41	13.21	12.83	<b>12.57</b>	12.05	13.21	<b>12.63</b>	<b>12.60</b>
6	DBW71 (C)	106	11.29	12.29	11.15	13.01	12.83	<b>12.11</b>	11.99	13.62	<b>12.81</b>	<b>12.46</b>
7	HD3298	103	11.29	11.40	11.02	12.43	11.55	<b>11.54</b>	11.45	12.77	<b>12.11</b>	<b>11.83</b>
8	PBW 797	108	11.90	12.68	11.58	14.20	13.43	<b>12.76</b>	12.08	13.63	<b>12.85</b>	<b>12.81</b>
<b>Mean</b>			<b>11.70</b>	<b>12.14</b>	<b>11.67</b>	<b>13.18</b>	<b>12.59</b>	<b>12.26</b>	<b>12.17</b>	<b>13.41</b>	<b>12.79</b>	<b>12.52</b>

**Table 12 : Sedimentation value (ml) of *T. aestivum* entries of SPL-VLS Trial**

Sr. No.	Entry	Trial Code	NWPZ						NEPZ			Overall Mean
			Karnal	Ludhiana	Pantnagar	Delhi	Hisar	Mean	Kanpur	Sabour	Mean	
1	HD3271*	104	55	59	61	71	71	<b>64</b>	62	74	<b>68</b>	<b>66</b>
2	HI1621*	107	34	41	43	45	43	<b>41</b>	41	60	<b>51</b>	<b>46</b>
3	PBW757 (C)	101	57	55	50	63	72	<b>60</b>	63	76	<b>69</b>	<b>65</b>
4	WR544 (C)	102	55	55	46	57	54	<b>53</b>	57	74	<b>65</b>	<b>59</b>
5	DBW14 (C)	105	47	46	45	41	43	<b>44</b>	46	60	<b>53</b>	<b>49</b>
6	DBW71 (C)	106	46	48	46	46	53	<b>48</b>	54	65	<b>60</b>	<b>54</b>
7	HD3298	103	57	52	53	50	57	<b>54</b>	55	71	<b>63</b>	<b>59</b>
8	PBW 797	108	52	57	43	55	57	<b>53</b>	53	72	<b>63</b>	<b>58</b>
<b>Mean</b>			<b>50</b>	<b>52</b>	<b>48</b>	<b>54</b>	<b>56</b>	<b>52</b>	<b>54</b>	<b>69</b>	<b>61</b>	<b>57</b>

**Table 13 : Hardness index of *T. aestivum* entries of SPL-VLS Trial**

Sr. No.	Entry	Trial Code	NWPZ						NEPZ			Overall Mean
			Karnal	Ludhiana	Pantnagar	Delhi	Hisar	Mean	Kanpur	Sabour	Mean	
1	HD3271*	104				77.9		<b>77.9</b>	71.3		<b>71.3</b>	<b>74.6</b>
2	HI1621*	107				76.4		<b>76.4</b>	63.8		<b>63.8</b>	<b>70.1</b>
3	PBW757 (C)	101				92.6		<b>92.6</b>	79.8		<b>79.8</b>	<b>86.2</b>
4	WR544 (C)	102				80.9		<b>80.9</b>	71.1		<b>71.1</b>	<b>76.0</b>
5	DBW14 (C)	105				76.2		<b>76.2</b>	67.6		<b>67.6</b>	<b>71.9</b>
6	DBW71 (C)	106				86.0		<b>86.0</b>	83.1		<b>83.1</b>	<b>84.5</b>
7	HD3298	103				88.4		<b>88.4</b>	81.8		<b>81.8</b>	<b>85.1</b>
8	PBW 797	108				92.6		<b>92.6</b>	80.0		<b>80.0</b>	<b>86.3</b>
<b>Mean</b>						<b>83.9</b>		<b>83.9</b>	<b>74.8</b>		<b>74.8</b>	<b>79.3</b>

**Table 14 : Phenol test score (Max. 10) of *T. aestivum* entries of SPL-VLS Trial**

Sr. No.	Entry	Trial Code	NWPZ						NEPZ			Overall Mean
			Karnal	Ludhiana	Pantnagar	Delhi	Hisar	Mean	Kanpur	Sabour	Mean	
1	HD3271*	104	6.0	6.0	7.5	8.5	6.5	<b>6.9</b>	7.0	8.5	<b>7.8</b>	<b>7.3</b>
2	HI1621*	107	7.5	6.0	8.5	7.0	7.0	<b>7.2</b>	7.0	9.0	<b>8.0</b>	<b>7.6</b>
3	PBW757 (C)	101	7.0	6.0	7.5	7.0	6.5	<b>6.8</b>	7.0	9.5	<b>8.3</b>	<b>7.5</b>
4	WR544 (C)	102	4.0	4.0	6.0	5.0	5.0	<b>4.8</b>	5.0	8.0	<b>6.5</b>	<b>5.7</b>
5	DBW14 (C)	105	6.0	6.0	8.0	7.5	6.0	<b>6.7</b>	6.0	8.0	<b>7.0</b>	<b>6.9</b>
6	DBW71 (C)	106	6.0	6.0	8.0	8.0	6.5	<b>6.9</b>	7.0	9.5	<b>8.3</b>	<b>7.6</b>
7	HD3298	103	6.5	5.0	7.5	8.0	7.5	<b>6.9</b>	6.5	8.5	<b>7.5</b>	<b>7.2</b>
8	PBW 797	108	7.5	7.0	8.5	9.0	8.0	<b>8.0</b>	7.5	9.5	<b>8.5</b>	<b>8.3</b>
<b>Mean</b>			<b>6.3</b>	<b>5.8</b>	<b>7.7</b>	<b>7.5</b>	<b>6.6</b>	<b>6.8</b>	<b>6.6</b>	<b>8.8</b>	<b>7.7</b>	<b>7.2</b>

**Table 15 : Grain iron content (ppm) of *T. aestivum* entries of SPL-VLS Trial**

Sr. No.	Entry	Trial Code	NWPZ						NEPZ			Overall Mean
			Karnal	Ludhiana	Pantnagar	Delhi	Hisar	Mean	Kanpur	Sabour	Mean	
1	HD3271*	104	31.7	32.3	34.0	35.9	37.8	<b>34.3</b>	38.8		<b>38.8</b>	<b>36.6</b>
2	HI1621*	107	33.3	32.2	31.9	36.3	38.2	<b>34.4</b>	39.3		<b>39.3</b>	<b>36.8</b>
3	PBW757 (C)	101	37.3	33.7	36.9	41.0	41.9	<b>38.2</b>	40.5		<b>40.5</b>	<b>39.3</b>
4	WR544 (C)	102	37.4	38.0	37.5	42.7	43.2	<b>39.7</b>	46.8		<b>46.8</b>	<b>43.3</b>
5	DBW14 (C)	105	35.6	31.5	34.0	34.3	38.7	<b>34.8</b>	38.4		<b>38.4</b>	<b>36.6</b>
6	DBW71 (C)	106	35.4	34.1	37.0	39.2	43.8	<b>37.9</b>	41.2		<b>41.2</b>	<b>39.5</b>
7	HD3298	103	36.7	31.7	32.5	37.0	42.6	<b>36.1</b>	50.7		<b>50.7</b>	<b>43.4</b>
8	PBW 797	108	36.1	35.0	34.7	38.7	41.4	<b>37.2</b>	50.2		<b>50.2</b>	<b>43.7</b>
<b>Mean</b>			<b>35.4</b>	<b>33.5</b>	<b>34.8</b>	<b>38.1</b>	<b>41.0</b>	<b>36.6</b>	<b>43.2</b>		<b>43.2</b>	<b>39.9</b>

**Table 16 : Grain zinc content (ppm) of *T. aestivum* entries of SPL-VLS Trial**

Sr. No.	Entry	Trial Code	NWPZ						NEPZ			Overall Mean
			Karnal	Ludhiana	Pantnagar	Delhi	Hisar	Mean	Kanpur	Sabour	Mean	
1	HD3271*	104	30.5	36.4	31.6	54.8	34.7	<b>37.6</b>	37.5		<b>37.5</b>	<b>37.6</b>
2	HI1621*	107	33.1	46.8	34.3	55.1	39.9	<b>41.8</b>	34.6		<b>34.6</b>	<b>38.2</b>
3	PBW757 (C)	101	37.6	48.2	34.8	56.5	44.7	<b>44.4</b>	40.0		<b>40.0</b>	<b>42.2</b>
4	WR544 (C)	102	42.2	63.3	41.0	63.5	56.1	<b>53.2</b>	39.1		<b>39.1</b>	<b>46.2</b>
5	DBW14 (C)	105	34.7	46.3	33.9	57.5	41.8	<b>42.8</b>	37.2		<b>37.2</b>	<b>40.0</b>
6	DBW71 (C)	106	35.7	47.6	37.4	30.2	54.0	<b>41.0</b>	36.1		<b>36.1</b>	<b>38.5</b>
7	HD3298	103	30.8	42.2	35.8	53.4	47.7	<b>42.0</b>	36.5		<b>36.5</b>	<b>39.2</b>
8	PBW 797	108	34.6	48.2	37.5	55.7	39.9	<b>43.2</b>	41.6		<b>41.6</b>	<b>42.4</b>
<b>Mean</b>			<b>34.9</b>	<b>47.4</b>	<b>35.8</b>	<b>53.3</b>	<b>44.9</b>	<b>43.2</b>	<b>37.8</b>		<b>37.8</b>	<b>40.5</b>

### Dicoccum Trial

**Table 17: Thousand grain weight (g) of Dicoccum genotypes**

Sr. No.	Entry	Trial Code	Peninsular Zone					Mean
			Dharwad	Arabhavi	Kalloli	Ugar	Pune	
1	MACS 5052	102	43.30	42.3	38.05	42.90	37.60	<b>40.83</b>
2	MACS 5053	106	45.35	42.25	36.95	44.50	37.10	<b>41.23</b>
3	DDK 1056	104	46.55	43.45	39.70	45.25	36.15	<b>42.22</b>
4	DDK 1057	107	46.50	41.10	36.15	43.90	39.10	<b>41.35</b>
5	DDK 1029 (C)	101	48.84	40.85	39.00	41.35	41.70	<b>42.35</b>
6	HW 1098 (C)	105	46.55	44.45	44.45	41.65	38.55	<b>43.13</b>
7	MACS 6222 ( <i>T. aestivum</i> ) (C)	103	45.55	47.25	42.10	40.53	44.95	<b>44.08</b>
<b>Mean</b>			<b>46.09</b>	<b>43.09</b>	<b>39.49</b>	<b>42.87</b>	<b>39.31</b>	<b>42.17</b>

**Table 18 : Protein content (%) at 12% moisture basis of Dicoccum genotypes**

Sr. No.	Entry	Trial Code	Peninsular Zone					Mean
			Dharwad	Arabhavi	Kalloli	Ugar	Pune	
1	MACS 5052	102	13.20	11.00	15.66	13.11		<b>13.24</b>
2	MACS 5053	106	14.52	11.18	16.54	12.58		<b>13.71</b>
3	DDK 1056	104	14.34	11.09	15.93	12.67		<b>13.51</b>
4	DDK 1057	107	15.49	11.18	16.9	13.02		<b>14.15</b>
5	DDK 1029 (C)	101	13.02	9.77	14.96	10.03		<b>11.95</b>
6	HW 1098 (C)	105	14.52	11.09	16.19	12.41		<b>13.55</b>
7	MACS 6222 ( <i>T. aestivum</i> ) (C)	103	13.82	12.32	13.38	12.67		<b>13.05</b>
<b>Mean</b>			<b>14.13</b>	<b>11.09</b>	<b>15.65</b>	<b>12.36</b>		<b>13.31</b>

**Table 19 : Sedimentation Value (ml) of Dicoccum genotypes**

Sr. No.	Entry	Trial Code	Peninsular Zone					Mean
			Dharwad	Arabhavi	Kalloli	Ugar	Pune	
1	MACS 5052	102	30	24	29	26	26	<b>27</b>
2	MACS 5053	106	26	25	27	22	22	<b>24</b>
3	DDK 1056	104	31	25	31	26	25	<b>27</b>
4	DDK 1057	107	36	30	34	29	32	<b>32</b>
5	DDK 1029 (C)	101	26	23	27	26	24	<b>25</b>
6	HW 1098 (C)	105	31	21	31	26	25	<b>27</b>
7	MACS 6222 ( <i>T. aestivum</i> ) (C)	103	40	41	38	41	38	<b>39</b>
<b>Mean</b>			<b>31</b>	<b>27</b>	<b>31</b>	<b>28</b>	<b>27</b>	<b>29</b>

**Table 20: Yellow Pigment content (ppm) of Dicoccum genotypes**

Sr. No.	Entry	Trial Code	Peninsular Zone					Mean
			Dharwad	Arabhavi	Kalloli	Ugar	Pune	
1	MACS 5052	102	2.92	2.37	2.34	2.50	4.33	<b>2.89</b>
2	MACS 5053	106	2.92	2.37	2.34	2.50	4.33	<b>2.89</b>
3	DDK 1056	104	3.31	3.01	2.33	3.15	3.63	<b>3.09</b>
4	DDK 1057	107	4.14	3.39	2.65	3.29	3.71	<b>3.44</b>
5	DDK 1029 (C)	101	3.31	3.31	2.25	3.26	3.46	<b>3.12</b>
6	HW 1098 (C)	105	4.80	2.88	2.20	3.11	3.31	<b>3.26</b>
7	MACS 6222 ( <i>T. aestivum</i> ) (C)	103	3.66	2.86	2.12	3.07	3.20	<b>2.98</b>
<b>Mean</b>			<b>3.68</b>	<b>2.97</b>	<b>2.35</b>	<b>3.05</b>	<b>3.65</b>	<b>3.14</b>

### Salinity/alkalinity Trial

**Table 21: Grain appearance score (Max.10) of *T. aestivum* entries of Salinity/alkalinity Trial**

Sr. No.	Entry	Trial code	Karnal	Kanpur	Hisar	Ayodhya	Mean
1	WH 1223	101	4.8	5.0	5.3	6.2	<b>5.3</b>
2	WH 1228	106	5.4	5.5	5.5	6.8	<b>5.8</b>
3	NW 7062	107	5.1	5.5	5.0	7.4	<b>5.8</b>
4	NW 7060	104	5.5	5.4	5.0	6.0	<b>5.5</b>
5	KRL 19 (C)	102	5.0	5.2	5.0	6.6	<b>5.5</b>
6	KRL 210 (C)	105	5.7	5.4	5.4	6.4	<b>5.7</b>
7	Kharchia 65 (C)	103	5.2	5.1	4.9	5.8	<b>5.3</b>
<b>Mean</b>			<b>5.2</b>	<b>5.3</b>	<b>5.2</b>	<b>6.5</b>	<b>5.5</b>

**Table 22: Hectolitre weight (kg/hl) of *T. aestivum* entries of Salinity/alkalinity Trial**

Sr. No.	Entry	Trial code	Karnal	Kanpur	Hisar	Ayodhya	Mean
1	WH 1223	101	81.2	80.5	79.9	75.4	<b>79.3</b>
2	WH 1228	106	84.3	83.8	82.8	79.3	<b>82.6</b>
3	NW 7062	107	81.1	84.3	82.7	80.3	<b>82.1</b>
4	NW 7060	104	81.1	82.9	81.3	78.5	<b>80.9</b>
5	KRL 19 (C)	102	80.3	82.3	79.6	80.1	<b>80.6</b>
6	KRL 210 (C)	105	83.7	84.8	83.0	78.3	<b>82.4</b>
7	Kharchia 65 (C)	103	81.9	82.5	75.6	80.6	<b>80.1</b>
<b>Mean</b>			<b>81.9</b>	<b>83.0</b>	<b>80.7</b>	<b>78.9</b>	<b>81.1</b>

**Table 23: Protein Content (%) at 12 % Moisture basis of *T.aestivum* entries of Salinity/alkalinity Trial**

Sr. No.	Entry	Trial code	Karnal	Kanpur	Hisar	Ayodhya	Mean
1	WH 1223	101	7.26	10.56	9.40	15.10	<b>10.58</b>
2	WH 1228	106	8.39	10.34	8.52	12.00	<b>9.81</b>
3	NW 7062	107	6.91	10.68	9.78	14.35	<b>10.43</b>
4	NW 7060	104	9.59	8.36	9.59	10.04	<b>9.39</b>
5	KRL 19 (C)	102	5.72	8.72	9.21	10.98	<b>8.66</b>
6	KRL 210 (C)	105	10.59	10.06	9.57	11.25	<b>10.36</b>
7	Kharchia 65 (C)	103	6.88	11.02	8.83	10.63	<b>9.34</b>
<b>Mean</b>			<b>7.90</b>	<b>9.96</b>	<b>9.27</b>	<b>12.05</b>	<b>9.80</b>

**Table 24: Sedimentation Value (ml) of *T. aestivum* entries of Salinity/alkalinity Trial**

Sr. No.	Entry	Trial code	Karnal	Kanpur	Hisar	Ayodhya	Mean
1	WH 1223	101	37	37	34		<b>36</b>
2	WH 1228	106	40	31	40	66	<b>44</b>
3	NW 7062	107	35	30	32	46	<b>36</b>
4	NW 7060	104	47	37	40	57	<b>45</b>
5	KRL 19 (C)	102	33	32	39	57	<b>40</b>
6	KRL 210 (C)	105	50	32	37	64	<b>46</b>
7	Kharchia 65 (C)	103	37	30	42	55	<b>41</b>
<b>Mean</b>			<b>40</b>	<b>33</b>	<b>38</b>	<b>58</b>	<b>41</b>



**Table 25: Phenol test score (Max. 10) of *T. aestivum* entries of Salinity/alkalinity Trial**

<b>Sr. No.</b>	<b>Entry</b>	<b>Trial code</b>	<b>Karnal</b>	<b>Kanpur</b>	<b>Hisar</b>	<b>Ayodhya</b>	<b>Mean</b>
1	WH 1223	101	7.0	7.0	6.0	8.5	<b>7.1</b>
2	WH 1228	106	7.0	7.0	8.0	7.5	<b>7.4</b>
3	NW 7062	107	-	7.0	8.0	7.0	<b>7.3</b>
4	NW 7060	104	8.0	7.0	7.0	6.5	<b>7.1</b>
5	KRL 19 (C)	102	-	3.0	3.0	4.0	<b>3.3</b>
6	KRL 210 (C)	105	8.0	7.0	7.0	8.0	<b>7.5</b>
7	Kharchia 65 (C)	103	7.0	4.0	5.0	4.5	<b>5.1</b>
<b>Mean</b>			<b>7.4</b>	<b>6.0</b>	<b>6.3</b>	<b>6.6</b>	<b>6.4</b>

# **SECTION C**

## **NATIONAL INITIAL VARIETAL TRIALS**

- i. NIVT 1A**
- ii. NIVT 1B**
- iii. NIVT 2**
- iv. NIVT 3A**
- v. NIVT 3B**
- vi. NIVT 4**
- vii. NIVT 5A**
- viii. NIVT 5B**
- ix. IVT-NHZ**

## NATIONAL INITIAL VARIETAL TRIALS

All entries received for initial varietal screening in the coordinated trials were examined for important quality parameters like grain appearance score, grain protein content (on 12 % moisture basis), sedimentation value and hectolitre weight. In addition, the durum entries were also evaluated for yellow berry incidence and yellow pigments content. There were eight such multi-zone trials and one IVT trial of NHZ, the results of which are discussed below:

### **NIVT 1A (Irrigated Timely Sown) – Table 1-5**

In this trial, 36 entries were evaluated from 5 locations (Ludhiana, Hisar, Durgapura, Delhi and Pantnagar) in NWPZ and 4 locations (Pusa, Kanpur, Varanasi and Sabour) in NEPZ.

### **NIVT 1B (Irrigated Timely Sown) – Table 6-10**

In this trial, 36 genotypes were evaluated from 5 locations of NWPZ (Ludhiana, Hisar, Durgapura, Pantnagar and Delhi) and 4 locations of NEPZ (Kanpur, Pusa, Sabour and Varanasi).

### **NIVT 2 (Irrigated Timely Sown) – Table 11-15**

In this trial, 36 entries were evaluated from 4 locations (Indore, Junagarh, Powarkheda and Vijapur) in CZ and 5 locations (Pune, Dharwad, Ugar, Nippani and Niphad) in PZ.

### **NIVT 3A (Irrigated Late Sown) – Table 16-20**

In this trial, 36 entries were evaluated from 5 locations in NWPZ (Pantnagar, Ludhiana, Hisar, Delhi and Durgapura) and 3 locations in NEPZ (Kanpur, Samastipur and Sabour).

### **NIVT 3B (Irrigated Late Sown) – Table 21-25**

In this trial 36 entries were evaluated from 4 locations (Indore, Vijapur, Junagarh and Powarkheda) in CZ and 3 locations (Pune, Dharwad and Niphad) in PZ.

### **NIVT 4 (Irrigated Timely Sown – *T. durum*) – Table 26-31**

In this trial, 25 entries were evaluated from 4 locations (Indore, Junagarh, Powarkheda and Vijapur) in CZ and 5 locations (Pune, Dharwad, Ugar, Nippani and Niphad) in PZ.

### **NIVT 5A (Restricted Irrigated Timely Sown) – Table 32-35**

In this trial, 25 genotypes were evaluated from 4 locations (Ludhiana, Hisar, Delhi and Pantnagar) in NWPZ and 4 locations (Kanpur, Pusa, sabour and Varanasi) in NEPZ

### **NIVT 5B (Restricted Irrigated Timely Sown) – *T. aestivum* and *T. durum*) – Table 36-41**

In this trial, 25 entries were evaluated from 4 locations (Vijapur, Indore, Powarkheda and Junagarh) in CZ and 4 locations (Pune, Dharwad, Bagalkot and Niphad) in PZ.

### **IVT-NHZ – Table 42-49**

These trials were conducted under RTS condition of NHZ (Almora, Shimla, Malan). Iron and Zinc content were also measured in this trial.

**Table 1: Grain appearance score (Max. 10) of *T. aestivum* genotypes in NIVT-1A**

Sr. No.	Entry	Trial Code	NWPZ						NEPZ					Overall Mean
			Ludhiana	Hisar	Durgapura	Delhi	Pantnagar	Mean	Pusa	Kanpur	Varanasi	Sabour	Mean	
1	NW7060	101	5.3	6.4	6.3	6.0	6.8	<b>6.2</b>	6.0	6.2	5.8	5.1	<b>5.8</b>	<b>6.0</b>
2	DBW282	102	5.0	6.0	5.8	5.2	5.8	<b>5.6</b>	5.7	5.9	5.5	5.2	<b>5.6</b>	<b>5.6</b>
3	HD3086 (C)	103	5.4	6.8	6.0	5.5	6.8	<b>6.1</b>	6.6	6.8	5.7	5.3	<b>6.1</b>	<b>6.1</b>
4	HD3318	104	5.1	5.8	5.7	5.4	5.7	<b>5.5</b>	5.6	6.6	5.6	5.5	<b>5.8</b>	<b>5.7</b>
5	HD2967 (C)	105	5.3	5.5	5.2	5.3	5.4	<b>5.3</b>	5.5	5.5	5.0	5.2	<b>5.3</b>	<b>5.3</b>
6	Raj4539	106	5.3	5.8	5.5	5.6	6.4	<b>5.7</b>	5.6	6.4	5.6	5.5	<b>5.8</b>	<b>5.7</b>
7	NABIMG 09	107	1.0	2.8	1.8	1.5	2.5	<b>1.9</b>	2.3	2.8	2.0	1.9	<b>2.2</b>	<b>2.0</b>
8	HD3323	108	5.4	5.3	5.4	5.5	5.6	<b>5.4</b>	5.6	5.6	5.3	4.7	<b>5.3</b>	<b>5.4</b>
9	UP3028	109	5.2	6.0	5.9	5.8	6.1	<b>5.8</b>	5.8	6.3	5.0	5.3	<b>5.6</b>	<b>5.7</b>
10	K1801	110	5.5	5.9	5.5	5.5	6.4	<b>5.8</b>	6.2	6.3	5.8	5.8	<b>6.0</b>	<b>5.9</b>
11	WH1256	111	5.3	5.6	5.7	5.6	5.8	<b>5.6</b>	5.7	5.8	5.3	5.4	<b>5.5</b>	<b>5.6</b>
12	HUW 833	112	5.5	5.7	6.4	5.5	6.2	<b>5.9</b>	6.1	6.6	5.7	5.4	<b>5.9</b>	<b>5.9</b>
13	UP3026	113	5.7	6.8	6.5	5.2	6.4	<b>6.1</b>	6.9	6.9	5.4	4.9	<b>6.0</b>	<b>6.1</b>
14	WH1257	114	4.9	5.4	5.6	5.2	5.7	<b>5.3</b>	5.7	5.8	5.3	5.3	<b>5.5</b>	<b>5.4</b>
15	HD3319	115	5.1	5.4	5.4	5.2	5.4	<b>5.3</b>	5.7	5.9	5.0	4.7	<b>5.3</b>	<b>5.3</b>
16	HD3320	116	5.6	5.5	6.4	5.5	6.2	<b>5.8</b>	6.1	5.9	5.7	5.6	<b>5.8</b>	<b>5.8</b>
17	DBW281	117	5.3	6.4	7.0	5.9	6.4	<b>6.2</b>	6.3	5.9	5.9	5.5	<b>5.9</b>	<b>6.1</b>
18	HD3322	118	4.9	5.4	5.4	5.1	5.5	<b>5.3</b>	5.1	5.5	5.2	5.0	<b>5.2</b>	<b>5.2</b>
19	NABIMG 11	119	1.0	1.8	1.0	1.0	1.5	<b>1.3</b>	1.3	1.3	1.0	1.0	<b>1.1</b>	<b>1.2</b>
20	DBW284	120	5.1	5.5	5.7	5.8	5.8	<b>5.6</b>	5.6	6.1	5.4	5.3	<b>5.6</b>	<b>5.6</b>
21	Raj4537	121	5.0	5.5	5.5	5.3	5.4	<b>5.3</b>	5.4	5.5	5.0	5.1	<b>5.3</b>	<b>5.3</b>
22	PBW803	122	5.4	5.7	6.0	5.6	5.7	<b>5.7</b>	5.7	5.7	5.4	5.6	<b>5.6</b>	<b>5.6</b>
23	UP3025	123	5.5	5.8	5.8	5.4	5.7	<b>5.6</b>	5.8	5.8	5.6	5.2	<b>5.6</b>	<b>5.6</b>
24	HD3321	124	5.4	5.4	5.0	5.1	5.3	<b>5.2</b>	5.6	5.6	5.2	5.4	<b>5.4</b>	<b>5.3</b>
25	WH1255	125	5.2	5.4	5.4	4.8	5.2	<b>5.2</b>	5.3	5.5	4.6	5.1	<b>5.1</b>	<b>5.2</b>
26	DBW283	126	5.2	5.4	5.5	5.5	5.3	<b>5.4</b>	5.3	5.7	5.6	4.8	<b>5.3</b>	<b>5.4</b>
27	NABIMG 10	127	2.0	2.0	1.5	2.0	2.0	<b>1.9</b>	1.5	2.0	2.0	1.8	<b>1.8</b>	<b>1.9</b>
28	PBW805	128	5.7	5.9	6.9	6.0	5.9	<b>6.0</b>	6.0	6.9	5.8	6.0	<b>6.2</b>	<b>6.1</b>
29	NW7067	129	5.0	5.7	5.6	5.7	5.8	<b>5.5</b>	5.7	5.8	5.0	5.4	<b>5.5</b>	<b>5.5</b>
30	UP3027	130	5.1	5.7	5.5	5.4	5.4	<b>5.4</b>	5.4	5.7	5.0	5.3	<b>5.4</b>	<b>5.4</b>
31	PBW802	131	4.9	5.3	5.2	5.4	5.4	<b>5.2</b>	5.3	5.6	5.1	5.0	<b>5.2</b>	<b>5.2</b>
32	WH1258	132	5.3	5.4	5.4	5.3	5.6	<b>5.4</b>	5.5	5.7	5.4	5.1	<b>5.4</b>	<b>5.4</b>
33	PBW804	133	5.4	5.7	5.7	5.7	5.6	<b>5.6</b>	5.6	6.0	5.6	5.6	<b>5.7</b>	<b>5.7</b>
34	K1006 (C)	134	5.1	5.4	5.5	5.6	5.6	<b>5.4</b>	5.6	6.4	5.4	5.5	<b>5.7</b>	<b>5.6</b>
35	Raj4538	135	5.5	5.5	5.5	5.1	5.9	<b>5.5</b>	5.8	6.7	5.2	5.6	<b>5.8</b>	<b>5.6</b>
36	DBW88 (C)	136	5.0	5.5	5.8	5.0	5.6	<b>5.4</b>	5.7	6.1	5.5	5.6	<b>5.7</b>	<b>5.5</b>
<b>Mean</b>			<b>4.9</b>	<b>5.4</b>	<b>5.4</b>	<b>5.1</b>	<b>5.5</b>	<b>5.3</b>	<b>5.4</b>	<b>5.7</b>	<b>5.1</b>	<b>5.0</b>	<b>5.3</b>	<b>5.3</b>

**Table 2: Hectolitre weight (kg/hl) of *T. aestivum* genotypes in NIVT-1A**

Sr. No.	Entry	Trial Code	NWPZ						NEPZ					Overall Mean
			Ludhiana	Hisar	Durgapura	Delhi	Pantnagar	Mean	Pusa	Kanpur	Varanasi	Sabour	Mean	
1	NW7060	101	72.8	77.5	77.5	77.0	76.3	<b>76.2</b>	75.5	79.0	75.0	71.3	<b>75.2</b>	<b>75.8</b>
2	DBW282	102	74.0	77.8	76.8	77.5	75.8	<b>76.4</b>	76.8	77.8	74.5	73.0	<b>75.5</b>	<b>76.0</b>
3	HD3086 (C)	103	76.5	78.5	78.3	77.5	78.0	<b>77.8</b>	77.8	80.0	77.0	73.3	<b>77.0</b>	<b>77.4</b>
4	HD3318	104	74.3	78.5	78.5	77.5	77.0	<b>77.2</b>	78.3	80.8	75.5	75.3	<b>77.4</b>	<b>77.3</b>
5	HD2967 (C)	105	73.5	78.0	76.0	77.5	76.5	<b>76.3</b>	76.8	79.0	72.5	72.3	<b>75.1</b>	<b>75.8</b>
6	Raj4539	106	74.0	75.8	76.8	77.3	77.3	<b>76.2</b>	76.3	78.5	70.5	74.3	<b>74.9</b>	<b>75.6</b>
7	NABIMG 09	107	62.5	74.5	74.8	72.8	75.0	<b>71.9</b>	73.8	77.0	75.5	70.5	<b>74.2</b>	<b>72.9</b>
8	HD3323	108	71.8	74.8	75.0	75.5	75.3	<b>74.5</b>	75.5	77.3	75.0	69.3	<b>74.3</b>	<b>74.4</b>
9	UP3028	109	76.5	79.3	78.5	79.5	77.8	<b>78.3</b>	77.5	80.3	75.0	72.5	<b>76.3</b>	<b>77.4</b>
10	K1801	110	76.0	80.3	76.8	78.3	78.0	<b>77.9</b>	78.8	80.5	78.0	76.8	<b>78.5</b>	<b>78.1</b>
11	WH1256	111	76.8	78.3	78.3	77.8	77.0	<b>77.6</b>	77.5	80.8	75.5	73.0	<b>76.7</b>	<b>77.2</b>
12	HUW 833	112	75.8	78.5	79.3	78.0	78.8	<b>78.1</b>	78.5	80.8	77.0	74.8	<b>77.8</b>	<b>77.9</b>
13	UP3026	113	77.3	78.8	78.8	77.5	77.8	<b>78.0</b>	77.8	80.0	76.0	71.3	<b>76.3</b>	<b>77.2</b>
14	WH1257	114	70.8	74.5	77.0	74.5	74.8	<b>74.3</b>	75.0	77.5	72.5	72.3	<b>74.3</b>	<b>74.3</b>
15	HD3319	115	74.0	76.5	75.3	77.3	76.0	<b>75.8</b>	76.3	78.3	75.0	70.3	<b>74.9</b>	<b>75.4</b>
16	HD3320	116	76.5	78.0	78.8	78.5	78.0	<b>78.0</b>	78.3	79.3	75.5	76.3	<b>77.3</b>	<b>77.7</b>
17	DBW281	117	75.5	78.8	79.0	79.0	78.0	<b>78.1</b>	76.5	78.5	76.5	73.0	<b>76.1</b>	<b>77.2</b>
18	HD3322	118	73.0	76.3	76.0	76.8	76.5	<b>75.7</b>	76.3	77.3	75.0	72.8	<b>75.3</b>	<b>75.5</b>
19	NABIMG 11	119	71.8	75.3	75.3	76.0	75.3	<b>74.7</b>	75.3	76.0	73.5	66.8	<b>72.9</b>	<b>73.9</b>
20	DBW284	120	74.0	77.5	78.3	77.3	76.3	<b>76.7</b>	77.0	78.8	75.0	71.0	<b>75.4</b>	<b>76.1</b>
21	Raj4537	121	74.0	77.0	78.3	76.5	75.3	<b>76.2</b>	77.0	79.3	75.0	70.5	<b>75.4</b>	<b>75.9</b>
22	PBW803	122	75.3	79.3	78.8	78.3	77.5	<b>77.8</b>	78.3	81.0	77.5	75.3	<b>78.0</b>	<b>77.9</b>
23	UP3025	123	77.5	80.0	79.3	79.3	78.5	<b>78.9</b>	79.3	79.8	78.0	73.0	<b>77.5</b>	<b>78.3</b>
24	HD3321	124	75.3	76.5	76.3	76.8	75.5	<b>76.1</b>	75.3	77.8	78.0	72.8	<b>75.9</b>	<b>76.0</b>
25	WH1255	125	76.0	77.3	77.8	76.3	77.0	<b>76.9</b>	76.3	78.0	73.5	69.3	<b>74.3</b>	<b>75.7</b>
26	DBW283	126	77.0	77.8	78.0	78.3	78.3	<b>77.9</b>	77.3	79.3	76.0	72.8	<b>76.3</b>	<b>77.2</b>
27	NABIMG 10	127	75.5	76.8	77.8	77.3	77.0	<b>76.9</b>	76.0	78.0	75.5	67.3	<b>74.2</b>	<b>75.7</b>
28	PBW805	128	76.0	78.0	79.0	80.0	78.3	<b>78.3</b>	78.3	81.0	77.5	76.0	<b>78.2</b>	<b>78.2</b>
29	NW7067	129	71.8	78.3	75.3	75.8	76.5	<b>75.5</b>	74.8	77.8	73.5	69.8	<b>73.9</b>	<b>74.8</b>
30	UP3027	130	75.3	80.0	79.8	78.8	77.0	<b>78.2</b>	78.3	80.5	76.5	74.8	<b>77.5</b>	<b>77.9</b>
31	PBW802	131	73.3	76.8	75.3	76.8	75.3	<b>75.5</b>	76.8	78.5	72.0	69.5	<b>74.2</b>	<b>74.9</b>
32	WH1258	132	76.8	78.5	76.8	77.5	78.3	<b>77.6</b>	78.3	79.8	77.5	72.5	<b>77.0</b>	<b>77.3</b>
33	PBW804	133	75.0	77.8	77.3	78.3	76.8	<b>77.0</b>	77.0	80.0	75.5	74.8	<b>76.8</b>	<b>76.9</b>
34	K1006 (C)	134	69.5	77.5	77.8	77.0	77.3	<b>75.8</b>	77.5	80.0	76.5	74.5	<b>77.1</b>	<b>76.4</b>
35	Raj4538	135	74.3	76.8	76.3	77.8	77.8	<b>76.6</b>	76.3	78.5	75.5	73.0	<b>75.8</b>	<b>76.2</b>
36	DBW88 (C)	136	72.8	78.5	77.8	73.5	76.5	<b>75.8</b>	78.3	79.5	77.0	74.3	<b>77.3</b>	<b>76.4</b>
<b>Mean</b>			<b>74.2</b>	<b>77.6</b>	<b>77.4</b>	<b>77.2</b>	<b>76.9</b>	<b>76.7</b>	<b>76.9</b>	<b>79.0</b>	<b>75.4</b>	<b>72.5</b>	<b>76.0</b>	<b>76.4</b>

**Table 3: Protein content (%) at 12% moisture basis of *T. aestivum* genotypes in NIVT-1A**

Sr. No.	Entry	Trial Code	NWPZ						NEPZ					Overall Mean
			Ludhiana	Hisar	Durgapura	Delhi	Pantnagar	Mean	Pusa	Kanpur	Varanasi	Sabour	Mean	
1	NW7060	101	12.68	9.89	11.29	12.08	10.41	<b>11.27</b>	10.77	10.86	9.85	12.74	<b>11.05</b>	<b>11.17</b>
2	DBW282	102	13.32	10.73	11.69	14.36	10.99	<b>12.22</b>	11.10	12.91	9.07	12.54	<b>11.40</b>	<b>11.86</b>
3	HD3086 (C)	103	11.40	10.86	12.91	12.53	9.49	<b>11.44</b>	11.14	11.31	8.68	12.89	<b>11.01</b>	<b>11.25</b>
4	HD3318	104	11.73	10.47	11.18	12.78	8.41	<b>10.92</b>	9.43	10.97	8.63	11.65	<b>10.17</b>	<b>10.58</b>
5	HD2967 (C)	105	11.32	10.38	12.82	12.65	8.31	<b>11.10</b>	11.23	12.68	9.28	11.62	<b>11.20</b>	<b>11.15</b>
6	Raj4539	106	12.47	12.40	13.63	13.69	10.58	<b>12.55</b>	11.46	12.08	10.44	12.74	<b>11.68</b>	<b>12.17</b>
7	NABIMG 09	107	12.24	10.21	10.71	13.55	8.58	<b>11.06</b>	10.32	12.16	10.02	12.31	<b>11.20</b>	<b>11.12</b>
8	HD3323	108	12.12	10.62	11.70	12.21	8.81	<b>11.09</b>	9.99	10.46	8.92	12.46	<b>10.46</b>	<b>10.81</b>
9	UP3028	109	12.01	9.74	12.26	13.05	10.78	<b>11.57</b>	11.29	11.10	9.99	12.96	<b>11.34</b>	<b>11.46</b>
10	K1801	110	11.62	10.75	11.84	12.95	8.77	<b>11.18</b>	10.81	12.06	9.00	11.55	<b>10.85</b>	<b>11.04</b>
11	WH1256	111	11.77	10.56	10.48	12.17	9.98	<b>10.99</b>	11.53	11.48	10.14	11.83	<b>11.24</b>	<b>11.10</b>
12	HUW 833	112	11.59	10.41	10.16	11.95	9.34	<b>10.69</b>	10.60	10.86	8.77	12.01	<b>10.56</b>	<b>10.63</b>
13	UP3026	113	11.54	10.02	11.73	11.40	8.84	<b>10.71</b>	11.04	10.55	9.77	12.41	<b>10.94</b>	<b>10.81</b>
14	WH1257	114	11.31	10.27	12.03	11.15	8.84	<b>10.72</b>	10.22	10.92	8.63	11.22	<b>10.25</b>	<b>10.51</b>
15	HD3319	115	12.36	10.90	12.64	12.13	9.63	<b>11.53</b>	11.96	11.77	10.15	12.83	<b>11.68</b>	<b>11.60</b>
16	HD3320	116	12.37	11.05	10.98	12.82	10.35	<b>11.51</b>	10.46	11.83	9.43	12.07	<b>10.95</b>	<b>11.26</b>
17	DBW281	117	11.61	10.00	9.68	12.83	9.89	<b>10.80</b>	10.41	10.99	8.94	12.35	<b>10.67</b>	<b>10.74</b>
18	HD3322	118	12.25	10.23	12.96	12.43	10.54	<b>11.68</b>	11.01	11.53	9.01	11.52	<b>10.77</b>	<b>11.28</b>
19	NABIMG 11	119	12.17	10.34	12.82	12.14	11.03	<b>11.70</b>	10.06	12.29	9.62	11.41	<b>10.85</b>	<b>11.32</b>
20	DBW284	120	12.03	10.17	11.47	12.19	9.80	<b>11.13</b>	10.10	10.91	9.74	11.84	<b>10.65</b>	<b>10.92</b>
21	Raj4537	121	11.24	10.11	11.88	11.61	10.15	<b>11.00</b>	10.00	10.81	9.03	12.58	<b>10.61</b>	<b>10.82</b>
22	PBW803	122	11.82	9.90	11.29	12.10	9.62	<b>10.94</b>	10.51	11.13	8.41	12.02	<b>10.52</b>	<b>10.75</b>
23	UP3025	123	11.43	9.60	12.04	13.45	8.59	<b>11.02</b>	10.72	11.91	8.89	12.71	<b>11.06</b>	<b>11.04</b>
24	HD3321	124	12.09	11.12	10.45	13.17	9.18	<b>11.20</b>	10.96	12.17	9.11	12.24	<b>11.12</b>	<b>11.16</b>
25	WH1255	125	11.61	9.74	10.49	12.99	8.92	<b>10.75</b>	10.30	11.00	10.42	12.79	<b>11.13</b>	<b>10.92</b>
26	DBW283	126	12.35	11.34	11.35	13.41	9.20	<b>11.53</b>	11.45	12.93	9.02	12.99	<b>11.60</b>	<b>11.56</b>
27	NABIMG 10	127	11.95	10.90	11.35	13.16	10.52	<b>11.58</b>	11.35	12.49	9.48	13.11	<b>11.61</b>	<b>11.59</b>
28	PBW805	128	12.78	10.30	12.05	13.13	10.69	<b>11.79</b>	10.87	11.04	8.66	12.18	<b>10.69</b>	<b>11.30</b>
29	NW7067	129	11.93	10.55	11.39	12.48	9.48	<b>11.17</b>	10.80	11.40	9.74	11.85	<b>10.94</b>	<b>11.07</b>
30	UP3027	130	11.06	9.55	11.60	13.27	10.17	<b>11.13</b>	9.10	9.94	8.78	11.46	<b>9.82</b>	<b>10.55</b>
31	PBW802	131	11.85	9.15	11.36	13.54	7.78	<b>10.74</b>	10.39	12.33	8.52	12.07	<b>10.83</b>	<b>10.78</b>
32	WH1258	132	11.33	11.14	13.52	13.10	10.12	<b>11.84</b>	9.98	11.78	9.17	12.47	<b>10.85</b>	<b>11.40</b>
33	PBW804	133	12.44	10.26	10.72	12.81	10.22	<b>11.29</b>	11.17	11.76	9.70	11.86	<b>11.12</b>	<b>11.21</b>
34	K1006 (C)	134	11.15	9.39	11.67	12.53	8.71	<b>10.69</b>	11.03	10.58	8.83	11.61	<b>10.51</b>	<b>10.61</b>
35	Raj4538	135	12.79	12.26	12.23	12.77	10.00	<b>12.01</b>	11.77	11.19	10.31	12.54	<b>11.45</b>	<b>11.76</b>
36	DBW88 (C)	136	11.46	10.23	11.82	11.45	9.15	<b>10.82</b>	11.18	11.59	8.79	12.23	<b>10.95</b>	<b>10.88</b>
<b>Mean</b>			<b>11.92</b>	<b>10.43</b>	<b>11.67</b>	<b>12.67</b>	<b>9.61</b>	<b>11.26</b>	<b>10.74</b>	<b>11.49</b>	<b>9.30</b>	<b>12.21</b>	<b>10.94</b>	<b>11.12</b>

**Table 4: Sedimentation value (ml) of *T. aestivum* genotypes in NIVT-1A**

Sr. No.	Entry	Trial Code	NWPZ						NEPZ					Overall Mean
			Ludhiana	Hisar	Durgapura	Delhi	Pantnagar	Mean	Pusa	Kanpur	Varanasi	Sabour	Mean	
1	NW7060	101	48	43	39	47	38	<b>43</b>	44	41	54	52	<b>48</b>	<b>45</b>
2	DBW282	102	45	44	40	50	47	<b>45</b>	44	46	39	50	<b>45</b>	<b>45</b>
3	HD3086 (C)	103	45	45	43	47	48	<b>45</b>	49	47	47	53	<b>49</b>	<b>47</b>
4	HD3318	104	43	39	38	43	42	<b>41</b>	41	39	41	45	<b>41</b>	<b>41</b>
5	HD2967 (C)	105	44	52	49	55	60	<b>52</b>	55	50	63	63	<b>58</b>	<b>54</b>
6	Raj4539	106	42	48	37	43	52	<b>44</b>	38	44	46	48	<b>44</b>	<b>44</b>
7	NABIMG 09	107	46	52	47	52	51	<b>49</b>	45	49	50	50	<b>48</b>	<b>49</b>
8	HD3323	108	53	53	49	57	59	<b>54</b>	50	48	54	59	<b>53</b>	<b>53</b>
9	UP3028	109	43	42	47	50	50	<b>46</b>	45	50	56	46	<b>49</b>	<b>47</b>
10	K1801	110	36	33	34	39	40	<b>36</b>	38	34	49	36	<b>39</b>	<b>38</b>
11	WH1256	111	39	43	40	42	41	<b>41</b>	43	41	47	45	<b>44</b>	<b>42</b>
12	HUW 833	112	41	50	43	52	52	<b>47</b>	51	50	50	57	<b>52</b>	<b>49</b>
13	UP3026	113	43	45	47	57	51	<b>48</b>	49	56	45	58	<b>52</b>	<b>50</b>
14	WH1257	114	38	49	41	49	48	<b>45</b>	46	45	50	50	<b>48</b>	<b>46</b>
15	HD3319	115	41	45	42	47	43	<b>43</b>	47	48	48	51	<b>48</b>	<b>46</b>
16	HD3320	116	43	51	39	45	51	<b>46</b>	46	43	52	47	<b>47</b>	<b>46</b>
17	DBW281	117	40	39	37	49	45	<b>42</b>	46	49	54	53	<b>51</b>	<b>46</b>
18	HD3322	118	41	38	40	45	49	<b>42</b>	47	47	50	50	<b>48</b>	<b>45</b>
19	NABIMG 11	119	44	41	40	43	42	<b>42</b>	44	47	49	45	<b>46</b>	<b>44</b>
20	DBW284	120	47	40	41	47	49	<b>45</b>	51	50	54	51	<b>51</b>	<b>48</b>
21	Raj4537	121	41	37	37	49	40	<b>41</b>	42	40	39	49	<b>42</b>	<b>41</b>
22	PBW803	122	38	43	38	48	42	<b>42</b>	49	47	44	47	<b>47</b>	<b>44</b>
23	UP3025	123	47	47	43	46	47	<b>46</b>	46	41	51	56	<b>48</b>	<b>47</b>
24	HD3321	124	46	43	45	41	43	<b>43</b>	41	46	48	39	<b>43</b>	<b>43</b>
25	WH1255	125	52	52	53	50	46	<b>50</b>	56	51	58	52	<b>54</b>	<b>52</b>
26	DBW283	126	45	49	48	49	41	<b>46</b>	54	53	51	48	<b>51</b>	<b>48</b>
27	NABIMG 10	127	45	50	44	51	39	<b>46</b>	51	49	54	50	<b>51</b>	<b>48</b>
28	PBW805	128	51	54	48	55	41	<b>49</b>	53	49	56	52	<b>52</b>	<b>51</b>
29	NW7067	129	47	50	48	47	41	<b>46</b>	57	49	48	50	<b>51</b>	<b>48</b>
30	UP3027	130	45	47	43	45	40	<b>44</b>	51	45	50	51	<b>49</b>	<b>46</b>
31	PBW802	131	50	54	50	55	44	<b>51</b>	59	52	58	58	<b>57</b>	<b>53</b>
32	WH1258	132	41	48	45	45	43	<b>44</b>	49	51	50	55	<b>51</b>	<b>47</b>
33	PBW804	133	47	52	48	53	44	<b>49</b>	55	53	54	57	<b>55</b>	<b>51</b>
34	K1006 (C)	134	44	41	29	40	40	<b>39</b>	38	39	39	40	<b>39</b>	<b>39</b>
35	Raj4538	135	41	42	43	37	41	<b>41</b>	38	48	45	41	<b>43</b>	<b>42</b>
36	DBW88 (C)	136	55	54	51	51	41	<b>50</b>	50	53	49	56	<b>52</b>	<b>51</b>
<b>Mean</b>			<b>44</b>	<b>46</b>	<b>43</b>	<b>48</b>	<b>45</b>	<b>45</b>	<b>47</b>	<b>47</b>	<b>50</b>	<b>50</b>	<b>48</b>	<b>47</b>

**Table 5: Phenol test score (Max. 10) of *T. aestivum* genotypes in NIVT-1A**

Sr. No.	Entry	Trial Code	NWPZ						NEPZ					Overall Mean
			Ludhiana	Hisar	Durgapura	Delhi	Pantnagar	Mean	Pusa	Kanpur	Varanasi	Sabour	Mean	
1	NW7060	101	3.8	3.9	4.0	4.2	3.4	<b>3.9</b>	5.0	4.8	3.8	3.8	<b>4.3</b>	<b>4.1</b>
2	DBW282	102	4.4	3.8	3.6	3.4	3.9	<b>3.8</b>	3.7	5.3	4.4	3.4	<b>4.2</b>	<b>4.0</b>
3	HD3086 (C)	103	3.6	4.5	3.3	3.7	4.3	<b>3.9</b>	3.9	4.5	3.3	4.4	<b>4.0</b>	<b>3.9</b>
4	HD3318	104	3.4	3.6	3.2	3.4	3.5	<b>3.4</b>	3.6	3.9	3.1	3.4	<b>3.5</b>	<b>3.4</b>
5	HD2967 (C)	105	3.2	4.3	3.5	4.0	4.0	<b>3.8</b>	6.5	6.3	5.2	4.6	<b>5.6</b>	<b>4.6</b>
6	Raj4539	106	2.7	2.7	2.2	2.7	2.8	<b>2.6</b>	2.6	2.7	2.8	2.9	<b>2.7</b>	<b>2.7</b>
7	NABIMG 09	107	4.0	3.7	4.6	4.1	4.5	<b>4.2</b>	4.3	4.5	5.0	4.3	<b>4.5</b>	<b>4.3</b>
8	HD3323	108	3.6	3.8	4.2	3.7	3.9	<b>3.8</b>	3.6	4.7	5.3	4.8	<b>4.6</b>	<b>4.2</b>
9	UP3028	109	3.6	3.9	3.4	3.6	4.0	<b>3.7</b>	3.7	4.1	3.6	3.5	<b>3.7</b>	<b>3.7</b>
10	K1801	110	3.6	3.4	3.2	3.7	4.6	<b>3.7</b>	4.1	4.0	4.5	3.8	<b>4.1</b>	<b>3.9</b>
11	WH1256	111	3.7	4.2	3.2	3.5	4.3	<b>3.8</b>	3.5	3.9	5.2	4.4	<b>4.2</b>	<b>4.0</b>
12	HUW 833	112	3.6	4.2	3.6	4.1	4.7	<b>4.0</b>	3.8	4.3	4.8	5.0	<b>4.5</b>	<b>4.2</b>
13	UP3026	113	4.7	5.0	3.7	4.4	4.3	<b>4.4</b>	5.0	6.2	3.0	4.1	<b>4.6</b>	<b>4.5</b>
14	WH1257	114	5.0	4.3	3.0	3.9	3.5	<b>3.9</b>	4.1	5.0	3.2	4.4	<b>4.2</b>	<b>4.0</b>
15	HD3319	115	2.8	2.6	2.2	2.8	2.8	<b>2.6</b>	2.7	2.9	2.7	2.9	<b>2.8</b>	<b>2.7</b>
16	HD3320	116	3.4	3.4	3.3	3.9	3.2	<b>3.4</b>	4.1	4.9	3.6	4.0	<b>4.1</b>	<b>3.7</b>
17	DBW281	117	3.7	3.7	3.6	4.3	3.2	<b>3.7</b>	4.4	4.5	3.8	3.9	<b>4.2</b>	<b>3.9</b>
18	HD3322	118	5.0	5.0	3.6	3.9	3.3	<b>4.1</b>	4.6	4.6	4.6	3.7	<b>4.4</b>	<b>4.2</b>
19	NABIMG 11	119	6.3	6.0	6.0	4.8	8.0	<b>6.2</b>	6.5	7.8	6.8	6.3	<b>6.8</b>	<b>6.5</b>
20	DBW284	120	4.0	3.4	4.3	4.8	3.1	<b>3.9</b>	4.1	5.4	5.0	4.9	<b>4.8</b>	<b>4.3</b>
21	Raj4537	121	5.0	5.4	3.6	3.7	3.2	<b>4.2</b>	3.5	5.6	3.7	3.7	<b>4.1</b>	<b>4.1</b>
22	PBW803	122	4.0	3.9	3.6	4.1	3.3	<b>3.8</b>	4.0	4.7	4.0	5.7	<b>4.6</b>	<b>4.1</b>
23	UP3025	123	4.8	4.9	3.6	4.8	4.0	<b>4.4</b>	3.8	4.7	6.0	4.4	<b>4.7</b>	<b>4.5</b>
24	HD3321	124	4.2	4.1	3.3	3.8	3.2	<b>3.7</b>	3.7	5.2	3.8	4.0	<b>4.2</b>	<b>3.9</b>
25	WH1255	125	3.9	3.5	3.5	4.6	4.4	<b>4.0</b>	3.9	5.2	5.5	5.4	<b>5.0</b>	<b>4.4</b>
26	DBW283	126	3.7	3.5	3.5	3.7	4.4	<b>3.7</b>	4.2	5.3	5.0	4.8	<b>4.8</b>	<b>4.2</b>
27	NABIMG 10	127	5.6	6.0	5.5	4.7	4.0	<b>5.2</b>	7.5	6.5	6.0	7.5	<b>6.9</b>	<b>5.9</b>
28	PBW805	128	3.9	5.2	3.9	3.1	3.5	<b>3.9</b>	3.4	4.3	3.2	4.8	<b>3.9</b>	<b>3.9</b>
29	NW7067	129	4.7	4.8	3.4	3.2	3.4	<b>3.9</b>	3.8	4.1	3.5	4.2	<b>3.9</b>	<b>3.9</b>
30	UP3027	130	3.1	4.5	4.4	3.3	3.7	<b>3.8</b>	3.6	4.5	4.0	4.2	<b>4.1</b>	<b>3.9</b>
31	PBW802	131	3.5	4.3	3.6	3.1	3.8	<b>3.6</b>	3.6	3.6	5.2	4.9	<b>4.3</b>	<b>3.9</b>
32	WH1258	132	4.8	5.8	3.6	3.7	3.9	<b>4.4</b>	3.5	6.2	6.0	4.0	<b>4.9</b>	<b>4.6</b>
33	PBW804	133	4.5	3.6	4.0	3.4	4.2	<b>3.9</b>	3.0	5.0	3.7	3.9	<b>3.9</b>	<b>3.9</b>
34	K1006 (C)	134	3.3	4.1	3.2	3.4	3.8	<b>3.5</b>	3.6	4.0	4.5	3.9	<b>4.0</b>	<b>3.7</b>
35	Raj4538	135	2.8	2.8	2.0	2.7	2.5	<b>2.6</b>	2.5	2.8	2.7	2.8	<b>2.7</b>	<b>2.6</b>
36	DBW88 (C)	136	3.8	4.8	4.0	3.5	3.1	<b>3.8</b>	3.6	5.4	4.0	4.8	<b>4.5</b>	<b>4.1</b>
<b>Mean</b>			<b>4.0</b>	<b>4.2</b>	<b>3.6</b>	<b>3.8</b>	<b>3.8</b>	<b>3.9</b>	<b>4.0</b>	<b>4.7</b>	<b>4.3</b>	<b>4.3</b>	<b>4.3</b>	<b>4.1</b>



**Table 6: Grain appearance score (Max-10) of *T. aestivum* genotypes in NIVT-1B**

Sr. No.	Entry	Trial Code	NWPZ						NEPZ					Overall Mean
			Ludhiana	Durgapura	Delhi	Pantnagar	Hisar	Mean	Kanpur	Pusa	Sabour	Varanasi	Mean	
1	HD2967(C)	201	5.5	7.0	6.0	6.0	5.5	<b>6.0</b>	7.5	5.5	5.0	7.0	<b>6.3</b>	<b>6.1</b>
2	HD3326	202	6.0	6.0	6.0	6.0	6.0	<b>6.0</b>	7.0	4.5	5.0	7.5	<b>6.0</b>	<b>6.0</b>
3	HUW834	203	6.0	7.0	7.0	6.5	6.5	<b>6.6</b>	8.0	5.0	6.0	8.5	<b>6.9</b>	<b>6.7</b>
4	K1803	204	7.0	7.5	7.0	6.0	7.5	<b>7.0</b>	7.0	7.0	5.0	7.5	<b>6.6</b>	<b>6.8</b>
5	DBW286	205	7.5	8.0	5.0	5.5	6.5	<b>6.5</b>	6.5	5.0	4.0	7.0	<b>5.6</b>	<b>6.1</b>
6	DBW287	206	6.0	7.5	5.0	6.0	7.5	<b>6.4</b>	7.0	5.0	4.5	7.0	<b>5.9</b>	<b>6.2</b>
7	UP3029	207	4.5	7.0	6.5	7.0	7.0	<b>6.4</b>	5.0	7.0	7.5	5.5	<b>6.3</b>	<b>6.3</b>
8	Raj4540	208	6.0	8.0	6.0	5.0	7.0	<b>6.4</b>	6.0	6.0	6.0	6.2	<b>6.1</b>	<b>6.2</b>
9	DBW88(C)	209	5.0	7.5	5.5	6.0	6.0	<b>6.0</b>	8.0	5.0	5.0	7.9	<b>6.5</b>	<b>6.2</b>
10	NW7064	210	7.0	7.0	7.0	5.5	6.5	<b>6.6</b>	7.0	5.5	6.0	6.5	<b>6.3</b>	<b>6.4</b>
11	UP3031	211	6.0	6.0	6.0	6.0	4.5	<b>5.7</b>	7.0	5.0	5.0	6.5	<b>5.9</b>	<b>5.8</b>
12	PBW807	212	7.0	6.5	7.0	7.0	6.0	<b>6.7</b>	7.5	5.0	6.0	7.0	<b>6.4</b>	<b>6.6</b>
13	BRW3829	213	6.0	7.0	7.5	7.0	7.0	<b>6.9</b>	7.5	7.0	7.5	7.5	<b>7.4</b>	<b>7.1</b>
14	NWS2106	214	6.0	8.0	7.0	5.5	8.0	<b>6.9</b>	7.0	5.0	7.0	7.2	<b>6.6</b>	<b>6.7</b>
15	WH1259	215	7.0	7.0	6.5	6.0	6.0	<b>6.5</b>	8.0	5.0	5.0	7.5	<b>6.4</b>	<b>6.4</b>
16	HUW835	216	6.0	6.5	7.0	6.0	6.0	<b>6.3</b>	6.5	4.5	5.0	6.5	<b>5.6</b>	<b>6.0</b>
17	Raj4541	217	7.0	7.0	8.0	6.5	5.0	<b>6.7</b>	8.0	5.0	6.0	7.5	<b>6.6</b>	<b>6.7</b>
18	PBW808	218	6.0	7.5	7.0	5.0	7.0	<b>6.5</b>	5.0	5.0	7.0	6.2	<b>5.8</b>	<b>6.2</b>
19	DBW305	219	4.5	8.0	6.0	6.0	8.0	<b>6.5</b>	6.0	5.0	6.0	6.5	<b>5.9</b>	<b>6.2</b>
20	HD3327	220	5.0	7.5	5.0	5.0	8.0	<b>6.1</b>	7.0	5.5	5.0	7.5	<b>6.3</b>	<b>6.2</b>
21	BRW3838	221	6.0	8.0	6.0	6.0	7.0	<b>6.6</b>	7.0	5.0	7.0	7.5	<b>6.6</b>	<b>6.6</b>
22	HD3328	222	5.0	7.0	6.0	6.0	6.0	<b>6.0</b>	7.0	5.0	5.5	7.0	<b>6.1</b>	<b>6.1</b>
23	NW7057	223	6.5	7.5	7.0	6.0	5.0	<b>6.4</b>	6.0	7.0	6.0	6.5	<b>6.4</b>	<b>6.4</b>
24	DBW288	224	7.5	7.5	5.5	5.0	6.0	<b>6.3</b>	6.0	5.0	6.0	6.5	<b>5.9</b>	<b>6.1</b>
25	HD3086(C)	225	6.5	7.0	6.0	5.0	7.5	<b>6.4</b>	7.0	5.0	5.0	7.5	<b>6.1</b>	<b>6.3</b>
26	NW7075	226	5.0	6.5	7.0	6.0	7.0	<b>6.3</b>	7.0	4.5	6.0	7.5	<b>6.3</b>	<b>6.3</b>
27	K1006 (C)	227	4.5	6.0	7.0	5.0	7.0	<b>5.9</b>	6.0	5.0	5.0	6.5	<b>5.6</b>	<b>5.8</b>
28	K1804	228	6.0	7.0	6.0	6.0	5.0	<b>6.0</b>	7.5	7.0	7.0	7.0	<b>7.1</b>	<b>6.5</b>
29	WH1260	229	6.0	6.0	5.0	7.0	5.0	<b>5.8</b>	8.0	5.0	7.0	7.5	<b>6.9</b>	<b>6.3</b>
30	HD3325	230	5.0	7.0	7.0	6.0	5.0	<b>6.0</b>	7.0	4.0	6.0	7.5	<b>6.1</b>	<b>6.1</b>
31	UP3030	231	5.0	6.0	5.0	4.5	6.0	<b>5.3</b>	4.0	5.0	5.0	5.9	<b>5.0</b>	<b>5.2</b>
32	DBW285	232	6.0	6.0	7.0	5.0	6.0	<b>6.0</b>	6.0	5.0	6.0	6.0	<b>5.8</b>	<b>5.9</b>
33	K1805	233	6.0	6.5	6.0	6.0	7.0	<b>6.3</b>	6.0	4.0	6.0	6.0	<b>5.5</b>	<b>5.9</b>
34	HD3324	234	7.5	7.0	5.0	5.5	5.0	<b>6.0</b>	6.5	7.0	7.0	7.0	<b>6.9</b>	<b>6.4</b>
35	KRL429	235	7.0	7.5	6.0	5.0	5.5	<b>6.2</b>	6.5	5.0	4.0	7.0	<b>5.6</b>	<b>5.9</b>
36	KRL423	236	7.5	6.0	5.0	7.0	6.0	<b>6.3</b>	4.5	7.0	5.0	5.0	<b>5.4</b>	<b>5.9</b>
<b>Mean</b>			<b>6.1</b>	<b>7.0</b>	<b>6.2</b>	<b>5.8</b>	<b>6.3</b>	<b>6.3</b>	<b>6.7</b>	<b>5.4</b>	<b>5.8</b>	<b>6.9</b>	<b>6.2</b>	<b>6.2</b>

**Table 7: Hectolitre weight (kg/hl) of *T. aestivum* genotypes in NIVT-1B**

Sr. No.	Entry	Trial Code	NWPZ						NEPZ					Overall Mean
			Ludhiana	Durgapura	Delhi	Pantnagar	Hisar	Mean	Kanpur	Pusa	Sabour	Varanasi	Mean	
1	HD2967(C)	201	73.7	79.5	78.6	78.1	77.1	<b>77.4</b>	80.1	77.4	72.4	74.9	<b>76.2</b>	<b>76.8</b>
2	HD3326	202	73.5	76.8	77.7	75.6	77.3	<b>76.2</b>	80.0	76.7	72.7	74.4	<b>76.0</b>	<b>76.1</b>
3	HUW834	203	77.6	81.2	81.3	80.3	80.7	<b>80.2</b>	81.9	80.0	75.0	78.0	<b>78.7</b>	<b>79.5</b>
4	K1803	204	78.5	81.7	80.3	79.8	80.0	<b>80.0</b>	81.7	78.8	73.3	78.3	<b>78.0</b>	<b>79.1</b>
5	DBW286	205	77.8	80.4	78.8	77.1	78.8	<b>78.6</b>	81.4	76.0	74.4	75.0	<b>76.7</b>	<b>77.7</b>
6	DBW287	206	77.1	81.1	78.9	79.1	79.4	<b>79.1</b>	80.2	76.0	70.8	76.7	<b>75.9</b>	<b>77.7</b>
7	UP3029	207	76.6	80.0	79.1	78.5	79.6	<b>78.7</b>	80.3	75.7	73.9	76.7	<b>76.7</b>	<b>77.8</b>
8	Raj4540	208	73.9	80.0	75.5	76.0	77.6	<b>76.6</b>	79.9	76.2	70.4	73.5	<b>75.0</b>	<b>75.9</b>
9	DBW88(C)	209	74.0	78.5	79.2	78.0	79.8	<b>77.9</b>	81.7	79.1	73.7	75.3	<b>77.5</b>	<b>77.7</b>
10	NW7064	210	74.5	81.5	79.9	79.1	80.9	<b>79.2</b>	81.0	76.8	70.4	74.5	<b>75.7</b>	<b>77.6</b>
11	UP3031	211	74.7	77.8	76.3	78.6	78.0	<b>77.1</b>	79.8	76.5	68.6	76.4	<b>75.3</b>	<b>76.3</b>
12	PBW807	212	76.6	80.0	80.2	79.2	79.6	<b>79.1</b>	81.6	79.5	74.4	76.4	<b>78.0</b>	<b>78.6</b>
13	BRW3829	213	78.3	80.0	80.4	80.7	80.0	<b>79.9</b>	82.2	80.0	77.3	80.4	<b>80.0</b>	<b>79.9</b>
14	NWS2106	214	76.2	81.4	80.0	79.6	80.0	<b>79.4</b>	79.2	78.0	74.9	77.6	<b>77.4</b>	<b>78.5</b>
15	WH1259	215	77.4	80.5	79.4	78.8	80.1	<b>79.2</b>	80.8	78.4	73.5	75.8	<b>77.1</b>	<b>78.3</b>
16	HUW835	216	74.4	78.2	80.0	78.3	80.0	<b>78.2</b>	82.0	78.6	74.7	76.8	<b>78.0</b>	<b>78.1</b>
17	Raj4541	217	79.2	81.9	82.4	80.1	81.2	<b>81.0</b>	83.2	80.0	76.0	78.3	<b>79.4</b>	<b>80.3</b>
18	PBW808	218	74.7	80.1	79.6	77.0	79.8	<b>78.2</b>	80.5	77.6	71.6	75.9	<b>76.4</b>	<b>77.4</b>
19	DBW305	219	76.0	82.5	81.7	80.0	81.4	<b>80.3</b>	82.9	80.1	72.3	77.4	<b>78.2</b>	<b>79.3</b>
20	HD3327	220	74.7	78.1	77.0	77.3	78.6	<b>77.1</b>	78.9	76.7	69.7	73.9	<b>74.8</b>	<b>76.1</b>
21	BRW3838	221	78.2	81.4	79.3	79.0	80.6	<b>79.7</b>	81.5	80.4	73.7	78.0	<b>78.4</b>	<b>79.1</b>
22	HD3328	222	75.1	78.7	77.6	76.8	78.1	<b>77.3</b>	80.2	76.9	68.6	73.4	<b>74.8</b>	<b>76.1</b>
23	NW7057	223	77.1	81.5	79.2	78.8	79.5	<b>79.2</b>	81.4	77.6	71.7	76.0	<b>76.7</b>	<b>78.1</b>
24	DBW288	224	74.3	79.7	77.6	75.8	77.2	<b>76.9</b>	78.1	75.7	69.0	71.8	<b>73.6</b>	<b>75.5</b>
25	HD3086(C)	225	77.9	79.0	78.5	80.0	81.6	<b>79.4</b>	81.2	78.9	72.7	78.2	<b>77.8</b>	<b>78.7</b>
26	NW7075	226	73.3	79.3	78.1	77.8	78.3	<b>77.3</b>	79.6	75.6	72.4	75.9	<b>75.9</b>	<b>76.7</b>
27	K1006(C)	227	74.3	78.8	78.9	78.9	78.7	<b>77.9</b>	81.6	78.6	75.7	77.2	<b>78.3</b>	<b>78.1</b>
28	K1804	228	72.0	80.4	80.0	79.4	79.9	<b>78.3</b>	82.3	79.0	74.1	76.9	<b>78.1</b>	<b>78.2</b>
29	WH1260	229	73.2	73.2	75.9	75.8	76.0	<b>74.8</b>	81.2	75.6	70.3	74.1	<b>75.3</b>	<b>75.0</b>
30	HD3325	230	73.3	80.9	77.7	77.5	77.8	<b>77.4</b>	80.2	77.2	68.9	74.2	<b>75.1</b>	<b>76.4</b>
31	UP3030	231	72.8	77.8	76.8	78.7	76.9	<b>76.6</b>	81.1	78.0	73.3	77.0	<b>77.4</b>	<b>76.9</b>
32	DBW285	232	75.8	79.9	78.5	76.1	78.4	<b>77.7</b>	79.8	78.5	73.1	74.7	<b>76.5</b>	<b>77.2</b>
33	K1805	233	74.2	76.3	77.3	77.9	78.7	<b>76.9</b>	79.0	73.2	69.5	72.9	<b>73.7</b>	<b>75.4</b>
34	HD3324	234	77.5	79.5	78.6	77.4	78.6	<b>78.3</b>	80.7	78.4	67.5	73.8	<b>75.1</b>	<b>76.9</b>
35	KRL429	235	74.4	77.8	77.4	76.9	76.9	<b>76.7</b>	79.1	76.1	64.4	75.4	<b>73.7</b>	<b>75.4</b>
36	KRL423	236	79.0	80.9	79.8	77.4	78.4	<b>79.1</b>	81.1	78.1	73.0	75.0	<b>76.8</b>	<b>78.1</b>
<b>Mean</b>			<b>75.6</b>	<b>79.6</b>	<b>78.8</b>	<b>78.2</b>	<b>79.0</b>	<b>78.2</b>	<b>80.7</b>	<b>77.7</b>	<b>72.2</b>	<b>75.9</b>	<b>76.6</b>	<b>77.5</b>

**Table 8: Protein content (%) at 12% moisture basis of *T. aestivum* genotypes in NIVT-1B**

Sr. No.	Entry	Trial Code	NWPZ						NEPZ					Overall Mean
			Ludhiana	Durgapura	Delhi	Pantnagar	Hisar	Mean	Kanpur	Pusa	Sabour	Varanasi	Mean	
1	HD2967(C)	201	11.0	11.0	12.8	8.6	11.4	<b>11.0</b>	12.6	11.0	11.8	10.9	<b>11.6</b>	<b>11.2</b>
2	HD3326	202	12.2	11.6	12.4	9.7	10.6	<b>11.3</b>	10.8	11.5	11.9	11.2	<b>11.3</b>	<b>11.3</b>
3	HUW834	203	12.4	12.0	13.5	9.3	11.1	<b>11.7</b>	11.7	11.7	11.6	10.8	<b>11.4</b>	<b>11.6</b>
4	K1803	204	12.7	12.6	13.8	9.3	10.8	<b>11.8</b>	11.7	9.9	12.3	10.1	<b>11.0</b>	<b>11.5</b>
5	DBW286	205	12.0	10.6	12.4	9.8	10.7	<b>11.1</b>	11.4	11.1	11.2	11.2	<b>11.2</b>	<b>11.2</b>
6	DBW287	206	11.7	9.9	11.6	9.3	9.6	<b>10.4</b>	10.2	11.1	12.2	10.2	<b>10.9</b>	<b>10.6</b>
7	UP3029	207	11.3	12.0	13.3	9.6	11.7	<b>11.6</b>	11.5	11.1	12.0	11.3	<b>11.5</b>	<b>11.5</b>
8	Raj4540	208	11.4	11.1	12.0	8.6	9.5	<b>10.5</b>	10.7	10.2	11.3	10.9	<b>10.8</b>	<b>10.6</b>
9	DBW88(C)	209	11.8	11.5	12.7	8.8	10.2	<b>11.0</b>	10.9	11.2	11.5	10.6	<b>11.0</b>	<b>11.0</b>
10	NW7064	210	11.6	10.2	11.8	8.5	10.4	<b>10.5</b>	11.0	9.4	11.9	10.8	<b>10.8</b>	<b>10.6</b>
11	UP3031	211	12.8	11.1	12.8	9.6	10.4	<b>11.3</b>	10.7	10.9	13.0	10.9	<b>11.4</b>	<b>11.4</b>
12	PBW807	212	10.1	10.2	11.8	8.9	10.6	<b>10.3</b>	10.5	10.8	10.7	10.5	<b>10.6</b>	<b>10.4</b>
13	BRW3829	213	11.9	14.2	14.0	9.4	13.1	<b>12.5</b>	13.1	12.4	13.0	12.1	<b>12.7</b>	<b>12.6</b>
14	NWS2106	214	12.8	11.3	13.2	9.1	11.0	<b>11.5</b>	10.4	11.5	11.3	10.7	<b>11.0</b>	<b>11.2</b>
15	WH1259	215	11.1	11.5	13.0	9.9	10.9	<b>11.3</b>	12.4	11.3	11.8	11.5	<b>11.8</b>	<b>11.5</b>
16	HUW835	216	10.6	10.7	11.3	8.9	10.3	<b>10.4</b>	10.4	10.5	10.9	10.2	<b>10.5</b>	<b>10.4</b>
17	Raj4541	217	12.4	11.5	12.4	10.1	10.8	<b>11.4</b>	11.6	11.3	11.4	11.2	<b>11.4</b>	<b>11.4</b>
18	PBW808	218	11.7	9.9	12.2	8.4	9.3	<b>10.3</b>	9.9	9.7	10.8	10.1	<b>10.1</b>	<b>10.2</b>
19	DBW305	219	12.0	10.8	12.4	9.0	10.0	<b>10.8</b>	11.6	11.0	12.7	11.2	<b>11.6</b>	<b>11.2</b>
20	HD3327	220	13.0	11.3	12.9	9.0	11.5	<b>11.5</b>	11.6	10.1	11.3	11.5	<b>11.1</b>	<b>11.4</b>
21	BRW3838	221	10.4	10.6	12.6	8.2	11.2	<b>10.6</b>	10.6	10.6	12.6	10.8	<b>11.2</b>	<b>10.8</b>
22	HD3328	222	12.3	10.7	12.9	7.7	9.9	<b>10.7</b>	9.7	9.9	11.6	9.9	<b>10.3</b>	<b>10.5</b>
23	NW7057	223	11.2	11.2	12.8	8.9	11.4	<b>11.1</b>	10.9	10.1	12.3	10.8	<b>11.0</b>	<b>11.1</b>
24	DBW288	224	10.8	10.6	12.6	8.8	9.6	<b>10.5</b>	11.4	10.5	12.6	11.2	<b>11.4</b>	<b>10.9</b>
25	HD308 (C)	225	11.6	11.4	12.4	9.6	10.4	<b>11.1</b>	10.6	10.5	12.1	10.9	<b>11.0</b>	<b>11.1</b>
26	NW7075	226	11.7	11.2	11.6	8.1	10.4	<b>10.6</b>	11.5	10.6	11.0	11.2	<b>11.1</b>	<b>10.8</b>
27	K1006(C)	227	10.3	10.5	12.1	8.1	11.0	<b>10.4</b>	11.5	10.8	11.1	11.2	<b>11.1</b>	<b>10.7</b>
28	K1804	228	12.7	12.5	13.8	9.6	11.2	<b>11.9</b>	11.4	11.3	12.9	11.7	<b>11.8</b>	<b>11.9</b>
29	WH1260	229	11.4	10.5	12.2	7.1	9.8	<b>10.2</b>	10.3	9.7	11.0	10.6	<b>10.4</b>	<b>10.3</b>
30	HD3325	230	12.1	10.0	12.8	8.5	10.6	<b>10.8</b>	11.0	9.9	12.1	10.9	<b>11.0</b>	<b>10.9</b>
31	UP3030	231	12.7	11.7	12.1	9.4	10.4	<b>11.3</b>	9.6	11.4	12.8	10.2	<b>11.0</b>	<b>11.1</b>
32	DBW285	232	11.0	12.1	13.7	8.7	11.1	<b>11.3</b>	11.4	10.5	11.1	11.2	<b>11.0</b>	<b>11.2</b>
33	K1805	233	11.8	12.0	12.7	9.3	10.8	<b>11.3</b>	12.0	11.3	12.0	11.9	<b>11.8</b>	<b>11.5</b>
34	HD3324	234	12.7	11.6	14.6	9.3	11.1	<b>11.9</b>	12.0	11.8	14.2	11.9	<b>12.5</b>	<b>12.1</b>
35	KRL429	235	11.7	11.8	13.3	9.1	10.7	<b>11.3</b>	12.1	12.1	13.1	11.7	<b>12.3</b>	<b>11.7</b>
36	KRL423	236	11.7	12.2	12.9	9.4	10.5	<b>11.3</b>	11.2	11.7	11.5	10.9	<b>11.3</b>	<b>11.3</b>
<b>Mean</b>			<b>11.7</b>	<b>11.3</b>	<b>12.7</b>	<b>9.0</b>	<b>10.7</b>	<b>11.1</b>	<b>11.2</b>	<b>10.8</b>	<b>11.9</b>	<b>11.0</b>	<b>11.2</b>	<b>11.1</b>

**Table 9: Sedimentation value (ml) of *T. aestivum* genotypes in NIVT-1B**

Sr. No.	Entry	Trial Code	NWPZ						NEPZ					Overall Mean
			Ludhiana	Durgapura	Delhi	Pantnagar	Hisar	Mean	Kanpur	Pusa	Sabour	Varanasi	Mean	
1	HD2967(C)	201	58	53	52	63	68	<b>59</b>	53	45	64	50	<b>53</b>	<b>56</b>
2	HD3326	202	61	46	51	56	52	<b>53</b>	50	41	61	45	<b>49</b>	<b>51</b>
3	HUW834	203	45	41	43	52	43	<b>45</b>	45	47	53	43	<b>47</b>	<b>46</b>
4	K1803	204	53	39	43	43	41	<b>44</b>	43	52	55	43	<b>48</b>	<b>46</b>
5	DBW286	205	59	54	44	48	50	<b>51</b>	58	46	53	40	<b>49</b>	<b>50</b>
6	DBW287	206	65	53	46	55	45	<b>53</b>	59	45	62	47	<b>53</b>	<b>53</b>
7	UP3029	207	46	47	40	47	47	<b>45</b>	46	50	48	45	<b>47</b>	<b>46</b>
8	Raj4540	208	43	37	41	30	31	<b>36</b>	40	40	46	34	<b>40</b>	<b>38</b>
9	DBW88 C)	209	72	57	54	52	53	<b>58</b>	57	70	65	42	<b>59</b>	<b>58</b>
10	NW7064	210	50	39	40	40	42	<b>42</b>	47	47	58	35	<b>47</b>	<b>44</b>
11	UP3031	211	75	61	55	67	54	<b>62</b>	55	50	63	52	<b>55</b>	<b>59</b>
12	PBW807	212	43	39	52	42	40	<b>43</b>	47	48	47	40	<b>46</b>	<b>44</b>
13	BRW3829	213	50	43	45	47	47	<b>46</b>	46	43	45	40	<b>44</b>	<b>45</b>
14	NWS2106	214	74	57	55	60	61	<b>61</b>	55	57	70	53	<b>59</b>	<b>60</b>
15	WH1259	215	69	63	68	61	70	<b>66</b>	67	70	70	53	<b>65</b>	<b>66</b>
16	HUW835	216	60	55	51	58	55	<b>56</b>	51	63	60	46	<b>55</b>	<b>55</b>
17	Raj4541	217	43	35	40	41	39	<b>40</b>	39	44	47	36	<b>42</b>	<b>40</b>
18	PBW808	218	62	50	61	47	54	<b>55</b>	51	48	60	43	<b>51</b>	<b>53</b>
19	DBW305	219	63	61	57	58	57	<b>59</b>	60	67	70	44	<b>60</b>	<b>60</b>
20	HD3327	220	54	47	54	46	48	<b>50</b>	45	51	52	43	<b>48</b>	<b>49</b>
21	BRW3838	221	43	34	44	41	43	<b>41</b>	43	33	47	38	<b>40</b>	<b>41</b>
22	HD3328	222	66	52	53	44	48	<b>53</b>	53	60	74	41	<b>57</b>	<b>55</b>
23	NW7057	223	58	55	53	60	49	<b>55</b>	52	50	50	44	<b>49</b>	<b>52</b>
24	DBW288	224	55	56	44	54	48	<b>51</b>	51	48	70	50	<b>55</b>	<b>53</b>
25	HD3086(C)	225	56	44	54	48	44	<b>49</b>	50	54	66	39	<b>52</b>	<b>51</b>
26	NW7075	226	53	48	55	49	52	<b>51</b>	58	55	60	44	<b>54</b>	<b>53</b>
27	K1006 (C)	227	37	27	38	28	31	<b>32</b>	35	35	40	32	<b>36</b>	<b>34</b>
28	K1804	228	63	45	67	62	65	<b>60</b>	57	53	66	45	<b>55</b>	<b>58</b>
29	WH1260	229	70	61	62	42	57	<b>58</b>	67	44	65	40	<b>54</b>	<b>56</b>
30	HD3325	230	72	53	63	53	52	<b>59</b>	58	52	70	46	<b>57</b>	<b>58</b>
31	UP3030	231	57	46	57	47	54	<b>52</b>	53	61	60	50	<b>56</b>	<b>54</b>
32	DBW285	232	68	62	56	62	61	<b>62</b>	54	54	61	47	<b>54</b>	<b>58</b>
33	K1805	233	48	40	43	43	46	<b>44</b>	50	52	55	39	<b>49</b>	<b>46</b>
34	HD3324	234	72	58	47	61	67	<b>61</b>	65	60	70	54	<b>62</b>	<b>62</b>
35	KRL429	235	62	55	62	61	65	<b>61</b>	57	56	46	44	<b>51</b>	<b>56</b>
36	KRL423	236	57	49	54	50	50	<b>52</b>	62	48	59	40	<b>52</b>	<b>52</b>
<b>Mean</b>			<b>58</b>	<b>49</b>	<b>51</b>	<b>51</b>	<b>51</b>	<b>52</b>	<b>52</b>	<b>51</b>	<b>59</b>	<b>44</b>	<b>51</b>	<b>52</b>

**Table 10: Phenol test score (Max-10) of *T. aestivum* genotypes in NIVT-1B**

Sr. No.	Entry	Trial Code	NWPZ						NEPZ					Overall Mean
			Ludhiana	Durgapura	Delhi	Pantnagar	Hisar	Mean	Kanpur	Pusa	Sabour	Varanasi	Mean	
1	HD2967 C)	201	5.5	6.0	5.0	5.0	5.0	<b>5.3</b>	4.5	4.5	5.0	5.0	<b>4.8</b>	<b>5.1</b>
2	HD3326	202	5.0	6.0	6.0	4.5	5.0	<b>5.3</b>	5.0	5.0	5.0	4.5	<b>4.9</b>	<b>5.1</b>
3	HUW834	203	4.5	5.5	5.0	6.0	4.5	<b>5.1</b>	6.0	6.0	5.0	6.5	<b>5.9</b>	<b>5.4</b>
4	K1803	204	5.5	8.0	7.0	7.5	7.5	<b>7.1</b>	7.0	7.5	7.0	6.5	<b>7.0</b>	<b>7.1</b>
5	DBW286	205	5.0	7.0	5.5	5.0	5.0	<b>5.5</b>	5.0	6.0	6.0	6.0	<b>5.8</b>	<b>5.6</b>
6	DBW287	206	5.0	6.0	6.0	6.0	5.0	<b>5.6</b>	5.0	6.0	6.0	5.0	<b>5.5</b>	<b>5.6</b>
7	UP3029	207	6.0	7.5	7.0	7.0	7.0	<b>6.9</b>	6.0	7.0	8.0	6.5	<b>6.9</b>	<b>6.9</b>
8	Raj4540	208	6.0	8.0	6.5	7.0	7.0	<b>6.9</b>	7.0	7.0	7.5	7.5	<b>7.3</b>	<b>7.1</b>
9	DBW88 C)	209	5.0	6.0	6.0	5.5	4.5	<b>5.4</b>	4.0	5.0	4.0	4.5	<b>4.4</b>	<b>4.9</b>
10	NW7064	210	5.0	6.0	5.0	5.0	5.0	<b>5.2</b>	5.5	5.0	5.0	6.0	<b>5.4</b>	<b>5.3</b>
11	UP3031	211	4.5	5.0	4.0	5.0	5.0	<b>4.7</b>	5.0	4.5	5.0	5.0	<b>4.9</b>	<b>4.8</b>
12	PBW807	212	5.0	6.0	5.0	6.0	6.0	<b>5.6</b>	5.0	5.0	4.5	5.0	<b>4.9</b>	<b>5.3</b>
13	BRW3829	213	7.0	8.0	8.0	8.0	8.0	<b>7.8</b>	7.5	7.0	8.0	7.5	<b>7.5</b>	<b>7.7</b>
14	NWS2106	214	6.5	8.0	8.0	7.0	7.0	<b>7.3</b>	5.0	7.0	7.5	5.0	<b>6.1</b>	<b>6.8</b>
15	WH1259	215	6.0	6.5	6.0	5.0	7.0	<b>6.1</b>	6.0	5.0	6.0	6.0	<b>5.8</b>	<b>5.9</b>
16	HUW835	216	5.0	6.0	6.0	4.0	6.0	<b>5.4</b>	5.0	5.0	6.0	5.0	<b>5.3</b>	<b>5.3</b>
17	Raj4541	217	6.0	8.5	8.5	7.0	8.0	<b>7.6</b>	8.0	6.0	8.0	7.5	<b>7.4</b>	<b>7.5</b>
18	PBW808	218	5.0	6.0	6.0	5.0	7.0	<b>5.8</b>	6.0	5.0	7.0	6.0	<b>6.0</b>	<b>5.9</b>
19	DBW305	219	5.0	7.0	7.0	5.0	6.5	<b>6.1</b>	5.0	5.0	6.0	5.0	<b>5.3</b>	<b>5.7</b>
20	HD3327	220	6.0	8.0	8.0	7.0	8.0	<b>7.4</b>	5.5	6.0	7.0	5.5	<b>6.0</b>	<b>6.8</b>
21	BRW3838	221	5.0	6.0	6.0	6.0	5.0	<b>5.6</b>	5.0	5.0	6.0	6.5	<b>5.6</b>	<b>5.6</b>
22	HD3328	222	5.0	6.0	5.0	6.0	4.5	<b>5.3</b>	5.0	4.5	5.5	5.0	<b>5.0</b>	<b>5.2</b>
23	NW7057	223	4.5	5.5	6.0	6.0	5.0	<b>5.4</b>	5.0	5.0	6.0	5.0	<b>5.3</b>	<b>5.3</b>
24	DBW288	224	7.0	7.5	8.0	8.0	7.5	<b>7.6</b>	8.0	6.0	8.0	7.5	<b>7.4</b>	<b>7.5</b>
25	HD3086 C)	225	5.0	7.0	7.0	6.0	7.0	<b>6.4</b>	7.0	5.0	7.0	7.0	<b>6.5</b>	<b>6.4</b>
26	NW7075	226	5.0	5.0	5.0	5.0	7.0	<b>5.4</b>	6.0	5.0	6.0	6.0	<b>5.8</b>	<b>5.6</b>
27	K1006 (C)	227	5.0	7.0	6.0	6.0	6.5	<b>6.1</b>	6.0	5.5	5.5	6.0	<b>5.8</b>	<b>5.9</b>
28	K1804	228	5.0	6.0	5.5	5.0	6.0	<b>5.5</b>	6.5	5.0	6.0	6.5	<b>6.0</b>	<b>5.7</b>
29	WH1260	229	3.5	5.0	6.0	6.0	5.0	<b>5.1</b>	6.5	5.0	6.0	6.5	<b>6.0</b>	<b>5.5</b>
30	HD3325	230	5.0	6.0	5.0	5.0	5.0	<b>5.2</b>	5.0	6.0	6.0	5.0	<b>5.5</b>	<b>5.3</b>
31	UP3030	231	5.0	6.0	6.0	6.5	5.5	<b>5.8</b>	6.0	5.0	5.5	6.5	<b>5.8</b>	<b>5.8</b>
32	DBW285	232	5.0	5.5	5.0	4.5	5.0	<b>5.0</b>	5.0	5.0	6.0	5.0	<b>5.3</b>	<b>5.1</b>
33	K1805	233	4.5	6.0	4.5	5.0	5.0	<b>5.0</b>	5.0	4.5	5.0	5.0	<b>4.9</b>	<b>4.9</b>
34	HD3324	234	5.5	6.0	6.0	5.0	4.5	<b>5.4</b>	5.0	5.0	4.5	6.0	<b>5.1</b>	<b>5.3</b>
35	KRL429	235	5.0	4.5	6.0	6.0	5.0	<b>5.3</b>	4.5	5.0	5.0	4.5	<b>4.8</b>	<b>5.1</b>
36	KRL423	236	5.0	6.0	6.0	5.5	5.0	<b>5.5</b>	6.0	5.5	7.0	6.0	<b>6.1</b>	<b>5.8</b>
<b>Mean</b>			<b>5.2</b>	<b>6.4</b>	<b>6.1</b>	<b>5.8</b>	<b>5.9</b>	<b>5.9</b>	<b>5.7</b>	<b>5.5</b>	<b>6.1</b>	<b>5.8</b>	<b>5.8</b>	<b>5.8</b>

**Table 11: Grain appearance score (Max.10) of *T. aestivum* genotypes in NIVT 2**

Sr.No.	Entry	Trial Code	CZ					PZ					Overall Mean	
			Indore	Junagarh	P'kheda	Vijapur	Mean	Pune	Dharwad	Ugar	Nippani	Niphad		Mean
1	MP3522	301	7.0	7.1	7.0	6.8	<b>7.0</b>	6.8	6.8	6.8	6.8	7.0	<b>6.8</b>	<b>6.9</b>
2	NIAW3592	302	6.9	6.9	6.9	6.8	<b>6.9</b>	6.8	6.8	6.9	6.7	6.9	<b>6.8</b>	<b>6.8</b>
3	DBW289	303	7.2	7.2	6.8	7.1	<b>7.1</b>	7.1	7.0	6.9	6.8	7.3	<b>7.0</b>	<b>7.0</b>
4	NIAW3584	304	6.9	7.1	6.8	6.9	<b>6.9</b>	6.8	6.8	6.9	6.8	7.1	<b>6.8</b>	<b>6.9</b>
5	WH1262	305	6.9	7.3	6.9	6.9	<b>7.0</b>	7.0	7.1	6.8	6.8	7.1	<b>6.9</b>	<b>7.0</b>
6	HI1636	306	6.7	7.2	6.7	6.6	<b>6.8</b>	6.7	6.8	6.7	6.6	6.9	<b>6.7</b>	<b>6.8</b>
7	HI1637	307	6.7	7.1	6.7	6.7	<b>6.8</b>	6.7	6.8	6.7	6.6	7.0	<b>6.7</b>	<b>6.8</b>
8	HI1638	308	7.2	7.1	6.8	7.0	<b>7.0</b>	7.0	7.0	6.9	6.8	7.2	<b>7.0</b>	<b>7.0</b>
9	TAW155	309	7.0	7.1	6.8	6.8	<b>6.9</b>	6.9	6.9	6.8	6.8	7.1	<b>6.9</b>	<b>6.9</b>
10	HI1640	310	7.0	7.3	6.8	6.8	<b>6.9</b>	6.7	6.9	6.7	6.7	7.2	<b>6.8</b>	<b>6.9</b>
11	HI1639	311	7.1	7.2	7.0	7.0	<b>7.1</b>	7.0	7.1	6.8	6.8	7.3	<b>7.0</b>	<b>7.0</b>
12	HW 1904	312	6.9	7.1	6.7	6.7	<b>6.8</b>	6.7	6.7	6.7	6.6	7.0	<b>6.7</b>	<b>6.8</b>
13	MP3521	313	7.0	7.2	6.8	6.8	<b>6.9</b>	7.0	6.8	6.8	6.7	7.2	<b>6.9</b>	<b>6.9</b>
14	RVW4265	314	6.8	7.2	7.0	7.0	<b>7.0</b>	6.7	7.0	7.0	7.0	6.9	<b>6.9</b>	<b>6.9</b>
15	MP1359	315	6.8	7.1	6.9	7.0	<b>6.9</b>	6.9	6.8	7.0	6.9	6.8	<b>6.9</b>	<b>6.9</b>
16	MP1361	316	6.9	6.9	7.0	6.9	<b>6.9</b>	6.8	6.9	6.8	6.6	7.0	<b>6.8</b>	<b>6.8</b>
17	GW322 (C)	317	6.9	7.0	6.9	6.8	<b>6.9</b>	6.7	6.8	6.7	6.7	6.7	<b>6.7</b>	<b>6.8</b>
18	UAS3006	318	6.8	7.0	6.9	6.8	<b>6.9</b>	6.7	7.0	6.8	6.7	6.8	<b>6.8</b>	<b>6.8</b>
19	MP1360	319	6.7	6.7	6.7	6.6	<b>6.7</b>	6.6	6.9	6.6	6.6	6.7	<b>6.7</b>	<b>6.7</b>
20	MACS6742	320	7.0	7.2	6.9	6.8	<b>7.0</b>	6.7	7.0	6.9	6.8	7.3	<b>6.9</b>	<b>6.9</b>
21	MACS6745	321	7.1	7.2	6.7	7.0	<b>7.0</b>	6.9	7.0	6.8	6.7	7.2	<b>6.9</b>	<b>6.9</b>
22	NWS2118	322	7.0	7.1	6.8	6.8	<b>6.9</b>	6.8	6.8	6.7	6.7	6.9	<b>6.7</b>	<b>6.8</b>
23	CG1031	323	7.1	7.3	7.1	6.8	<b>7.1</b>	6.9	7.2	7.1	6.9	6.9	<b>7.0</b>	<b>7.0</b>
24	RVW4266	324	7.3	7.3	6.9	7.2	<b>7.1</b>	7.1	7.0	7.0	6.8	7.2	<b>7.0</b>	<b>7.1</b>
25	TAW153	325	6.9	7.1	6.9	7.0	<b>7.0</b>	7.0	7.0	7.0	6.7	6.9	<b>6.9</b>	<b>6.9</b>
26	PBW810	326	7.0	7.0	6.9	6.8	<b>6.9</b>	6.7	6.9	6.9	6.7	6.9	<b>6.8</b>	<b>6.8</b>
27	UP3032	327	6.8	7.0	6.9	6.9	<b>6.9</b>	6.7	7.1	6.9	6.9	6.9	<b>6.9</b>	<b>6.9</b>
28	Raj4542	328	7.0	7.3	7.1	7.0	<b>7.1</b>	6.8	7.0	6.8	6.6	6.9	<b>6.8</b>	<b>6.9</b>
29	UAS3005	329	6.7	7.3	7.1	6.8	<b>7.0</b>	6.7	7.0	6.9	6.6	6.8	<b>6.8</b>	<b>6.9</b>
30	NWS2108	330	6.9	7.2	6.9	6.9	<b>7.0</b>	6.6	7.0	6.8	6.6	6.9	<b>6.8</b>	<b>6.9</b>
31	GW513	331	7.2	7.2	7.0	7.1	<b>7.1</b>	7.1	6.8	6.8	6.8	7.3	<b>6.9</b>	<b>7.0</b>
32	GW514	332	7.3	7.3	6.9	6.9	<b>7.1</b>	6.9	7.2	7.0	6.9	7.3	<b>7.0</b>	<b>7.1</b>
33	MACS6747	333	6.9	7.2	6.7	6.7	<b>6.9</b>	6.9	7.2	6.9	6.7	7.2	<b>7.0</b>	<b>6.9</b>
34	MACS6222 C)	334	7.2	7.3	6.9	7.1	<b>7.1</b>	6.9	7.2	6.9	6.8	7.1	<b>7.0</b>	<b>7.0</b>
35	MACS6478 C)	335	6.9	7.1	7.0	6.8	<b>6.9</b>	6.9	7.0	6.9	6.9	6.9	<b>6.9</b>	<b>6.9</b>
36	HI1544 (C)	336	7.2	7.1	6.9	7.0	<b>7.0</b>	7.1	7.0	6.9	6.9	7.2	<b>7.0</b>	<b>7.0</b>
<b>Mean</b>			<b>6.9</b>	<b>7.1</b>	<b>6.9</b>	<b>6.9</b>	<b>6.9</b>	<b>6.8</b>	<b>6.9</b>	<b>6.8</b>	<b>6.7</b>	<b>7.0</b>	<b>6.9</b>	<b>6.9</b>

**Table 12: Hectolitre weight (kg/hl) of *T. aestivum* genotypes in NIVT 2**

Sr. No.	Entry	Trial Code	CZ					PZ						
			Indore	Junagarh	P'kheda	Vijapur	Mean	Pune	Dharwad	Ugar	Nippani	Niphad	Mean	Overall Mean
1	MP3522	301	80.1	81.3	81.3	79.0	<b>80.4</b>	79.7	77.9	78.8	78.8	78.8	<b>78.8</b>	<b>79.5</b>
2	NIAW3592	302	77.6	77.9	77.2	76.8	<b>77.4</b>	78.3	75.8	76.9	75.7	75.6	<b>76.4</b>	<b>76.8</b>
3	DBW289	303	79.7	80.7	78.9	79.4	<b>79.7</b>	80.4	78.3	78.9	78.4	79.4	<b>79.1</b>	<b>79.3</b>
4	NIAW3584	304	79.0	80.5	79.5	80.2	<b>79.8</b>	79.8	79.0	79.4	78.5	78.4	<b>79.0</b>	<b>79.3</b>
5	WH1262	305	80.1	81.7	80.9	80.2	<b>80.7</b>	80.9	80.5	79.9	79.2	79.4	<b>79.9</b>	<b>80.3</b>
6	HI1636	306	78.5	80.0	80.0	79.6	<b>79.5</b>	78.4	78.1	78.0	76.7	79.5	<b>78.1</b>	<b>78.8</b>
7	HI1637	307	79.9	80.7	79.3	78.9	<b>79.7</b>	79.8	78.2	79.3	78.2	80.8	<b>79.2</b>	<b>79.4</b>
8	HI1638	308	79.3	78.7	78.9	78.8	<b>78.9</b>	80.5	77.6	78.8	79.1	78.7	<b>78.9</b>	<b>78.9</b>
9	TAW155	309	80.1	80.2	79.9	79.7	<b>79.9</b>	79.7	78.6	77.7	79.0	79.4	<b>78.9</b>	<b>79.3</b>
10	HI1640	310	81.0	81.8	81.8	81.4	<b>81.5</b>	81.1	80.7	80.3	79.4	82.0	<b>80.7</b>	<b>81.0</b>
11	HI1639	311	80.8	82.0	81.2	80.0	<b>81.0</b>	82.1	81.1	80.1	79.9	81.4	<b>80.9</b>	<b>80.9</b>
12	HW 1904	312	80.9	81.7	77.5	79.7	<b>79.9</b>	79.5	78.9	78.5	78.7	80.4	<b>79.2</b>	<b>79.5</b>
13	MP3521	313	81.0	81.6	81.5	81.0	<b>81.2</b>	81.3	79.2	79.8	79.3	81.5	<b>80.2</b>	<b>80.7</b>
14	RVW4265	314	81.6	80.5	82.8	80.2	<b>81.3</b>	79.2	80.8	81.0	81.8	77.4	<b>80.0</b>	<b>80.6</b>
15	MP1359	315	76.8	80.9	80.2	80.5	<b>79.6</b>	81.0	78.3	79.6	80.3	77.3	<b>79.3</b>	<b>79.4</b>
16	MP1361	316	76.5	78.1	78.0	76.3	<b>77.2</b>	78.1	78.2	77.0	77.1	76.0	<b>77.2</b>	<b>77.2</b>
17	GW322 (C)	317	78.0	79.8	78.4	78.7	<b>78.7</b>	78.7	77.2	78.2	77.6	78.2	<b>77.9</b>	<b>78.3</b>
18	UAS3006	318	78.3	80.0	79.7	76.4	<b>78.6</b>	78.6	79.5	78.7	77.7	75.8	<b>78.0</b>	<b>78.3</b>
19	MP1360	319	80.1	81.5	80.1	81.1	<b>80.7</b>	79.9	79.3	79.6	78.0	79.9	<b>79.3</b>	<b>79.9</b>
20	MACS6742	320	79.8	80.8	80.3	81.1	<b>80.5</b>	79.9	79.8	78.4	79.3	80.0	<b>79.4</b>	<b>79.9</b>
21	MACS6745	321	80.0	80.7	78.5	78.9	<b>79.5</b>	79.7	79.0	78.6	78.9	78.3	<b>78.9</b>	<b>79.2</b>
22	NWS2118	322	79.5	80.9	79.5	77.5	<b>79.3</b>	79.3	78.5	79.5	79.5	77.5	<b>78.9</b>	<b>79.1</b>
23	CG1031	323	78.5	81.9	79.8	76.3	<b>79.1</b>	79.4	81.2	79.7	79.4	77.7	<b>79.5</b>	<b>79.3</b>
24	RVW4266	324	81.0	81.3	80.7	81.9	<b>81.2</b>	81.7	81.0	79.9	79.4	81.9	<b>80.8</b>	<b>81.0</b>
25	TAW153	325	78.0	81.5	78.7	80.1	<b>79.6</b>	79.9	79.3	79.4	78.7	77.8	<b>79.0</b>	<b>79.3</b>
26	PBW810	326	79.8	81.3	78.8	79.7	<b>79.9</b>	78.5	80.3	78.4	77.8	78.1	<b>78.6</b>	<b>79.2</b>
27	UP3032	327	78.9	81.3	80.6	80.4	<b>80.3</b>	78.3	80.0	78.5	78.3	77.0	<b>78.4</b>	<b>79.2</b>
28	Raj4542	328	80.5	81.1	81.9	80.0	<b>80.9</b>	79.8	81.1	80.0	77.8	79.8	<b>79.7</b>	<b>80.2</b>
29	UAS3005	329	76.2	81.7	81.3	76.3	<b>78.9</b>	77.9	79.4	78.9	78.6	77.5	<b>78.4</b>	<b>78.6</b>
30	NWS2108	330	78.6	80.8	79.1	79.3	<b>79.4</b>	77.7	79.8	78.7	78.6	76.2	<b>78.2</b>	<b>78.7</b>
31	GW513	331	80.7	81.0	80.1	81.4	<b>80.8</b>	80.6	79.0	80.2	79.2	80.2	<b>79.8</b>	<b>80.3</b>
32	GW514	332	81.6	82.4	82.1	80.4	<b>81.6</b>	81.5	82.0	80.2	80.2	81.3	<b>81.0</b>	<b>81.3</b>
33	MACS6747	333	79.7	80.4	79.5	80.2	<b>79.9</b>	81.1	80.1	79.9	78.1	78.5	<b>79.5</b>	<b>79.7</b>
34	MACS6222 (C)	334	81.4	81.9	81.8	81.0	<b>81.5</b>	81.0	81.7	78.8	78.3	79.5	<b>79.9</b>	<b>80.6</b>
35	MACS6478 (C)	335	75.1	80.4	78.1	75.0	<b>77.1</b>	77.2	77.1	75.6	78.3	74.7	<b>76.6</b>	<b>76.8</b>
36	HI1544 (C)	336	80.9	81.1	81.8	81.1	<b>81.2</b>	82.1	79.1	79.5	80.4	80.3	<b>80.3</b>	<b>80.7</b>
<b>Mean</b>			<b>79.4</b>	<b>80.8</b>	<b>80.0</b>	<b>79.4</b>	<b>79.9</b>	<b>79.8</b>	<b>79.3</b>	<b>79.0</b>	<b>78.7</b>	<b>78.8</b>	<b>79.1</b>	<b>79.5</b>

**Table 13: Protein content (%) at 12% moisture basis of *T. aestivum* genotypes in NIVT 2**

Sr. No.	Entry	Trial Code	CZ					PZ					Overall Mean	
			Indore	Junagarh	P'kheda	Vijapur	Mean	Pune	Dharwad	Ugar	Nippani	Niphad		Mean
1	MP3522	301	10.2	12.6	10.3	10.6	<b>10.9</b>	11.1	12.4	11.8	11.6	11.9	<b>11.8</b>	<b>11.4</b>
2	NIAW3592	302	10.0	13.3	11.4	10.4	<b>11.3</b>	11.3	12.5	12.1	11.3	12.4	<b>11.9</b>	<b>11.6</b>
3	DBW289	303	10.5	13.4	11.3	11.5	<b>11.7</b>	11.9	12.6	12.9	11.8	12.0	<b>12.2</b>	<b>12.0</b>
4	NIAW3584	304	11.3	12.8	11.0	11.4	<b>11.6</b>	11.3	12.5	12.3	12.2	11.9	<b>12.0</b>	<b>11.9</b>
5	WH1262	305	10.3	12.8	11.0	11.1	<b>11.3</b>	11.5	11.1	12.1	11.8	11.7	<b>11.6</b>	<b>11.5</b>
6	HI1636	306	9.9	12.5	10.4	10.2	<b>10.7</b>	10.6	11.6	11.8	10.8	10.9	<b>11.1</b>	<b>11.0</b>
7	HI1637	307	10.2	12.9	10.6	10.3	<b>11.0</b>	11.2	12.0	12.2	11.8	10.5	<b>11.6</b>	<b>11.3</b>
8	HI1638	308	10.0	13.1	10.6	11.1	<b>11.2</b>	11.5	12.5	12.3	11.6	11.7	<b>11.9</b>	<b>11.6</b>
9	TAW155	309	10.5	13.2	10.3	10.6	<b>11.1</b>	10.9	11.7	12.7	11.3	11.2	<b>11.6</b>	<b>11.4</b>
10	HI1640	310	9.9	13.1	11.0	10.7	<b>11.2</b>	11.6	13.3	12.6	12.6	11.4	<b>12.3</b>	<b>11.8</b>
11	HI1639	311	10.9	13.7	10.9	11.7	<b>11.8</b>	11.5	12.7	12.3	11.9	11.3	<b>11.9</b>	<b>11.9</b>
12	HW 1904	312	9.8	13.0	12.9	11.1	<b>11.7</b>	11.5	12.5	12.1	11.9	11.7	<b>11.9</b>	<b>11.8</b>
13	MP3521	313	10.9	13.9	10.9	11.7	<b>11.8</b>	12.8	14.1	13.5	12.1	12.3	<b>12.9</b>	<b>12.4</b>
14	RVW4265	314	10.2	14.4	11.1	11.6	<b>11.8</b>	12.5	11.8	11.4	11.3	13.6	<b>12.1</b>	<b>12.0</b>
15	MP1359	315	11.3	13.1	10.7	11.5	<b>11.6</b>	11.6	12.2	12.0	11.6	12.5	<b>12.0</b>	<b>11.8</b>
16	MP1361	316	11.2	13.1	10.6	11.4	<b>11.6</b>	10.9	11.8	11.5	11.0	12.1	<b>11.5</b>	<b>11.5</b>
17	GW322 (C)	317	10.1	12.3	10.9	10.4	<b>10.9</b>	10.0	12.1	11.4	10.5	11.0	<b>11.0</b>	<b>11.0</b>
18	UAS3006	318	11.3	14.0	11.0	11.9	<b>12.0</b>	11.3	11.9	12.0	12.4	12.7	<b>12.0</b>	<b>12.0</b>
19	MP1360	319	10.9	12.6	11.1	10.8	<b>11.3</b>	11.4	12.9	12.1	12.6	11.5	<b>12.1</b>	<b>11.8</b>
20	MACS6742	320	9.4	12.8	10.0	10.5	<b>10.7</b>	10.9	11.7	11.2	11.4	11.3	<b>11.3</b>	<b>11.0</b>
21	MACS6745	321	9.8	12.5	10.8	11.3	<b>11.1</b>	10.6	12.0	11.5	11.3	11.9	<b>11.5</b>	<b>11.3</b>
22	NWS2118	322	10.5	12.9	10.3	11.7	<b>11.4</b>	11.3	12.9	12.5	11.1	12.4	<b>12.0</b>	<b>11.7</b>
23	CG1031	323	11.0	13.1	11.0	10.9	<b>11.5</b>	11.3	11.7	11.3	11.4	12.2	<b>11.6</b>	<b>11.5</b>
24	RVW4266	324	10.8	14.1	12.1	11.6	<b>12.1</b>	12.7	12.6	13.4	12.8	12.0	<b>12.7</b>	<b>12.5</b>
25	TAW153	325	10.8	12.4	11.5	11.0	<b>11.4</b>	11.1	11.6	12.3	11.7	11.9	<b>11.7</b>	<b>11.6</b>
26	PBW810	326	11.0	13.9	11.6	11.5	<b>12.0</b>	12.5	13.2	12.7	11.4	12.6	<b>12.5</b>	<b>12.2</b>
27	UP3032	327	11.5	13.2	12.1	11.8	<b>12.2</b>	12.2	13.2	12.5	12.5	13.1	<b>12.7</b>	<b>12.5</b>
28	Raj4542	328	10.6	13.4	11.4	11.5	<b>11.7</b>	11.6	12.5	11.7	11.6	12.6	<b>12.0</b>	<b>11.9</b>
29	UAS3005	329	12.5	13.5	10.6	11.1	<b>11.9</b>	11.7	12.6	11.8	11.7	12.8	<b>12.1</b>	<b>12.0</b>
30	NWS2108	330	10.1	12.4	10.8	9.9	<b>10.8</b>	10.7	11.9	11.7	10.9	11.8	<b>11.4</b>	<b>11.1</b>
31	GW513	331	10.2	11.5	10.5	10.5	<b>10.7</b>	10.8	11.7	11.5	10.7	10.9	<b>11.1</b>	<b>10.9</b>
32	GW514	332	10.9	13.7	11.1	11.6	<b>11.8</b>	11.3	12.4	12.6	12.7	12.5	<b>12.3</b>	<b>12.1</b>
33	MACS6747	333	10.6	13.4	10.3	11.5	<b>11.5</b>	11.1	12.5	12.5	12.1	12.0	<b>12.0</b>	<b>11.8</b>
34	MACS6222 (C)	334	10.1	13.6	10.5	11.2	<b>11.4</b>	10.9	12.3	11.8	11.4	11.8	<b>11.7</b>	<b>11.5</b>
35	MACS6478 (C)	335	10.7	13.8	10.6	10.7	<b>11.5</b>	12.0	12.9	12.2	11.8	13.4	<b>12.5</b>	<b>12.0</b>
36	HI1544 (C)	336	11.4	12.9	10.5	10.8	<b>11.4</b>	11.3	11.4	12.6	11.0	11.3	<b>11.5</b>	<b>11.5</b>
<b>Mean</b>			<b>10.6</b>	<b>13.1</b>	<b>10.9</b>	<b>11.1</b>	<b>11.4</b>	<b>11.4</b>	<b>12.3</b>	<b>12.1</b>	<b>11.7</b>	<b>12.0</b>	<b>11.9</b>	<b>11.7</b>



**Table 14: Sedimentation value (ml) of *T. aestivum* genotypes in NIVT 2**

Sr. No.	Entry	Trial Code	CZ					PZ					Overall Mean	
			Indore	Junagarh	P'kheda	Vijapur	Mean	Pune	Dharwad	Ugar	Nippani	Niphad		Mean
1	MP3522	301	36	46	36	38	<b>39</b>	39	45	40	39	44	<b>41</b>	<b>40</b>
2	NIAW3592	302	36	51	42	38	<b>41</b>	41	46	44	40	48	<b>44</b>	<b>43</b>
3	DBW289	303	40	52	41	43	<b>44</b>	43	48	49	43	47	<b>46</b>	<b>45</b>
4	NIAW3584	304	41	45	39	40	<b>41</b>	41	45	43	43	44	<b>43</b>	<b>42</b>
5	WH1262	305	35	47	37	37	<b>39</b>	38	38	39	38	41	<b>38</b>	<b>38</b>
6	HI1636	306	33	45	35	36	<b>37</b>	36	41	40	39	40	<b>39</b>	<b>38</b>
7	HI1637	307	39	49	38	40	<b>41</b>	43	44	46	44	42	<b>43</b>	<b>42</b>
8	HI1638	308	40	52	40	42	<b>43</b>	45	48	46	43	47	<b>46</b>	<b>45</b>
9	TAW155	309	38	50	34	36	<b>39</b>	38	42	44	36	41	<b>40</b>	<b>40</b>
10	HI1640	310	36	50	39	38	<b>41</b>	42	50	46	45	42	<b>45</b>	<b>43</b>
11	HI1639	311	39	47	38	41	<b>41</b>	40	46	44	41	41	<b>42</b>	<b>42</b>
12	HW 1904	312	36	52	49	43	<b>45</b>	45	48	43	44	48	<b>45</b>	<b>45</b>
13	MP3521	313	41	56	39	43	<b>45</b>	48	55	50	43	48	<b>49</b>	<b>47</b>
14	RVW4265	314	37	54	39	42	<b>43</b>	45	42	39	38	53	<b>43</b>	<b>43</b>
15	MP1359	315	46	56	40	44	<b>46</b>	44	46	45	43	48	<b>45</b>	<b>45</b>
16	MP1361	316	45	51	42	44	<b>45</b>	39	46	46	44	47	<b>44</b>	<b>45</b>
17	GW322 (C)	317	36	45	36	36	<b>38</b>	38	44	39	35	42	<b>39</b>	<b>39</b>
18	UAS3006	318	43	55	41	45	<b>46</b>	43	46	44	45	48	<b>45</b>	<b>45</b>
19	MP1360	319	37	46	37	38	<b>39</b>	38	48	39	40	42	<b>41</b>	<b>40</b>
20	MACS6742	320	32	47	34	40	<b>38</b>	38	40	37	37	41	<b>38</b>	<b>38</b>
21	MACS6745	321	34	46	37	36	<b>38</b>	36	43	40	37	43	<b>40</b>	<b>39</b>
22	NWS2118	322	43	53	40	47	<b>46</b>	45	51	48	44	51	<b>48</b>	<b>47</b>
23	CG1031	323	40	50	39	39	<b>42</b>	40	42	39	40	46	<b>41</b>	<b>41</b>
24	RVW4266	324	40	58	45	42	<b>46</b>	48	46	50	47	45	<b>47</b>	<b>47</b>
25	TAW153	325	43	48	43	42	<b>44</b>	41	44	44	41	48	<b>43</b>	<b>43</b>
26	PBW810	326	40	52	40	41	<b>43</b>	46	46	45	40	48	<b>45</b>	<b>44</b>
27	UP3032	327	44	51	46	44	<b>46</b>	47	49	45	46	51	<b>47</b>	<b>47</b>
28	Raj4542	328	37	48	41	42	<b>42</b>	40	43	42	38	47	<b>42</b>	<b>42</b>
29	UAS3005	329	52	54	41	44	<b>47</b>	46	49	47	45	51	<b>47</b>	<b>47</b>
30	NWS2108	330	36	51	39	34	<b>40</b>	38	43	40	36	45	<b>40</b>	<b>40</b>
31	GW513	331	36	40	35	36	<b>37</b>	38	41	40	36	40	<b>39</b>	<b>38</b>
32	GW514	332	41	53	41	42	<b>44</b>	43	46	46	46	47	<b>45</b>	<b>45</b>
33	MACS6747	333	40	51	36	43	<b>42</b>	40	45	44	42	48	<b>44</b>	<b>43</b>
34	MACS6222 (C)	334	35	50	36	39	<b>40</b>	37	43	41	39	42	<b>40</b>	<b>40</b>
35	MACS6478 (C)	335	51	52	41	42	<b>46</b>	46	50	47	42	51	<b>47</b>	<b>47</b>
36	HI1544 (C)	336	34	50	37	40	<b>40</b>	40	41	45	38	41	<b>41</b>	<b>40</b>
<b>Mean</b>			<b>39</b>	<b>50</b>	<b>39</b>	<b>40</b>	<b>42</b>	<b>41</b>	<b>45</b>	<b>43</b>	<b>41</b>	<b>45</b>	<b>43</b>	<b>43</b>

**Table 15 : Phenol test score (Max. 10) of *T. aestivum* genotypes in NIVT 2**

Sr. No.	Entry	Trial Code	CZ					PZ					Overall Mean	
			Indore	Junagarh	P'kheda	Vijapur	Mean	Pune	Dharwad	Ugar	Nippani	Niphad		Mean
1	MP3522	301	2	2	2	3	2.3	2	3	4	2	3	2.8	2.5
2	NIAW3592	302	2	2	2	2	2.0	2	2	3	2	3	2.4	2.2
3	DBW289	303	2	3	3	2	2.5	3	3	4	2	2	2.8	2.6
4	NIAW3584	304	8	8	8	7	7.8	8	7	7	7	7	7.2	7.5
5	WH1262	305	5	8	7	5	6.3	8	7	5	7	7	6.8	6.5
6	HI1636	306	7	6	7	8	7.0	6	6	7	5	7	6.2	6.6
7	HI1637	307	6	7	8	8	7.3	7	7	7	8	7	7.2	7.2
8	HI1638	308	7	8	7	5	6.8	7	7	7	7	6	6.8	6.8
9	TAW155	309	5	5	5	5	5.0	5	4	3	5	4	4.2	4.6
10	HI1640	310	7	6	7	7	6.8	6	7	7	7	6	6.6	6.7
11	HI1639	311	8	7	8	8	7.8	8	7	6	6	7	6.8	7.3
12	HW 1904	312	8	7	8	8	7.8	7	7	7	7	6	6.8	7.3
13	MP3521	313	8	7	8	8	7.8	8	7	8	8	8	7.8	7.8
14	RVW4265	314	0	0	0	0	0.0	0	0	0	0	0	0.0	0.0
15	MP1359	315	2	3	3	4	3.0	2	2	5	5	2	3.2	3.1
16	MP1361	316	8	7	8	8	7.8	6	7	7	7	7	6.8	7.3
17	GW322 (C)	317	8	7	5	6	6.5	6	7	7	8	7	7.0	6.7
18	UAS3006	318	7	8	8	6	7.3	8	7	7	8	7	7.4	7.3
19	MP1360	319	7	6	5	6	6.0	6	7	6	7	7	6.6	6.3
20	MACS6742	320	2	1	2	2	1.8	2	2	2	3	2	2.2	2
21	MACS6745	321	6	6	7	6	6.3	6	7	7	8	7	7.0	6.6
22	NWS2118	322	8	8	8	8	8.0	8	8	7	7	8	7.6	7.8
23	CG1031	323	8	8	7	7	7.5	7	7	7	8	7	7.2	7.3
24	RVW4266	324	7	7	8	8	7.5	7	7	7	8	7	7.2	7.3
25	TAW153	325	2	2	2	2	2.0	3	2	3	3	2	2.6	2.3
26	PBW810	326	4	4	5	5	4.5	6	6	6	5	5	5.6	5.0
27	UP3032	327	6	6	6	7	6.3	6	7	7	7	8	7.0	6.6
28	Raj4542	328	6	5	7	8	6.5	7	7	7	6	8	7.0	6.7
29	UAS3005	329	8	6	8	8	7.5	8	7	7	8	7	7.4	7.4
30	NWS2108	330	2	3	2	2	2.3	3	3	2	4	2	2.8	2.5
31	GW513	331	2	2	3	3	2.5	3	2	2	2	2	2.2	2.3
32	GW514	332	8	8	8	7	7.8	6	7	7	8	7	7.0	7.4
33	MACS6747	333	7	7	6	7	6.8	6	7	7	6	7	6.6	6.7
34	MACS6222 (C)	334	8	6	5	7	6.5	6	7	7	7	6	6.6	6.5
35	MACS6478 (C)	335	2	3	3	2	2.5	2	2	2	3	1	2.0	2.2
36	HI1544 (C)	336	7	7	7	7	7.0	8	6	6	7	8	7.0	7.0
<b>Mean</b>			<b>5.6</b>	<b>5.4</b>	<b>5.6</b>	<b>5.7</b>	<b>5.6</b>	<b>5.5</b>	<b>5.5</b>	<b>5.6</b>	<b>5.8</b>	<b>5.5</b>	<b>5.6</b>	<b>5.6</b>

**Table 16: Grain appearance score (Max-10) of *T. aestivum* genotypes in NIVT 3A**

Sr. No.	Entry	Trial Code	NWPZ						NEPZ				Overall Mean
			Pantnagar	Ludhiana	Hisar	Delhi	Durgapura	Mean	Kanpur	Samastipur	Sabour	Mean	
1	UP3033	401	6.0	4.0	5.5	5.5	5.0	<b>5.2</b>	6.0	4.5	5.0	<b>5.2</b>	<b>5.2</b>
2	WH1264	402	6.0	6.0	6.5	6.5	6.5	<b>6.3</b>	6.5	5.5	5.5	<b>5.8</b>	<b>6.1</b>
3	PBW811	403	5.5	6.0	6.0	6.0	6.0	<b>5.9</b>	6.0	5.0	5.5	<b>5.5</b>	<b>5.7</b>
4	UP3035	404	5.0	3.5	5.0	5.5	5.5	<b>4.9</b>	5.5	4.0	4.0	<b>4.5</b>	<b>4.7</b>
5	WH1263	405	6.0	4.0	5.5	6.0	6.5	<b>5.6</b>	6.5	5.5	5.0	<b>5.7</b>	<b>5.6</b>
6	PBW814	406	6.0	4.0	5.0	6.0	5.5	<b>5.3</b>	6.5	5.5	5.0	<b>5.7</b>	<b>5.5</b>
7	JKW267	407	6.0	4.5	5.0	6.0	5.5	<b>5.4</b>	6.5	5.0	5.0	<b>5.5</b>	<b>5.5</b>
8	DBW173 (C)	408	6.0	5.0	5.5	5.5	5.5	<b>5.5</b>	6.0	5.5	4.5	<b>5.3</b>	<b>5.4</b>
9	HD3329	409	6.0	5.5	5.5	6.0	6.5	<b>5.9</b>	6.5	5.0	5.0	<b>5.5</b>	<b>5.7</b>
10	HD3330	410	6.5	5.0	6.0	6.0	5.0	<b>5.7</b>	6.0	5.5	4.5	<b>5.3</b>	<b>5.5</b>
11	JAUW 673	411	6.0	5.0	6.0	6.5	6.0	<b>5.9</b>	7.0	6.0	4.0	<b>5.7</b>	<b>5.8</b>
12	HD3059 (C)	412	6.0	5.5	5.5	6.0	6.0	<b>5.8</b>	6.0	5.0	4.5	<b>5.2</b>	<b>5.5</b>
13	HD3334	413	6.0	5.5	6.0	7.0	6.5	<b>6.2</b>	7.0	6.0	5.0	<b>6.0</b>	<b>6.1</b>
14	Raj4544	414	5.5	5.5	5.5	6.0	5.5	<b>5.6</b>	6.5	6.0	5.5	<b>6.0</b>	<b>5.8</b>
15	DBW292	415	6.5	6.0	7.0	6.0	5.5	<b>6.2</b>	6.5	6.0	5.5	<b>6.0</b>	<b>6.1</b>
16	K1808	416	6.5	5.5	7.0	6.0	6.5	<b>6.3</b>	7.0	6.0	5.0	<b>6.0</b>	<b>6.2</b>
17	UP3034	417	6.0	4.5	6.0	5.0	7.0	<b>5.7</b>	6.5	5.0	5.0	<b>5.5</b>	<b>5.6</b>
18	JKW261	418	5.0	4.0	5.0	5.5	5.5	<b>5.0</b>	6.0	5.5	4.5	<b>5.3</b>	<b>5.2</b>
19	WH1266	419	5.0	4.0	5.5	5.5	5.5	<b>5.1</b>	6.5	5.5	4.5	<b>5.5</b>	<b>5.3</b>
20	DBW291	420	6.5	5.0	6.0	6.0	6.0	<b>5.9</b>	7.0	5.0	5.0	<b>5.7</b>	<b>5.8</b>
21	DBW107 (C)	421	6.5	6.0	6.5	6.0	7.0	<b>6.4</b>	7.0	6.0	5.5	<b>6.2</b>	<b>6.3</b>
22	JKW268	422	5.5	5.0	6.5	5.0	6.5	<b>5.7</b>	6.5	5.5	4.0	<b>5.3</b>	<b>5.5</b>
23	DBW294	423	5.5	5.5	6.0	5.0	6.0	<b>5.6</b>	6.0	5.0	4.5	<b>5.2</b>	<b>5.4</b>
24	HD3332	424	6.5	5.5	6.0	5.5	7.0	<b>6.1</b>	7.0	5.5	5.5	<b>6.0</b>	<b>6.1</b>
25	NW7062	425	6.0	5.0	5.5	6.0	6.5	<b>5.8</b>	7.0	5.0	5.0	<b>5.7</b>	<b>5.7</b>
26	HD3333	426	6.5	6.0	6.5	6.5	6.0	<b>6.3</b>	7.0	5.5	5.5	<b>6.0</b>	<b>6.2</b>
27	DBW290	427	6.0	5.0	6.0	5.5	6.5	<b>5.8</b>	6.5	5.5	5.5	<b>5.8</b>	<b>5.8</b>
28	WH1265	428	5.5	4.5	6.0	6.0	6.5	<b>5.7</b>	7.0	5.5	4.5	<b>5.7</b>	<b>5.7</b>
29	PBW812	429	6.5	5.0	6.5	6.0	7.0	<b>6.2</b>	7.0	5.5	5.5	<b>6.0</b>	<b>6.1</b>
30	PBW813	430	6.0	5.5	6.0	6.0	6.0	<b>5.9</b>	6.5	5.5	5.5	<b>5.8</b>	<b>5.9</b>
31	DBW293	431	4.5	5.0	6.0	5.5	5.0	<b>5.2</b>	6.0	5.0	4.0	<b>5.0</b>	<b>5.1</b>
32	HD3331	432	4.5	5.0	6.0	5.0	6.0	<b>5.3</b>	6.0	5.5	4.5	<b>5.3</b>	<b>5.3</b>
33	NW7053	433	5.5	5.5	5.5	5.5	5.0	<b>5.4</b>	6.5	5.0	5.0	<b>5.5</b>	<b>5.5</b>
34	HI1563 (C)	434	5.5	5.0	6.5	6.5	7.0	<b>6.1</b>	7.5	5.5	5.5	<b>6.2</b>	<b>6.1</b>
35	Raj4543	435	6.0	4.5	5.5	6.0	6.0	<b>5.6</b>	7.0	5.5	5.5	<b>6.0</b>	<b>5.8</b>
36	K1807	436	6.5	6.0	6.5	6.5	7.0	<b>6.5</b>	7.0	5.5	6.0	<b>6.2</b>	<b>6.3</b>
<b>Mean</b>			<b>5.9</b>	<b>5.1</b>	<b>5.9</b>	<b>5.9</b>	<b>6.1</b>	<b>5.8</b>	<b>6.5</b>	<b>5.4</b>	<b>5.0</b>	<b>5.6</b>	<b>5.7</b>

**Table 17: Hectolitre weight (kg/hl) of *T. aestivum* genotypes in NIVT 3A**

Sr. No.	Entry	Trial Code	NWPZ						NEPZ				Overall Mean
			Pantnagar	Ludhiana	Hisar	Delhi	Durgapura	Mean	Kanpur	Samastipur	Sabour	Mean	
1	UP3033	401	77.2	72.3	80.2	76.5	71.9	<b>75.6</b>	78.6	79.1	72.0	<b>76.6</b>	<b>76.1</b>
2	WH1264	402	78.8	75.2	80.5	79.7	74.1	<b>77.7</b>	80.1	79.9	75.4	<b>78.5</b>	<b>78.1</b>
3	PBW811	403	78.7	74.2	80.8	78.2	77.4	<b>77.9</b>	80.4	74.1	75.4	<b>76.6</b>	<b>77.2</b>
4	UP3035	404	74.6	65.8	77.6	72.9	68.0	<b>71.8</b>	78.2	75.8	68.6	<b>74.2</b>	<b>73.0</b>
5	WH1263	405	74.5	68.6	79.2	76.7	75.1	<b>74.8</b>	78.8	75.2	72.5	<b>75.5</b>	<b>75.1</b>
6	PBW814	406	74.9	68.9	78.6	75.0	69.9	<b>73.5</b>	78.1	73.6	73.0	<b>74.9</b>	<b>74.2</b>
7	JKW267	407	72.1	69.3	78.2	75.9	72.4	<b>73.6</b>	76.8	78.6	69.6	<b>75.0</b>	<b>74.3</b>
8	DBW173 C)	408	78.0	73.7	79.3	76.5	71.8	<b>75.9</b>	78.6	78.1	71.5	<b>76.1</b>	<b>76.0</b>
9	HD3329	409	77.5	75.1	79.3	77.9	74.0	<b>76.7</b>	79.6	74.0	74.0	<b>75.9</b>	<b>76.3</b>
10	HD3330	410	78.0	74.7	80.3	76.2	71.7	<b>76.2</b>	80.1	78.0	75.8	<b>78.0</b>	<b>77.1</b>
11	JAUW 673	411	77.1	73.7	79.8	77.4	74.0	<b>76.4</b>	79.6	75.0	71.5	<b>75.4</b>	<b>75.9</b>
12	HD3059 (C)	412	78.4	75.8	79.8	77.2	75.7	<b>77.4</b>	79.2	76.7	73.1	<b>76.3</b>	<b>76.8</b>
13	HD3334	413	76.4	73.5	78.2	77.1	72.5	<b>75.5</b>	78.4	79.7	73.0	<b>77.0</b>	<b>76.3</b>
14	Raj4544	414	78.6	76.2	80.8	78.3	75.6	<b>77.9</b>	79.5	78.7	76.6	<b>78.2</b>	<b>78.1</b>
15	DBW292	415	79.5	77.9	80.7	77.8	73.7	<b>77.9</b>	80.1	78.7	77.0	<b>78.6</b>	<b>78.2</b>
16	K1808	416	78.7	72.6	79.8	76.9	71.7	<b>75.9</b>	79.6	75.9	72.2	<b>75.9</b>	<b>75.9</b>
17	UP3034	417	76.2	68.9	78.8	75.2	75.7	<b>75.0</b>	79.9	74.5	72.1	<b>75.5</b>	<b>75.2</b>
18	JKW261	418	77.7	72.0	79.2	75.9	71.9	<b>75.4</b>	77.6	77.8	72.8	<b>76.1</b>	<b>75.7</b>
19	WH1266	419	75.7	71.3	79.1	74.0	70.9	<b>74.2</b>	77.7	76.0	71.9	<b>75.2</b>	<b>74.7</b>
20	DBW291	420	80.4	77.5	81.9	80.7	77.7	<b>79.7</b>	79.6	78.0	76.3	<b>78.0</b>	<b>78.8</b>
21	DBW107 (C)	421	79.4	78.1	81.2	79.4	75.4	<b>78.7</b>	79.8	79.1	76.1	<b>78.3</b>	<b>78.5</b>
22	JKW268	422	75.9	73.3	79.4	75.6	72.0	<b>75.2</b>	75.7	76.3	72.5	<b>74.9</b>	<b>75.0</b>
23	DBW294	423	77.9	75.6	78.7	76.1	71.3	<b>75.9</b>	77.5	75.4	70.6	<b>74.5</b>	<b>75.2</b>
24	HD3332	424	77.9	74.9	79.1	78.6	75.9	<b>77.3</b>	79.7	78.1	75.7	<b>77.8</b>	<b>77.6</b>
25	NW7062	425	78.9	74.0	79.4	76.6	74.7	<b>76.7</b>	80.3	75.0	72.3	<b>75.8</b>	<b>76.3</b>
26	HD3333	426	78.3	78.3	81.7	80.3	75.4	<b>78.8</b>	81.2	79.9	78.1	<b>79.7</b>	<b>79.3</b>
27	DBW290	427	74.4	65.8	74.7	70.2	71.1	<b>71.2</b>	76.5	71.8	71.2	<b>73.2</b>	<b>72.2</b>
28	WH1265	428	73.2	67.5	78.4	77.3	68.9	<b>73.1</b>	78.3	76.3	70.2	<b>74.9</b>	<b>74.0</b>
29	PBW812	429	80.2	75.0	81.5	78.4	77.0	<b>78.4</b>	82.1	75.2	76.6	<b>77.9</b>	<b>78.2</b>
30	PBW813	430	80.0	78.7	81.3	79.4	75.5	<b>79.0</b>	82.3	80.0	78.2	<b>80.2</b>	<b>79.6</b>
31	DBW293	431	70.0	71.4	75.8	72.9	63.2	<b>70.6</b>	76.6	75.9	68.5	<b>73.6</b>	<b>72.1</b>
32	HD3331	432	77.6	72.8	80.6	77.1	74.1	<b>76.4</b>	78.9	78.0	74.2	<b>77.0</b>	<b>76.7</b>
33	NW7053	433	78.0	71.0	78.2	75.1	64.1	<b>73.3</b>	79.0	75.5	73.8	<b>76.1</b>	<b>74.7</b>
34	HI1563 (C)	434	79.2	75.7	82.4	80.3	77.8	<b>79.1</b>	83.7	76.9	76.7	<b>79.1</b>	<b>79.1</b>
35	Raj4543	435	77.7	72.4	79.9	75.1	73.2	<b>75.7</b>	78.4	77.5	75.2	<b>77.0</b>	<b>76.3</b>
36	K1807	436	80.5	77.5	80.9	79.4	75.9	<b>78.8</b>	80.6	75.5	77.4	<b>77.8</b>	<b>78.3</b>
<b>Mean</b>			<b>77.3</b>	<b>73.3</b>	<b>79.6</b>	<b>76.9</b>	<b>73.1</b>	<b>76.0</b>	<b>79.2</b>	<b>76.8</b>	<b>73.7</b>	<b>76.5</b>	<b>76.3</b>

**Table 18: Protein content (%) at 12% moisture basis of *T. aestivum* genotypes in NIVT 3A**

Sr. No.	Entry	Trial Code	NWPZ						NEPZ				Overall Mean
			Pantnagar	Ludhiana	Hisar	Delhi	Durgapura	Mean	Kanpur	Samastipur	Sabour	Mean	
1	UP3033	401	10.7	12.8	10.0	12.1	13.9	<b>11.9</b>	12.1	12.0	12.6	<b>12.2</b>	<b>12.1</b>
2	WH1264	402	10.6	13.1	9.4	11.3	13.2	<b>11.5</b>	12.8	12.7	12.6	<b>12.7</b>	<b>12.1</b>
3	PBW811	403	9.5	11.3	9.5	11.9	12.2	<b>10.9</b>	12.3	11.8	11.6	<b>11.9</b>	<b>11.4</b>
4	UP3035	404	10.5	14.2	9.7	13.5	15.1	<b>12.6</b>	12.1	13.5	13.9	<b>13.2</b>	<b>12.9</b>
5	WH1263	405	10.8	13.4	9.6	11.8	12.6	<b>11.6</b>	12.4	12.2	12.4	<b>12.3</b>	<b>12.0</b>
6	PBW814	406	10.6	12.1	9.5	13.2	13.9	<b>11.9</b>	12.4	11.7	12.2	<b>12.1</b>	<b>12.0</b>
7	JKW267	407	10.0	11.8	8.8	11.3	12.5	<b>10.9</b>	11.9	12.3	11.6	<b>11.9</b>	<b>11.4</b>
8	DBW173 (C)	408	10.2	12.5	10.9	13.1	14.2	<b>12.2</b>	12.5	12.8	13.0	<b>12.8</b>	<b>12.5</b>
9	HD3329	409	10.0	11.8	8.9	11.4	13.5	<b>11.1</b>	11.7	11.6	11.8	<b>11.7</b>	<b>11.4</b>
10	HD3330	410	10.9	12.4	10.5	13.1	14.3	<b>12.3</b>	12.1	12.6	11.6	<b>12.1</b>	<b>12.2</b>
11	JAUW 673	411	10.6	12.3	9.2	12.1	12.6	<b>11.4</b>	11.3	11.7	12.3	<b>11.8</b>	<b>11.6</b>
12	HD3059 (C)	412	10.8	12.7	9.6	12.4	13.9	<b>11.9</b>	12.6	13.7	12.8	<b>13.0</b>	<b>12.5</b>
13	HD3334	413	10.6	12.1	9.5	11.9	12.9	<b>11.4</b>	12.0	11.8	11.6	<b>11.8</b>	<b>11.6</b>
14	Raj4544	414	11.0	12.2	10.1	12.4	13.7	<b>11.9</b>	12.0	12.9	12.7	<b>12.5</b>	<b>12.2</b>
15	DBW292	415	11.0	12.3	9.2	12.9	13.1	<b>11.7</b>	12.4	11.9	12.2	<b>12.2</b>	<b>11.9</b>
16	K1808	416	11.8	13.4	9.5	13.4	14.7	<b>12.6</b>	12.6	13.6	13.5	<b>13.2</b>	<b>12.9</b>
17	UP3034	417	10.6	11.8	9.7	13.0	12.5	<b>11.5</b>	11.2	12.0	11.7	<b>11.6</b>	<b>11.6</b>
18	JKW261	418	10.0	12.4	8.7	12.0	12.7	<b>11.2</b>	12.1	11.6	12.0	<b>11.9</b>	<b>11.5</b>
19	WH1266	419	10.6	12.7	9.7	12.6	13.4	<b>11.8</b>	11.6	13.0	12.6	<b>12.4</b>	<b>12.1</b>
20	DBW291	420	10.3	13.0	9.8	12.4	14.1	<b>11.9</b>	12.4	13.3	12.5	<b>12.7</b>	<b>12.3</b>
21	DBW107 (C)	421	11.4	12.2	9.7	12.9	13.8	<b>12.0</b>	13.0	13.5	12.7	<b>13.0</b>	<b>12.5</b>
22	JKW268	422	11.3	13.1	9.5	12.6	14.1	<b>12.1</b>	11.5	13.2	13.1	<b>12.6</b>	<b>12.4</b>
23	DBW294	423	9.8	12.1	8.6	12.5	13.2	<b>11.3</b>	11.7	12.4	12.9	<b>12.3</b>	<b>11.8</b>
24	HD3332	424	10.8	12.3	9.2	11.3	13.7	<b>11.5</b>	11.7	12.8	12.8	<b>12.4</b>	<b>11.9</b>
25	NW7062	425	11.0	12.8	9.6	13.0	14.2	<b>12.1</b>	11.7	13.1	12.8	<b>12.5</b>	<b>12.3</b>
26	HD3333	426	11.5	14.4	10.3	14.2	15.6	<b>13.2</b>	13.7	13.4	13.7	<b>13.6</b>	<b>13.4</b>
27	DBW290	427	9.3	12.3	8.2	13.0	12.5	<b>11.1</b>	12.6	11.2	12.3	<b>12.0</b>	<b>11.5</b>
28	WH1265	428	11.6	12.1	9.0	11.1	13.7	<b>11.5</b>	11.9	12.5	12.7	<b>12.3</b>	<b>11.9</b>
29	PBW812	429	10.2	12.2	9.3	13.0	12.9	<b>11.5</b>	11.9	11.6	11.9	<b>11.8</b>	<b>11.7</b>
30	PBW813	430	11.0	12.6	10.4	13.4	13.7	<b>12.2</b>	12.8	13.4	12.6	<b>12.9</b>	<b>12.6</b>
31	DBW293	431	10.8	12.0	8.4	12.2	13.5	<b>11.4</b>	11.1	11.6	12.0	<b>11.6</b>	<b>11.5</b>
32	HD3331	432	10.9	12.2	10.0	12.6	14.0	<b>11.9</b>	12.3	12.9	11.9	<b>12.4</b>	<b>12.2</b>
33	NW7053	433	10.5	12.3	8.8	13.1	15.8	<b>12.1</b>	11.9	12.4	12.1	<b>12.2</b>	<b>12.1</b>
34	HI1563 (C)	434	10.7	12.2	9.1	11.3	12.3	<b>11.1</b>	12.4	11.8	11.8	<b>12.0</b>	<b>11.6</b>
35	Raj4543	435	10.2	12.2	9.9	13.1	13.3	<b>11.7</b>	12.9	11.7	11.9	<b>12.2</b>	<b>12.0</b>
36	K1807	436	11.7	13.8	10.0	14.1	15.9	<b>13.1</b>	14.1	15.4	13.0	<b>14.2</b>	<b>13.6</b>
<b>Mean</b>			<b>10.7</b>	<b>12.5</b>	<b>9.5</b>	<b>12.5</b>	<b>13.6</b>	<b>11.8</b>	<b>12.2</b>	<b>12.5</b>	<b>12.4</b>	<b>12.4</b>	<b>12.1</b>

**Table 19: Sedimentation value (ml) of *T. aestivum* genotypes in NIVT 3A**

Sr. No.	Entry	Trial Code	NWPZ						NEPZ				Overall Mean
			Pantnagar	Ludhiana	Hisar	Delhi	Durgapura	Mean	Kanpur	Samastipur	Sabour	Mean	
1	UP3033	401	35	49	31	38	37	<b>38</b>	40	29	37	<b>35</b>	<b>37</b>
2	WH1264	402	38	48	30	40	31	<b>37</b>	45	27	35	<b>36</b>	<b>37</b>
3	PBW811	403	37	40	29	41	37	<b>37</b>	40	34	34	<b>36</b>	<b>36</b>
4	UP3035	404	40	48	28	37	31	<b>37</b>	40	31	32	<b>34</b>	<b>36</b>
5	WH1263	405	51	54	32	50	41	<b>46</b>	56	40	46	<b>47</b>	<b>46</b>
6	PBW814	406	34	38	35	37	31	<b>35</b>	45	44	32	<b>40</b>	<b>38</b>
7	JKW267	407	38	30	25	35	32	<b>32</b>	40	30	33	<b>34</b>	<b>33</b>
8	DBW173 (C)	408	41	49	26	49	40	<b>41</b>	46	38	34	<b>39</b>	<b>40</b>
9	HD3329	409	53	51	36	56	39	<b>47</b>	48	39	44	<b>44</b>	<b>45</b>
10	HD3330	410	31	50	34	39	35	<b>38</b>	44	31	36	<b>37</b>	<b>37</b>
11	JAUW 673	411	46	58	30	45	41	<b>44</b>	51	36	36	<b>41</b>	<b>43</b>
12	HD3059 (C)	412	47	50	30	39	48	<b>43</b>	48	38	38	<b>41</b>	<b>42</b>
13	HD3334	413	33	39	32	39	36	<b>36</b>	45	28	37	<b>37</b>	<b>36</b>
14	Raj4544	414	39	41	24	35	37	<b>35</b>	40	30	35	<b>35</b>	<b>35</b>
15	DBW292	415	34	38	30	35	35	<b>34</b>	34	27	32	<b>31</b>	<b>33</b>
16	K1808	416	37	55	34	48	45	<b>44</b>	45	30	40	<b>38</b>	<b>41</b>
17	UP3034	417	29	36	24	34	32	<b>31</b>	34	34	27	<b>32</b>	<b>31</b>
18	JKW261	418	40	40	33	40	40	<b>39</b>	41	34	42	<b>39</b>	<b>39</b>
19	WH1266	419	35	39	31	38	38	<b>36</b>	40	29	33	<b>34</b>	<b>35</b>
20	DBW291	420	33	45	30	36	35	<b>36</b>	40	32	32	<b>35</b>	<b>35</b>
21	DBW107 (C)	421	31	45	30	38	36	<b>36</b>	48	32	34	<b>38</b>	<b>37</b>
22	JKW268	422	29	45	25	35	32	<b>33</b>	45	32	33	<b>37</b>	<b>35</b>
23	DBW294	423	45	50	35	46	51	<b>45</b>	56	38	45	<b>46</b>	<b>46</b>
24	HD3332	424	33	50	30	40	38	<b>38</b>	46	34	35	<b>38</b>	<b>38</b>
25	NW7062	425	35	60	33	50	36	<b>43</b>	40	34	40	<b>38</b>	<b>40</b>
26	HD3333	426	32	50	30	37	39	<b>38</b>	45	33	42	<b>40</b>	<b>39</b>
27	DBW290	427	38	55	35	45	39	<b>42</b>	41	35	40	<b>39</b>	<b>41</b>
28	WH1265	428	37	61	40	55	40	<b>47</b>	47	39	42	<b>43</b>	<b>45</b>
29	PBW812	429	31	50	27	40	32	<b>36</b>	34	30	32	<b>32</b>	<b>34</b>
30	PBW813	430	34	49	35	42	40	<b>40</b>	39	32	40	<b>37</b>	<b>39</b>
31	DBW293	431	34	51	30	50	38	<b>41</b>	52	38	41	<b>44</b>	<b>42</b>
32	HD3331	432	32	50	30	46	33	<b>38</b>	39	32	42	<b>38</b>	<b>38</b>
33	NW7053	433	33	46	35	54	36	<b>41</b>	39	33	34	<b>35</b>	<b>38</b>
34	HI1563 (C)	434	29	33	26	40	30	<b>32</b>	35	29	35	<b>33</b>	<b>32</b>
35	Raj4543	435	29	32	24	35	29	<b>30</b>	45	34	26	<b>35</b>	<b>32</b>
36	K1807	436	31	41	27	35	29	<b>33</b>	43	27	29	<b>33</b>	<b>33</b>
<b>Mean</b>			<b>36</b>	<b>46</b>	<b>30</b>	<b>42</b>	<b>37</b>	<b>38</b>	<b>43</b>	<b>33</b>	<b>36</b>	<b>38</b>	<b>38</b>

**Table 20 : Phenol test score (Max score 10)) of *T. aestivum* genotypes in NIVT 3A**

Sr. No.	Entry	Trial Code	NWPZ					NEPZ				Overall Mean	
			Pantnagar	Ludhiana	Hisar	Delhi	Durgapura	Mean	Kanpur	Samastipur	Sabour		Mean
1	UP3033	401	7	7	7	7	7	7.0	7	7	8	7.3	7.2
2	WH1264	402	7	8	8	7	7	7.4	7	8	7	7.3	7.4
3	PBW811	403	7	7	8	8	7	7.4	7	7	8	7.3	7.4
4	UP3035	404	4	5	5	5	4	4.6	5	5	5	5.0	4.8
5	WH1263	405	7	8	7	7	7	7.2	8	7	8	7.7	7.4
6	PBW814	406	5	6	6	5	5	5.4	5	6	6	5.7	5.5
7	JKW267	407	7	7	7	7	6	6.8	8	7	7	7.3	7.1
8	DBW173 (C)	408	8	8	8	8	7	7.8	8	8	8	8.0	7.9
9	HD3329	409	7	8	7	8	7	7.4	7	8	8	7.7	7.5
10	HD3330	410	7	8	7	7	7	7.2	8	8	7	7.7	7.4
11	JAUW 673	411	7	8	7	8	7	7.4	7	7	7	7.0	7.2
12	HD3059 (C)	412	8	8	8	8	7	7.8	8	8	8	8.0	7.9
13	HD3334	413	7	7	7	7	6	6.8	7	7	7	7.0	6.9
14	Raj4544	414	7	7	7	7	7	7.0	8	8	7	7.7	7.3
15	DBW292	415	7	7	7	8	7	7.2	7	8	7	7.3	7.3
16	K1808	416	5	5	4	5	4	4.6	5	4	4	4.3	4.5
17	UP3034	417	7	8	8	7	7	7.4	7	7	7	7.0	7.2
18	JKW261	418	7	8	7	8	7	7.4	8	8	7	7.7	7.5
19	WH1266	419	7	8	7	7	7	7.2	7	8	7	7.3	7.3
20	DBW291	420	7	7	8	7	7	7.2	7	7	8	7.3	7.3
21	DBW107 (C)	421	7	7	6	7	6	6.6	7	7	7	7.0	6.8
22	JKW268	422	7	7	7	7	7	7.0	7	7	8	7.3	7.2
23	DBW294	423	7	7	7	7	7	7.0	6	7	7	6.7	6.8
24	HD3332	424	7	8	8	8	7	7.6	7	7	7	7.0	7.3
25	NW7062	425	7	7	7	7	6	6.8	6	7	7	6.7	6.7
26	HD3333	426	6	7	7	7	6	6.6	6	6	7	6.3	6.5
27	DBW290	427	4	4	4	5	4	4.2	5	5	5	5.0	4.6
28	WH1265	428	8	7	7	8	7	7.4	7	7	8	7.3	7.4
29	PBW812	429	7	7	6	6	6	6.4	7	6	7	6.7	6.5
30	PBW813	430	7	6	7	6	7	6.6	7	7	7	7.0	6.8
31	DBW293	431	7	7	8	7	7	7.2	7	7	7	7.0	7.1
32	HD3331	432	7	8	7	7	7	7.2	7	8	8	7.7	7.4
33	NW7053	433	7	7	8	7	8	7.4	7	7	7	7.0	7.2
34	HI1563 (C)	434	4	4	3	4	3	3.6	4	4	4	4.0	3.8
35	Raj4543	435	5	4	4	4	4	4.2	5	4	5	4.7	4.4
36	K1807	436	7	7	8	7	7	7.2	7	8	8	7.7	7.4
<b>Mean</b>			<b>6.6</b>	<b>6.9</b>	<b>6.8</b>	<b>6.8</b>	<b>6.4</b>	<b>6.7</b>	<b>6.8</b>	<b>6.9</b>	<b>6.9</b>	<b>6.9</b>	<b>6.8</b>

**Table 21: Grain appearance score (Max-10) of *T. aestivum* genotypes in NIVT 3B**

Sr. No.	Entry	Trial Code	CZ					PZ				Overall Mean
			Indore	Vijapur	Junagarh	P'kheda	Mean	Pune	Dharwad	Niphad	Mean	
1	CG1032	501	5.0	6.0	7.0	5.5	<b>5.9</b>	7.0	7.5	6.0	<b>6.8</b>	<b>6.4</b>
2	GW518	502	6.5	7.0	7.0	7.0	<b>6.9</b>	8.0	7.0	7.5	<b>7.5</b>	<b>7.2</b>
3	MACS6749	503	5.0	6.5	7.5	6.5	<b>6.4</b>	6.0	6.0	6.5	<b>6.2</b>	<b>6.3</b>
4	NIAW3578	504	5.0	6.0	7.0	5.0	<b>5.8</b>	5.0	5.0	6.0	<b>5.3</b>	<b>5.5</b>
5	UAS 3008	505	5.5	5.0	7.0	6.0	<b>5.9</b>	5.5	6.0	6.5	<b>6.0</b>	<b>5.9</b>
6	DBW295	506	5.0	6.0	6.5	6.5	<b>6.0</b>	6.0	5.5	6.5	<b>6.0</b>	<b>6.0</b>
7	MP3514	507	5.0	6.5	6.0	6.0	<b>5.9</b>	6.0	5.5	6.0	<b>5.8</b>	<b>5.9</b>
8	HI1641	508	5.5	7.5	7.5	7.0	<b>6.9</b>	7.5	7.0	7.0	<b>7.2</b>	<b>7.0</b>
9	MACS6752	509	5.0	7.5	8.0	7.0	<b>6.9</b>	7.0	7.0	7.0	<b>7.0</b>	<b>6.9</b>
10	MP3516	510	5.5	6.5	7.5	6.5	<b>6.5</b>	6.0	7.0	7.0	<b>6.7</b>	<b>6.6</b>
11	Lok75	511	6.5	8.0	8.5	6.5	<b>7.4</b>	7.5	8.0	8.0	<b>7.8</b>	<b>7.6</b>
12	AKAW 4927	512	5.0	7.0	7.5	7.0	<b>6.6</b>	7.5	6.0	7.5	<b>7.0</b>	<b>6.8</b>
13	MP1362	513	5.5	7.0	8.0	7.0	<b>6.9</b>	7.0	6.5	7.0	<b>6.8</b>	<b>6.9</b>
14	RVW4281	514	6.5	7.0	8.5	7.5	<b>7.4</b>	8.0	7.0	7.5	<b>7.5</b>	<b>7.4</b>
15	WH1267	515	5.5	6.5	7.0	6.0	<b>6.3</b>	7.0	6.0	6.0	<b>6.3</b>	<b>6.3</b>
16	GW519	516	6.5	7.0	7.0	6.5	<b>6.8</b>	7.0	6.5	6.5	<b>6.7</b>	<b>6.7</b>
17	HD3344	517	5.5	5.5	6.5	5.5	<b>5.8</b>	6.0	5.0	6.0	<b>5.7</b>	<b>5.7</b>
18	RVW4276	518	5.5	7.5	5.0	6.0	<b>6.0</b>	8.0	7.5	7.0	<b>7.5</b>	<b>6.8</b>
19	HI1642	519	6.0	8.0	8.0	7.0	<b>7.3</b>	8.0	7.5	8.0	<b>7.8</b>	<b>7.5</b>
20	NIAW3583	520	7.0	8.5	7.5	5.5	<b>7.1</b>	7.5	7.0	7.5	<b>7.3</b>	<b>7.2</b>
21	HD2932 (C)	521	6.0	7.0	8.0	6.0	<b>6.8</b>	6.5	6.0	7.0	<b>6.5</b>	<b>6.6</b>
22	HD2864 (C)	522	6.0	6.5	7.0	6.5	<b>6.5</b>	7.0	6.0	7.5	<b>6.8</b>	<b>6.7</b>
23	PBW815	523	6.0	6.5	7.0	6.5	<b>6.5</b>	6.5	7.0	6.5	<b>6.7</b>	<b>6.6</b>
24	HI1646	524	6.5	7.0	7.0	6.0	<b>6.6</b>	6.5	6.0	6.5	<b>6.3</b>	<b>6.5</b>
25	TAW154	525	4.5	6.0	7.0	6.0	<b>5.9</b>	6.5	5.5	7.0	<b>6.3</b>	<b>6.1</b>
<b>Mean</b>			<b>5.7</b>	<b>6.8</b>	<b>7.2</b>	<b>6.3</b>	<b>6.5</b>	<b>6.8</b>	<b>6.4</b>	<b>6.9</b>	<b>6.7</b>	<b>6.6</b>



**Table 22: Hectolitre weight (kg/hl) of *T. aestivum* genotypes in NIVT 3B**

Sr. No.	Entry	Trial Code	CZ					PZ				Overall Mean
			Indore	Vijapur	Junagarh	P'kheda	Mean	Pune	Dharwad	Niphad	Mean	
1	CG1032	501	76.1	80.7	80.5	78.2	<b>78.9</b>	80.2	79.7	80.9	<b>80.3</b>	<b>79.6</b>
2	GW518	502	78.2	81.4	81.5	80.6	<b>80.4</b>	81.3	81.3	80.7	<b>81.1</b>	<b>80.8</b>
3	MACS6749	503	74.5	78.6	79.4	78.4	<b>77.7</b>	78.3	79.1	79.6	<b>79.0</b>	<b>78.4</b>
4	NIAW3578	504	70.7	76.0	79.0	71.0	<b>74.2</b>	74.1	76.4	76.1	<b>75.5</b>	<b>74.8</b>
5	UAS 3008	505	75.2	75.8	81.4	77.8	<b>77.5</b>	76.8	78.3	79.2	<b>78.1</b>	<b>77.8</b>
6	DBW295	506	75.5	78.6	80.2	77.7	<b>78.0</b>	78.5	78.8	79.7	<b>79.0</b>	<b>78.5</b>
7	MP3514	507	74.4	78.6	79.9	77.0	<b>77.5</b>	78.5	77.9	79.6	<b>78.7</b>	<b>78.1</b>
8	HI1641	508	78.9	80.8	81.9	79.3	<b>80.2</b>	80.7	80.3	82.1	<b>81.0</b>	<b>80.6</b>
9	MACS6752	509	74.3	80.1	82.1	77.9	<b>78.6</b>	79.8	79.8	81.6	<b>80.4</b>	<b>79.5</b>
10	MP3516	510	73.6	78.1	78.8	77.0	<b>76.9</b>	76.6	78.5	79.7	<b>78.3</b>	<b>77.6</b>
11	Lok75	511	76.8	80.5	81.0	75.9	<b>78.6</b>	78.9	80.1	79.9	<b>79.6</b>	<b>79.1</b>
12	AKAW 4927	512	71.3	77.0	75.0	75.0	<b>74.6</b>	74.3	73.8	75.6	<b>74.6</b>	<b>74.6</b>
13	MP1362	513	77.5	78.8	81.1	78.3	<b>78.9</b>	78.1	80.7	80.9	<b>79.9</b>	<b>79.4</b>
14	RVW4281	514	76.4	78.2	80.1	78.4	<b>78.3</b>	78.7	77.7	78.6	<b>78.3</b>	<b>78.3</b>
15	WH1267	515	72.2	76.3	79.7	73.9	<b>75.5</b>	77.6	78.1	78.4	<b>78.0</b>	<b>76.8</b>
16	GW519	516	79.1	80.8	81.3	78.4	<b>79.9</b>	79.9	79.6	79.7	<b>79.7</b>	<b>79.8</b>
17	HD3344	517	75.7	77.1	81.3	78.3	<b>78.1</b>	78.7	77.8	79.8	<b>78.8</b>	<b>78.4</b>
18	RVW4276	518	79.7	82.3	81.9	78.4	<b>80.6</b>	80.9	79.1	80.9	<b>80.3</b>	<b>80.4</b>
19	HI1642	519	75.8	80.8	81.3	79.0	<b>79.3</b>	80.6	80.2	80.3	<b>80.4</b>	<b>79.8</b>
20	NIAW3583	520	78.0	81.6	80.4	76.1	<b>79.0</b>	81.2	79.8	80.6	<b>80.5</b>	<b>79.8</b>
21	HD2932 (C)	521	76.9	81.3	81.1	78.6	<b>79.5</b>	79.9	78.6	79.6	<b>79.3</b>	<b>79.4</b>
22	HD2864 (C)	522	81.2	83.3	83.9	81.1	<b>82.4</b>	81.9	80.7	83.0	<b>81.9</b>	<b>82.1</b>
23	PBW815	523	77.9	81.4	82.0	78.8	<b>80.0</b>	80.4	79.2	81.5	<b>80.4</b>	<b>80.2</b>
24	HI1646	524	76.0	80.5	81.8	77.9	<b>79.0</b>	78.7	78.9	79.6	<b>79.1</b>	<b>79.0</b>
25	TAW154	525	73.7	77.8	81.3	77.6	<b>77.6</b>	78.7	75.2	80.6	<b>78.2</b>	<b>77.9</b>
<b>Mean</b>			<b>76.0</b>	<b>79.4</b>	<b>80.7</b>	<b>77.6</b>	<b>78.4</b>	<b>78.9</b>	<b>78.8</b>	<b>79.9</b>	<b>79.2</b>	<b>78.8</b>

**Table 23: Protein content (%) at 12% moisture basis of *T. aestivum* genotypes in NIVT 3B**

Sr. No.	Entry	Trial Code	CZ					PZ				Overall Mean
			Indore	Vijapur	Junagarh	P'kheda	Mean	Pune	Dharwad	Niphad	Mean	
1	CG1032	501	12.7	10.7	14.4	12.8	<b>12.7</b>	11.5	12.4	11.0	<b>11.6</b>	<b>12.2</b>
2	GW518	502	12.9	12.5	15.1	13.2	<b>13.4</b>	13.5	13.8	12.5	<b>13.3</b>	<b>13.3</b>
3	MACS6749	503	12.6	11.5	14.4	12.5	<b>12.8</b>	11.7	12.7	11.9	<b>12.1</b>	<b>12.4</b>
4	NIAW3578	504	13.7	12.4	14.8	13.6	<b>13.6</b>	12.4	13.7	12.1	<b>12.7</b>	<b>13.2</b>
5	UAS 3008	505	12.0	11.7	13.1	12.4	<b>12.3</b>	11.0	12.4	10.9	<b>11.4</b>	<b>11.9</b>
6	DBW295	506	13.6	12.3	15.1	13.4	<b>13.6</b>	13.3	14.8	12.3	<b>13.5</b>	<b>13.5</b>
7	MP3514	507	14.3	11.9	14.9	13.4	<b>13.6</b>	12.6	14.3	12.0	<b>13.0</b>	<b>13.3</b>
8	HI1641	508	12.0	11.7	14.2	12.6	<b>12.6</b>	11.7	12.7	12.2	<b>12.2</b>	<b>12.4</b>
9	MACS6752	509	13.7	11.4	14.8	13.2	<b>13.3</b>	11.9	13.7	11.9	<b>12.5</b>	<b>12.9</b>
10	MP3516	510	13.8	11.1	15.0	13.1	<b>13.3</b>	12.2	13.6	10.9	<b>12.2</b>	<b>12.7</b>
11	Lok75	511	12.8	12.9	14.9	13.6	<b>13.6</b>	11.9	13.1	12.2	<b>12.4</b>	<b>13.0</b>
12	AKAW 4927	512	14.0	12.8	16.4	14.2	<b>14.3</b>	13.5	15.7	12.4	<b>13.9</b>	<b>14.1</b>
13	MP1362	513	13.4	13.2	16.5	14.3	<b>14.4</b>	13.1	14.2	12.0	<b>13.1</b>	<b>13.7</b>
14	RVW4281	514	12.9	10.1	16.5	13.4	<b>13.2</b>	13.1	13.5	12.2	<b>12.9</b>	<b>13.1</b>
15	WH1267	515	14.9	11.8	14.6	13.1	<b>13.6</b>	12.1	14.1	12.3	<b>12.8</b>	<b>13.2</b>
16	GW519	516	12.2	11.7	15.2	13.7	<b>13.2</b>	12.2	14.3	13.2	<b>13.2</b>	<b>13.2</b>
17	HD3344	517	14.3	13.3	14.8	13.1	<b>13.9</b>	13.0	14.4	12.1	<b>13.2</b>	<b>13.5</b>
18	RVW4276	518	12.4	10.8	14.9	13.0	<b>12.8</b>	12.4	13.4	12.3	<b>12.7</b>	<b>12.7</b>
19	HI1642	519	13.0	11.3	14.5	13.3	<b>13.0</b>	11.5	13.4	11.7	<b>12.2</b>	<b>12.6</b>
20	NIAW3583	520	12.9	12.3	14.2	14.3	<b>13.4</b>	12.6	13.7	12.7	<b>13.0</b>	<b>13.2</b>
21	HD2932 (C)	521	12.4	10.0	15.7	12.6	<b>12.7</b>	12.3	13.6	13.6	<b>13.1</b>	<b>12.9</b>
22	HD2864 (C)	522	12.6	10.7	13.5	11.9	<b>12.2</b>	11.5	13.5	11.6	<b>12.2</b>	<b>12.2</b>
23	PBW815	523	12.2	11.9	14.4	12.8	<b>12.8</b>	11.7	13.2	11.5	<b>12.1</b>	<b>12.5</b>
24	HI1646	524	12.7	11.7	15.4	13.0	<b>13.2</b>	12.7	14.5	13.5	<b>13.6</b>	<b>13.4</b>
25	TAW154	525	14.3	13.2	15.4	13.9	<b>14.2</b>	13.0	16.0	13.9	<b>14.3</b>	<b>14.3</b>
<b>Mean</b>			<b>13.1</b>	<b>11.8</b>	<b>14.9</b>	<b>13.2</b>	<b>13.3</b>	<b>12.3</b>	<b>13.8</b>	<b>12.2</b>	<b>12.8</b>	<b>13.0</b>

**Table 24: Sedimentation value (ml) of *T. aestivum* genotypes in NIVT 3B**

Sr. No.	Entry	Trial Code	CZ					PZ				Overall Mean
			Indore	Vijapur	Junagarh	P'kheda	Mean	Pune	Dharwad	Niphad	Mean	
1	CG1032	501	42	38	38	36	<b>39</b>	37	37	30	<b>35</b>	<b>37</b>
2	GW518	502	39	37	36	34	<b>37</b>	32	34	31	<b>32</b>	<b>34</b>
3	MACS6749	503	43	41	40	39	<b>41</b>	30	38	31	<b>33</b>	<b>37</b>
4	NIAW3578	504	40	33	30	33	<b>34</b>	29	34	27	<b>30</b>	<b>32</b>
5	UAS 3008	505	43	45	40	38	<b>42</b>	37	31	32	<b>33</b>	<b>37</b>
6	DBW295	506	53	49	58	40	<b>50</b>	43	39	36	<b>39</b>	<b>45</b>
7	MP3514	507	38	33	30	30	<b>33</b>	30	33	39	<b>34</b>	<b>33</b>
8	HI1641	508	41	32	35	32	<b>35</b>	40	35	39	<b>38</b>	<b>37</b>
9	MACS6752	509	49	42	36	31	<b>40</b>	35	38	35	<b>36</b>	<b>38</b>
10	MP3516	510	54	38	43	34	<b>42</b>	36	39	39	<b>38</b>	<b>40</b>
11	Lok75	511	48	34	42	31	<b>39</b>	39	41	38	<b>39</b>	<b>39</b>
12	AKAW 4927	512	36	30	39	33	<b>35</b>	37	34	34	<b>35</b>	<b>35</b>
13	MP1362	513	57	62	45	43	<b>52</b>	45	43	53	<b>47</b>	<b>49</b>
14	RVW4281	514	44	39	37	40	<b>40</b>	36	34	38	<b>36</b>	<b>38</b>
15	WH1267	515	47	45	46	43	<b>45</b>	42	44	39	<b>42</b>	<b>43</b>
16	GW519	516	42	34	34	35	<b>36</b>	39	33	31	<b>34</b>	<b>35</b>
17	HD3344	517	62	49	45	48	<b>51</b>	44	44	41	<b>43</b>	<b>47</b>
18	RVW4276	518	52	33	41	40	<b>42</b>	42	37	36	<b>38</b>	<b>40</b>
19	HI1642	519	47	40	52	38	<b>44</b>	42	37	41	<b>40</b>	<b>42</b>
20	NIAW3583	520	54	42	54	37	<b>47</b>	40	42	42	<b>41</b>	<b>44</b>
21	HD2932 (C)	521	40	33	50	42	<b>41</b>	44	40	38	<b>41</b>	<b>41</b>
22	HD2864 (C)	522	35	30	41	39	<b>36</b>	38	40	32	<b>37</b>	<b>36</b>
23	PBW815	523	38	35	31	35	<b>35</b>	35	33	30	<b>33</b>	<b>34</b>
24	HI1646	524	37	40	52	41	<b>43</b>	37	34	37	<b>36</b>	<b>39</b>
25	TAW154	525	45	50	43	46	<b>46</b>	47	38	50	<b>45</b>	<b>46</b>
<b>Mean</b>			<b>45</b>	<b>39</b>	<b>42</b>	<b>38</b>	<b>41</b>	<b>38</b>	<b>37</b>	<b>37</b>	<b>37</b>	<b>39</b>

**Table 25 : Phenol test score (Max score 10)) of *T. aestivum* genotypes in NIVT 3B**

Sr. No.	Entry	Trial Code	CZ					PZ				Overall Mean
			Indore	Vijapur	Junagarh	P'kheda	Mean	Pune	Dharwad	Niphad	Mean	
1	CG1032	501	7	7	7	8	7.3	6	7	6	6.3	6.8
2	GW518	502	6	6	6	7	6.3	7	7	6	6.7	6.5
3	MACS6749	503	3	3	4	4	3.5	3	4	3	3.3	3.4
4	NIAW3578	504	7	6	6	7	6.5	8	7	7	7.3	6.9
5	UAS 3008	505	8	7	8	7	7.5	7	6	7	6.7	7.1
6	DBW295	506	7	6	7	7	6.8	7	7	6	6.7	6.7
7	MP3514	507	8	7	7	7	7.3	7	7	7	7.0	7.1
8	HI1641	508	6	6	7	7	6.5	7	6	6	6.3	6.4
9	MACS6752	509	7	7	8	7	7.3	7	6	6	6.3	6.8
10	MP3516	510	6	5	6	6	5.8	6	7	6	6.3	6.0
11	Lok75	511	6	6	7	7	6.5	7	8	7	7.3	6.9
12	AKAW 4927	512	8	7	7	8	7.5	7	7	8	7.3	7.4
13	MP1362	513	7	7	8	8	7.5	7	7	8	7.3	7.4
14	RVW4281	514	7	7	6	7	6.8	6	7	6	6.3	6.5
15	WH1267	515	3	3	4	4	3.5	4	4	4	4.0	3.8
16	GW519	516	5	5	5	5	5.0	4	5	5	4.7	4.8
17	HD3344	517	7	7	8	7	7.3	8	8	7	7.7	7.5
18	RVW4276	518	3	3	4	4	3.5	4	5	4	4.3	3.9
19	HI1642	519	7	7	8	7	7.3	6	7	7	6.7	7.0
20	NIAW3583	520	7	7	7	7	7.0	6	7	7	6.7	6.8
21	HD2932 (C)	521	4	3	4	4	3.8	3	3	3	3.0	3.4
22	HD2864 (C)	522	3	3	3	3	3.0	3	4	3	3.3	3.2
23	PBW815	523	3	3	3	3	3.0	2	3	3	2.7	2.8
24	HI1646	524	3	3	3	4	3.3	3	3	3	3.0	3.1
25	TAW154	525	8	7	8	8	7.8	8	7	8	7.7	7.7
<b>Mean</b>			<b>5.8</b>	<b>5.5</b>	<b>6.0</b>	<b>6.1</b>	<b>5.9</b>	<b>5.7</b>	<b>6.0</b>	<b>5.7</b>	<b>5.8</b>	<b>5.8</b>

**Table 26: Grain appearance score (Max 10) of *T. durum* genotypes in NIVT-4**

Sr. No.	Entry	Trial Code	CZ					PZ					Overall Mean	
			Indore	Vijapur	P'kheda	Junagarh	Mean	Dharwad	Niphad	Pune	Ugar	Nippani		Mean
1	UAS470	601	6.9	6.7	5.8	7.5	<b>6.7</b>	6.0	6.9	5.0	6.1	5.0	<b>5.8</b>	<b>6.3</b>
2	GW1351	602	6.4	4.5	6.0	7.6	<b>6.1</b>	6.0	6.7	5.1	5.5	4.9	<b>5.6</b>	<b>5.9</b>
3	HI8737 (C)	603	7.0	4.4	5.1	7.7	<b>6.1</b>	6.6	7.2	5.8	5.6	4.8	<b>6.0</b>	<b>6.0</b>
4	MPO1364	604	6.2	4.6	5.5	7.4	<b>5.9</b>	5.9	7.5	6.3	5.9	4.3	<b>6.0</b>	<b>6.0</b>
5	DDW51	605	6.9	4.9	5.3	7.1	<b>6.1</b>	6.1	7.4	4.6	5.7	4.1	<b>5.6</b>	<b>5.8</b>
6	GW1352	606	7.6	4.9	5.1	7.2	<b>6.2</b>	6.3	7.1	5.7	5.8	4.2	<b>5.8</b>	<b>6.0</b>
7	HI8822	607	7.2	5.1	5.2	6.9	<b>6.1</b>	5.8	6.8	4.9	5.9	4.3	<b>5.5</b>	<b>5.8</b>
8	UAS471	608	7.1	5.6	4.8	6.8	<b>6.1</b>	5.7	6.2	5.4	5.4	4.2	<b>5.4</b>	<b>5.7</b>
9	PDW356	609	7.5	5.9	5.9	7.0	<b>6.6</b>	7.2	7.8	6.3	5.9	4.5	<b>6.3</b>	<b>6.5</b>
10	DDW50	610	6.7	6.5	6.0	6.8	<b>6.5</b>	5.2	6.9	5.2	5.5	4.3	<b>5.4</b>	<b>6.0</b>
11	MPO1366	611	6.8	6.1	5.8	7.2	<b>6.5</b>	5.1	6.5	5.8	5.2	5.1	<b>5.5</b>	<b>6.0</b>
12	HI8820	612	6.0	5.2	6.0	7.4	<b>6.2</b>	6.2	5.5	4.2	5.6	5.2	<b>5.3</b>	<b>5.7</b>
13	NIDW1316	613	6.2	5.9	5.8	6.8	<b>6.2</b>	5.1	6.7	4.5	4.5	5.6	<b>5.3</b>	<b>5.7</b>
14	WHD964	614	4.3	6.4	4.5	6.9	<b>5.5</b>	4.5	6.7	4.3	4.3	4.0	<b>4.8</b>	<b>5.1</b>
15	MACS4091	615	4.5	6.1	4.8	6.6	<b>5.5</b>	6.7	6.5	5.8	5.2	4.1	<b>5.7</b>	<b>5.6</b>
16	MACS3949 (C)	616	7.2	5.0	5.8	6.9	<b>6.2</b>	6.1	7.9	6.4	4.7	4.3	<b>5.9</b>	<b>6.1</b>
17	HI8819	617	4.8	4.9	5.7	6.8	<b>5.6</b>	5.7	7.0	5.9	4.9	4.2	<b>5.5</b>	<b>5.5</b>
18	HI8713 (C)	618	6.0	6.3	5.0	7.4	<b>6.2</b>	5.1	7.1	4.3	4.2	4.1	<b>5.0</b>	<b>5.6</b>
19	NIDW1302	619	5.0	6.2	4.5	7.7	<b>5.9</b>	6.1	7.2	5.7	5.3	4.3	<b>5.7</b>	<b>5.8</b>
20	HI8821	620	6.9	6.1	5.2	6.7	<b>6.2</b>	6.0	7.6	5.8	5.1	4.6	<b>5.8</b>	<b>6.0</b>
21	RKD339	621	7.2	6.0	4.9	6.9	<b>6.3</b>	6.1	6.5	6.3	4.7	5.0	<b>5.7</b>	<b>6.0</b>
22	NIDW1293	622	6.8	5.9	4.5	6.8	<b>6.0</b>	5.1	5.8	4.3	4.9	4.9	<b>5.0</b>	<b>5.5</b>
23	MACS4090	623	7.0	6.1	4.2	6.4	<b>5.9</b>	5.9	6.3	4.1	5.5	4.7	<b>5.3</b>	<b>5.6</b>
24	MPO1365	624	5.0	5.0	4.1	6.0	<b>5.0</b>	4.5	6.3	4.0	5.4	4.1	<b>4.9</b>	<b>4.9</b>
25	HI8818	625	6.5	6.3	4.3	7.2	<b>6.1</b>	6.5	6.1	5.6	6.0	4.2	<b>5.7</b>	<b>5.9</b>
<b>Mean</b>			<b>6.4</b>	<b>5.6</b>	<b>5.2</b>	<b>7.0</b>	<b>6.1</b>	<b>5.8</b>	<b>6.8</b>	<b>5.3</b>	<b>5.3</b>	<b>4.5</b>	<b>5.5</b>	<b>5.8</b>

**Table 27: Hectolitre weight (kg/hl) of *T. durum* genotypes in NIVT-4**

Sr. No.	Entry	Trial Code	CZ					PZ						Overall Mean
			Indore	Vijapur	P'kheda	Junagarh	Mean	Dharwad	Niphad	Pune	Ugar	Nippani	Mean	
1	UAS470	601	82.1	84.8	82.0	83.4	<b>83.1</b>	82.8	80.3	81.8	82.0	81.1	<b>81.6</b>	<b>82.3</b>
2	GW1351	602	81.9	82.3	79.8	83.0	<b>81.8</b>	81.1	79.5	80.3	80.1	79.8	<b>80.2</b>	<b>81.0</b>
3	HI8737 (C)	603	84.7	83.2	82.6	83.5	<b>83.5</b>	83.1	83.6	83.6	82.9	81.7	<b>83.0</b>	<b>83.2</b>
4	MPO1364	604	84.4	84.8	82.9	83.9	<b>84.0</b>	83.6	83.8	83.8	82.9	81.7	<b>83.2</b>	<b>83.6</b>
5	DDW51	605	84.3	85.4	83.1	84.6	<b>84.4</b>	84.8	83.9	85.3	84.6	83.3	<b>84.4</b>	<b>84.4</b>
6	GW1352	606	85.6	81.9	82.5	85.7	<b>83.9</b>	83.9	83.4	88.1	83.3	82.4	<b>84.2</b>	<b>84.1</b>
7	HI8822	607	85.6	81.6	83.0	83.8	<b>83.5</b>	84.5	83.9	86.5	83.3	80.9	<b>83.8</b>	<b>83.7</b>
8	UAS471	608	81.1	84.8	81.3	82.8	<b>82.5</b>	83.5	78.3	86.6	81.6	81.5	<b>82.3</b>	<b>82.4</b>
9	PDW356	609	85.2	81.3	83.6	85.1	<b>83.8</b>	84.9	83.9	84.8	84.3	83.4	<b>84.3</b>	<b>84.0</b>
10	DDW50	610	84.6	81.0	83.4	85.1	<b>83.5</b>	84.8	84.5	85.1	84.0	82.6	<b>84.2</b>	<b>83.9</b>
11	MPO1366	611	83.8	83.7	81.6	83.6	<b>83.2</b>	82.9	82.9	83.4	82.7	83.2	<b>83.0</b>	<b>83.1</b>
12	HI8820	612	84.8	83.9	83.4	84.5	<b>84.2</b>	85.5	80.4	79.4	83.8	81.9	<b>82.2</b>	<b>83.2</b>
13	NIDW1316	613	82.0	84.8	80.8	82.7	<b>82.6</b>	82.1	80.6	80.5	81.6	80.9	<b>81.1</b>	<b>81.9</b>
14	WHD964	614	83.8	84.7	81.9	85.5	<b>84.0</b>	84.8	80.8	82.5	83.1	81.3	<b>82.5</b>	<b>83.2</b>
15	MACS4091	615	85.0	82.7	83.2	85.0	<b>84.0</b>	84.0	82.6	84.3	83.3	83.4	<b>83.5</b>	<b>83.7</b>
16	MACS3949 (C)	616	85.0	83.7	82.9	84.8	<b>84.1</b>	84.8	83.4	85.0	84.0	82.6	<b>84.0</b>	<b>84.0</b>
17	HI8819	617	83.5	82.0	82.4	83.9	<b>83.0</b>	83.9	81.8	83.4	82.7	80.9	<b>82.5</b>	<b>82.7</b>
18	HI8713 (C)	618	83.9	80.7	82.0	84.0	<b>82.7</b>	85.3	82.3	83.0	83.1	80.8	<b>82.9</b>	<b>82.8</b>
19	NIDW1302	619	80.7	84.1	80.0	82.5	<b>81.8</b>	81.9	80.6	80.0	81.9	81.8	<b>81.2</b>	<b>81.5</b>
20	HI8821	620	85.4	83.0	83.5	84.2	<b>84.0</b>	85.6	85.0	84.7	84.1	82.2	<b>84.3</b>	<b>84.2</b>
21	RKD339	621	83.6	84.1	82.3	83.9	<b>83.5</b>	83.7	84.2	83.4	82.2	82.7	<b>83.2</b>	<b>83.4</b>
22	NIDW1293	622	80.8	84.4	81.5	83.0	<b>82.4</b>	82.9	81.1	80.4	81.4	80.9	<b>81.3</b>	<b>81.9</b>
23	MACS4090	623	83.3	80.4	82.5	83.4	<b>82.4</b>	83.1	83.0	80.9	82.3	81.7	<b>82.2</b>	<b>82.3</b>
24	MPO1365	624	82.6	81.7	80.3	84.3	<b>82.2</b>	79.4	81.6	75.7	81.4	82.1	<b>80.0</b>	<b>81.1</b>
25	HI8818	625	83.6	83.6	82.9	84.6	<b>83.7</b>	84.0	78.5	83.7	82.9	81.4	<b>82.1</b>	<b>82.9</b>
<b>Mean</b>			<b>83.7</b>	<b>83.1</b>	<b>82.2</b>	<b>84.0</b>	<b>83.3</b>	<b>83.6</b>	<b>82.2</b>	<b>83.0</b>	<b>82.8</b>	<b>81.8</b>	<b>82.7</b>	<b>83.0</b>

**Table 28: Protein content (%) at 12% moisture basis of *T. durum* genotypes in NIVT-4**

Sr. No.	Entry	Trial Code	CZ					PZ						Overall Mean
			Indore	Vijapur	P'kheda	Junagarh	Mean	Dharwad	Niphad	Pune	Ugar	Nippani	Mean	
1	UAS470	601	9.6	13.9	11.0	12.7	<b>11.8</b>	11.7	9.4	9.6	11.0	8.8	<b>10.1</b>	<b>11.0</b>
2	GW1351	602	9.4	9.6	11.4	11.6	<b>10.5</b>	10.8	11.9	11.3	10.8	9.0	<b>10.8</b>	<b>10.6</b>
3	HI8737 (C)	603	9.7	7.0	9.7	13.0	<b>9.9</b>	10.9	11.8	11.2	12.5	8.3	<b>10.9</b>	<b>10.4</b>
4	MPO1364	604	5.5	11.9	10.4	12.9	<b>10.2</b>	10.7	12.6	11.3	11.8	7.5	<b>10.8</b>	<b>10.5</b>
5	DDW51	605	13.0	11.6	11.3	13.6	<b>12.4</b>	11.4	12.7	11.4	14.7	10.0	<b>12.0</b>	<b>12.2</b>
6	GW1352	606	12.2	11.8	11.8	13.3	<b>12.3</b>	12.2	12.8	11.7	16.4	9.2	<b>12.5</b>	<b>12.4</b>
7	HI8822	607	12.3	9.9	11.1	13.1	<b>11.6</b>	11.0	12.3	9.9	13.3	7.1	<b>10.7</b>	<b>11.2</b>
8	UAS471	608	11.0	11.4	10.3	12.2	<b>11.2</b>	11.7	10.5	8.9	12.4	8.0	<b>10.3</b>	<b>10.8</b>
9	PDW356	609	13.3	10.7	12.5	14.5	<b>12.8</b>	12.9	13.1	11.6	15.3	9.3	<b>12.4</b>	<b>12.6</b>
10	DDW50	610	9.9	11.9	11.9	14.0	<b>11.9</b>	11.9	12.4	12.4	14.0	9.1	<b>12.0</b>	<b>11.9</b>
11	MPO1366	611	12.7	12.2	12.1	13.0	<b>12.5</b>	11.2	12.3	11.0	15.1	9.3	<b>11.8</b>	<b>12.1</b>
12	HI8820	612	11.6	10.1	11.7	13.3	<b>11.7</b>	12.4	12.1	10.3	16.5	7.7	<b>11.8</b>	<b>11.7</b>
13	NIDW1316	613	12.2	12.9	11.8	12.3	<b>12.3</b>	9.9	10.9	9.8	13.0	8.8	<b>10.5</b>	<b>11.4</b>
14	WHD964	614	10.6	13.5	10.6	13.3	<b>12.0</b>	11.3	10.3	10.7	14.2	5.9	<b>10.5</b>	<b>11.2</b>
15	MACS4091	615	9.5	11.0	11.5	13.6	<b>11.4</b>	11.3	12.6	11.6	12.6	9.7	<b>11.6</b>	<b>11.5</b>
16	MACS3949 (C)	616	12.5	11.3	11.9	13.2	<b>12.2</b>	12.5	11.4	11.6	13.3	9.3	<b>11.6</b>	<b>11.9</b>
17	HI8819	617	11.8	8.3	10.1	12.5	<b>10.7</b>	11.3	10.8	8.6	14.2	6.9	<b>10.4</b>	<b>10.5</b>
18	HI8713 (C)	618	11.2	11.6	9.7	13.0	<b>11.4</b>	11.8	10.5	9.9	14.5	8.2	<b>11.0</b>	<b>11.2</b>
19	NIDW1302	619	12.9	12.3	10.1	13.1	<b>12.1</b>	12.2	10.8	9.9	11.3	7.9	<b>10.4</b>	<b>11.3</b>
20	HI8821	620	13.4	12.9	11.0	12.9	<b>12.6</b>	12.2	13.1	11.6	15.0	9.7	<b>12.3</b>	<b>12.4</b>
21	RKD339	621	12.2	11.1	10.6	8.5	<b>10.6</b>	12.6	11.8	10.3	13.0	8.6	<b>11.3</b>	<b>10.9</b>
22	NIDW1293	622	10.4	12.0	9.7	12.0	<b>11.0</b>	10.8	9.9	7.3	9.3	7.5	<b>9.0</b>	<b>10.0</b>
23	MACS4090	623	10.5	11.5	10.2	13.2	<b>11.4</b>	12.3	11.4	10.9	11.2	8.2	<b>10.8</b>	<b>11.1</b>
24	MPO1365	624	9.3	10.1	10.2	13.0	<b>10.7</b>	9.1	11.1	7.6	10.8	8.5	<b>9.4</b>	<b>10.0</b>
25	HI8818	625	11.8	11.2	11.4	13.2	<b>11.9</b>	11.5	11.5	9.0	11.1	8.5	<b>10.3</b>	<b>11.1</b>
<b>Mean</b>			<b>11.1</b>	<b>11.3</b>	<b>11.0</b>	<b>12.8</b>	<b>11.6</b>	<b>11.5</b>	<b>11.6</b>	<b>10.4</b>	<b>13.1</b>	<b>8.4</b>	<b>11.0</b>	<b>11.3</b>

**Table 29: Sedimentation value (ml) of *T. durum* genotypes in NIVT-4**

Sr. No.	Entry	Trial Code	CZ					PZ					Overall Mean	
			Indore	Vijapur	P'kheda	Junagarh	Mean	Dharwad	Niphad	Pune	Ugar	Nippani		Mean
1	UAS470	601	30	27	30	32	<b>30</b>	31	32	33	34	32	<b>32</b>	<b>31</b>
2	GW1351	602	31	26	28	25	<b>28</b>	30	33	28	28	27	<b>29</b>	<b>28</b>
3	HI8737 (C)	603	32	24	28	30	<b>29</b>	29	32	30	28	27	<b>29</b>	<b>29</b>
4	MPO1364	604	34	28	30	30	<b>31</b>	30	34	29	32	29	<b>31</b>	<b>31</b>
5	DDW51	605	38	23	28	28	<b>29</b>	31	23	28	35	29	<b>29</b>	<b>29</b>
6	GW1352	606	37	25	27	29	<b>30</b>	25	25	31	30	26	<b>27</b>	<b>28</b>
7	HI8822	607	31	24	31	25	<b>28</b>	31	30	32	30	27	<b>30</b>	<b>29</b>
8	UAS471	608	45	22	30	29	<b>32</b>	30	37	30	39	32	<b>34</b>	<b>33</b>
9	PDW356	609	16	30	32	29	<b>27</b>	36	33	34	40	25	<b>34</b>	<b>30</b>
10	DDW50	610	15	25	28	30	<b>25</b>	35	30	36	43	26	<b>34</b>	<b>29</b>
11	MPO1366	611	20	23	25	25	<b>23</b>	35	22	35	36	22	<b>30</b>	<b>27</b>
12	HI8820	612	15	24	28	26	<b>23</b>	30	30	39	48	24	<b>34</b>	<b>29</b>
13	NIDW1316	613	21	31	28	28	<b>27</b>	41	30	40	52	27	<b>38</b>	<b>33</b>
14	WHD964	614	23	27	29	25	<b>26</b>	34	26	43	51	23	<b>35</b>	<b>31</b>
15	MACS4091	615	25	25	31	27	<b>27</b>	47	35	37	43	26	<b>38</b>	<b>32</b>
16	MACS3949 (C)	616	15	26	30	41	<b>28</b>	44	33	40	33	30	<b>36</b>	<b>32</b>
17	HI8819	617	30	32	28	35	<b>31</b>	39	32	28	30	32	<b>32</b>	<b>32</b>
18	HI8713 (C)	618	21	31	27	30	<b>27</b>	34	25	25	26	31	<b>28</b>	<b>28</b>
19	NIDW1302	619	27	28	27	30	<b>28</b>	45	30	27	29	31	<b>32</b>	<b>30</b>
20	HI8821	620	22	30	21	27	<b>25</b>	33	25	23	22	26	<b>26</b>	<b>25</b>
21	RKD339	621	28	31	25	34	<b>30</b>	45	32	28	29	34	<b>34</b>	<b>32</b>
22	NIDW1293	622	32	29	23	32	<b>29</b>	37	30	21	27	32	<b>29</b>	<b>29</b>
23	MACS4090	623	30	34	31	35	<b>33</b>	42	30	25	25	30	<b>30</b>	<b>31</b>
24	MPO1365	624	20	28	31	37	<b>29</b>	39	30	23	34	25	<b>30</b>	<b>30</b>
25	HI8818	625	30	32	28	38	<b>32</b>	52	39	25	33	40	<b>38</b>	<b>35</b>
<b>Mean</b>			<b>27</b>	<b>27</b>	<b>28</b>	<b>30</b>	<b>28</b>	<b>36</b>	<b>30</b>	<b>31</b>	<b>34</b>	<b>29</b>	<b>32</b>	<b>30</b>



**Table 30: Yellow berry incidence (%) of *T. durum* genotypes in NIVT-4**

Sr. No.	Entry	Trial Code	CZ					PZ						Overall Mean
			Indore	Vijapur	P'kheda	Junagarh	Mean	Dharwad	Niphad	Pune	Ugar	Nippani	Mean	
1	UAS470	601	7.1	1.1	1.5	0.0	<b>2.4</b>	4.0	0.0	3.0	0.0	1.0	<b>1.6</b>	<b>2.0</b>
2	GW1351	602	3.1	25.0	1.4	0.0	<b>7.4</b>	0.0	0.0	1.0	0.0	1.1	<b>0.4</b>	<b>3.9</b>
3	HI8737 (C)	603	4.1	28.6	14.6	0.0	<b>11.8</b>	1.1	2.1	1.3	1.5	1.1	<b>1.4</b>	<b>6.6</b>
4	MPO1364	604	4.5	15.0	14.1	0.0	<b>8.4</b>	0.0	1.1	0.0	0.0	2.5	<b>0.7</b>	<b>4.6</b>
5	DDW51	605	1.1	2.0	13.1	1.1	<b>4.3</b>	0.0	1.5	14.0	5.0	5.0	<b>5.1</b>	<b>4.7</b>
6	GW1352	606	0.0	2.0	10.5	0.0	<b>3.1</b>	0.0	0.0	1.0	5.1	0.0	<b>1.2</b>	<b>2.2</b>
7	HI8822	607	1.4	1.0	0.0	0.0	<b>0.6</b>	0.0	0.0	0.0	1.0	0.0	<b>0.2</b>	<b>0.4</b>
8	UAS471	608	1.5	3.0	12.0	0.0	<b>4.1</b>	0.0	0.0	2.0	0.0	0.0	<b>0.4</b>	<b>2.3</b>
9	PDW356	609	1.0	0.0	1.1	0.0	<b>0.5</b>	0.0	0.0	0.0	1.1	0.0	<b>0.2</b>	<b>0.4</b>
10	DDW50	610	1.8	0.0	8.1	0.0	<b>2.5</b>	4.0	1.0	17.3	0.0	0.0	<b>4.5</b>	<b>3.5</b>
11	MPO1366	611	1.1	0.0	0.0	0.0	<b>0.3</b>	1.0	0.0	3.4	2.0	0.0	<b>1.3</b>	<b>0.8</b>
12	HI8820	612	1.0	1.0	0.0	0.0	<b>0.5</b>	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>	<b>0.3</b>
13	NIDW1316	613	1.6	0.0	1.1	6.0	<b>2.2</b>	13.5	2.0	7.4	8.0	0.0	<b>6.2</b>	<b>4.2</b>
14	WHD964	614	4.1	1.0	4.1	1.1	<b>2.6</b>	13.0	0.0	20.6	9.0	30.0	<b>14.5</b>	<b>8.5</b>
15	MACS4091	615	8.0	1.1	4.5	0.0	<b>3.4</b>	0.0	0.0	2.0	0.0	0.0	<b>0.4</b>	<b>1.9</b>
16	MACS3949 (C)	616	0.0	8.0	1.5	0.0	<b>2.4</b>	2.0	0.0	2.1	5.0	0.0	<b>1.8</b>	<b>2.1</b>
17	HI8819	617	31.0	10.1	10.2	0.0	<b>12.8</b>	0.0	0.0	4.0	0.0	3.0	<b>1.4</b>	<b>7.1</b>
18	HI8713 (C)	618	4.0	0.0	15.0	0.0	<b>4.8</b>	4.0	0.0	27.7	6.1	1.5	<b>7.9</b>	<b>6.3</b>
19	NIDW1302	619	27.0	1.5	2.0	0.0	<b>7.6</b>	0.0	0.0	3.0	0.0	1.1	<b>0.8</b>	<b>4.2</b>
20	HI8821	620	1.5	0.0	10.0	0.0	<b>2.9</b>	1.1	0.0	6.0	5.3	2.0	<b>2.9</b>	<b>2.9</b>
21	RKD339	621	0.0	1.1	1.1	0.0	<b>0.6</b>	0.0	0.0	1.5	0.0	0.0	<b>0.3</b>	<b>0.4</b>
22	NIDW1293	622	0.0	2.5	1.2	0.0	<b>0.9</b>	1.2	0.0	1.0	5.8	1.2	<b>1.8</b>	<b>1.4</b>
23	MACS4090	623	0.0	1.1	8.0	0.0	<b>2.3</b>	1.1	0.0	12.0	5.2	3.9	<b>4.4</b>	<b>3.4</b>
24	MPO1365	624	6.2	6.5	8.2	4.1	<b>6.3</b>	0.0	2.0	0.0	1.0	4.0	<b>1.4</b>	<b>3.8</b>
25	HI8818	625	1.0	5.0	3.1	0.0	<b>2.3</b>	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>	<b>1.1</b>
<b>Mean</b>			<b>4.5</b>	<b>4.7</b>	<b>5.9</b>	<b>0.5</b>	<b>3.9</b>	<b>1.8</b>	<b>0.4</b>	<b>5.2</b>	<b>2.4</b>	<b>2.3</b>	<b>2.4</b>	<b>3.2</b>

**Table 31: Yellow pigment content (ppm ) of *T. durum* genotypes in NIVT-4**

Sr. No.	Entry	Trial Code	CZ					PZ						Overall Mean
			Indore	Vijapur	P'kheda	Junagarh	Mean	Dharwad	Niphad	Pune	Ugar	Nippani	Mean	
1	UAS470	601	2.4	4.5	6.1	4.5	<b>4.4</b>	5.6	6.1	5.6	5.3	4.9	<b>5.5</b>	<b>4.9</b>
2	GW1351	602	4.2	4.3	6.2	5.1	<b>5.0</b>	4.8	6.2	4.8	5.2	4.2	<b>5.0</b>	<b>5.0</b>
3	HI8737 (C)	603	2.3	6.1	6.2	4.8	<b>4.9</b>	4.2	6.1	5.2	5.2	5.3	<b>5.2</b>	<b>5.0</b>
4	MPO1364	604	3.2	2.8	6.0	4.5	<b>4.1</b>	4.8	5.6	4.9	5.6	5.2	<b>5.2</b>	<b>4.7</b>
5	DDW51	605	2.4	4.2	6.2	6.0	<b>4.7</b>	5.0	5.0	4.2	5.6	5.6	<b>5.1</b>	<b>4.9</b>
6	GW1352	606	3.8	3.9	5.9	4.8	<b>4.6</b>	5.2	5.7	5.2	5.1	6.2	<b>5.5</b>	<b>5.0</b>
7	HI8822	607	2.5	6.2	5.8	4.5	<b>4.8</b>	5.3	5.0	6.2	6.0	5.6	<b>5.6</b>	<b>5.2</b>
8	UAS471	608	5.6	2.8	6.0	4.5	<b>4.7</b>	5.2	6.2	6.0	5.0	5.2	<b>5.5</b>	<b>5.1</b>
9	PDW356	609	4.5	4.8	4.2	5.1	<b>4.7</b>	5.2	6.2	4.8	5.2	4.8	<b>5.2</b>	<b>4.9</b>
10	DDW50	610	4.9	2.9	4.8	5.3	<b>4.5</b>	6.2	5.7	5.7	4.9	6.2	<b>5.7</b>	<b>5.1</b>
11	MPO1366	611	5.2	4.7	4.8	4.9	<b>4.9</b>	6.2	5.6	5.6	5.7	6.5	<b>5.9</b>	<b>5.4</b>
12	HI8820	612	4.9	6.2	5.2	6.0	<b>5.6</b>	6.0	6.5	6.5	6.2	4.8	<b>6.0</b>	<b>5.8</b>
13	NIDW1316	613	5.2	6.0	4.5	5.0	<b>5.2</b>	4.5	6.2	5.2	6.3	4.9	<b>5.4</b>	<b>5.3</b>
14	WHD964	614	2.9	5.6	5.0	4.5	<b>4.5</b>	6.1	6.2	6.3	5.6	6.2	<b>6.1</b>	<b>5.3</b>
15	MACS4091	615	4.2	6.0	4.9	4.6	<b>4.9</b>	5.7	5.2	6.2	5.2	6.2	<b>5.7</b>	<b>5.3</b>
16	MACS3949 (C)	616	4.2	4.2	6.2	4.5	<b>4.8</b>	6.1	5.3	4.8	6.2	6.5	<b>5.8</b>	<b>5.3</b>
17	HI8819	617	4.8	5.6	6.2	6.0	<b>5.7</b>	5.2	5.3	4.8	5.4	5.6	<b>5.3</b>	<b>5.5</b>
18	HI8713 (C)	618	6.2	4.5	5.6	4.7	<b>5.3</b>	4.5	6.2	6.2	6.0	5.6	<b>5.7</b>	<b>5.5</b>
19	NIDW1302	619	4.3	3.8	6.5	4.2	<b>4.7</b>	4.8	6.5	4.9	4.9	4.8	<b>5.2</b>	<b>4.9</b>
20	HI8821	620	4.8	6.4	4.9	4.2	<b>5.1</b>	4.2	6.3	4.9	6.0	4.9	<b>5.3</b>	<b>5.2</b>
21	RKD339	621	6.2	4.0	4.8	4.5	<b>4.9</b>	4.8	6.3	5.6	6.1	5.6	<b>5.7</b>	<b>5.3</b>
22	NIDW1293	622	5.2	4.1	5.2	4.9	<b>4.9</b>	5.2	5.9	6.0	6.1	6.2	<b>5.9</b>	<b>5.4</b>
23	MACS4090	623	3.4	4.3	4.5	5.2	<b>4.4</b>	4.8	6.5	6.2	5.1	6.5	<b>5.8</b>	<b>5.1</b>
24	MPO1365	624	4.2	6.0	5.2	4.5	<b>5.0</b>	5.6	6.5	6.0	5.2	6.2	<b>5.9</b>	<b>5.4</b>
25	HI8818	625	3.0	4.2	6.0	4.9	<b>4.5</b>	5.0	6.4	5.9	5.8	5.2	<b>5.7</b>	<b>5.1</b>
<b>Mean</b>			<b>4.2</b>	<b>4.7</b>	<b>5.5</b>	<b>4.9</b>	<b>4.8</b>	<b>5.2</b>	<b>5.9</b>	<b>5.5</b>	<b>5.6</b>	<b>5.6</b>	<b>5.6</b>	<b>5.2</b>

**Table 32: Grain appearance score (Max-10) of *T. aestivum* genotypes in NIVT-5A**

Sr. No.	Entry	Trial Code	NWPZ					NEPZ					Overall Mean
			Ludhiana	Hisar	Pantnagar	Delhi	Mean	Kanpur	Sabour	Pusa	Varanasi	Mean	
1	BRW3847	701	5.2	5.3	5.5	4.9	<b>5.2</b>	5.4	5.4	5.4	4.8	<b>5.3</b>	<b>5.2</b>
2	UP3037	702	5.1	5.4	5.6	5.1	<b>5.3</b>	5.3	5.5	5.3	5.0	<b>5.3</b>	<b>5.3</b>
3	DBW298	703	5.3	5.6	5.4	5.0	<b>5.3</b>	5.4	5.6	5.0	4.9	<b>5.2</b>	<b>5.3</b>
4	DBW297	704	5.2	5.3	5.3	5.3	<b>5.3</b>	5.6	5.3	5.0	5.3	<b>5.3</b>	<b>5.3</b>
5	K1317 (C)	705	5.7	5.7	5.4	5.4	<b>5.6</b>	5.7	5.3	5.3	5.6	<b>5.5</b>	<b>5.5</b>
6	DBW296	706	5.6	5.4	5.2	5.3	<b>5.4</b>	5.2	5.1	5.1	5.4	<b>5.2</b>	<b>5.3</b>
7	JAUW672	707	5.3	5.3	5.1	4.8	<b>5.1</b>	5.1	5.2	4.8	4.7	<b>5.0</b>	<b>5.0</b>
8	WH1268	708	5.5	5.6	5.3	4.9	<b>5.3</b>	5.3	5.4	4.9	4.8	<b>5.1</b>	<b>5.2</b>
9	DBW299	709	5.7	5.3	5.4	5.1	<b>5.4</b>	5.2	5.5	4.7	4.8	<b>5.1</b>	<b>5.2</b>
10	WH1269	710	5.3	5.4	5.5	5.0	<b>5.3</b>	5.1	5.4	4.7	4.6	<b>5.0</b>	<b>5.1</b>
11	PBW817	711	5.5	5.2	5.4	4.9	<b>5.3</b>	5.0	5.6	4.8	4.8	<b>5.1</b>	<b>5.2</b>
12	NW7069	712	5.2	5.4	5.5	5.8	<b>5.5</b>	5.5	5.6	4.9	5.5	<b>5.4</b>	<b>5.4</b>
13	HD2888 (C)	713	5.1	5.3	5.2	5.8	<b>5.4</b>	5.6	5.8	5.1	5.4	<b>5.5</b>	<b>5.4</b>
14	HD3339	714	5.6	5.7	5.6	5.9	<b>5.7</b>	5.4	5.5	5.0	5.3	<b>5.3</b>	<b>5.5</b>
15	HUW838	715	5.8	5.8	5.7	5.7	<b>5.8</b>	5.5	5.3	4.9	5.7	<b>5.4</b>	<b>5.6</b>
16	K1810	716	5.9	6.1	6.0	6.0	<b>6.0</b>	6.1	6.0	6.2	5.9	<b>6.1</b>	<b>6.0</b>
17	HD3337	717	5.5	5.8	5.8	5.2	<b>5.6</b>	5.8	5.4	4.9	5.3	<b>5.4</b>	<b>5.5</b>
18	K1809	718	5.2	5.9	5.7	5.0	<b>5.5</b>	5.5	5.2	4.8	5.3	<b>5.2</b>	<b>5.3</b>
19	HD3336	719	5.3	5.6	5.3	5.4	<b>5.4</b>	5.3	5.1	5.0	5.2	<b>5.2</b>	<b>5.3</b>
20	UP3036	720	5.1	5.5	5.5	5.1	<b>5.3</b>	5.2	5.3	5.1	5.4	<b>5.3</b>	<b>5.3</b>
21	WH1142 (C)	721	5.5	5.2	5.2	5.2	<b>5.3</b>	5.1	5.2	5.0	5.2	<b>5.1</b>	<b>5.2</b>
22	PBW644 (C)	722	4.9	5.4	5.5	5.4	<b>5.3</b>	5.4	5.3	4.8	5.5	<b>5.3</b>	<b>5.3</b>
23	HD3338	723	5.1	5.6	5.6	5.1	<b>5.4</b>	5.5	5.0	4.9	5.6	<b>5.3</b>	<b>5.3</b>
24	HD3335	724	4.8	5.4	5.1	5.3	<b>5.2</b>	5.3	5.1	4.8	5.4	<b>5.2</b>	<b>5.2</b>
25	PBW816	725	4.9	5.5	5.2	5.4	<b>5.3</b>	5.2	5.2	5.2	5.3	<b>5.2</b>	<b>5.2</b>
<b>Mean</b>			<b>5.3</b>	<b>5.5</b>	<b>5.4</b>	<b>5.3</b>	<b>5.4</b>	<b>5.4</b>	<b>5.4</b>	<b>5.0</b>	<b>5.2</b>	<b>5.3</b>	<b>5.3</b>

**Table 32: Hectolitre weight (kg/hl) of *T. aestivum* genotypes in NIVT-5A**

Sr. No.	Entry	Trial Code	NWPZ					NEPZ					Overall Mean
			Ludhiana	Hisar	Pantnagar	Delhi	Mean	Kanpur	Sabour	Pusa	Varanasi	Mean	
1	BRW3847	701	75.4	81.6	85.2	74.4	<b>79.2</b>	82.8	79.2	81.9	78.9	<b>80.7</b>	<b>79.9</b>
2	UP3037	702	69.9	83.3	84.2	77.4	<b>78.7</b>	86.2	81.2	81.8	84.0	<b>83.3</b>	<b>81.0</b>
3	DBW298	703	75.7	82.0	83.8	80.2	<b>80.4</b>	84.3	81.0	83.1	81.8	<b>82.5</b>	<b>81.5</b>
4	DBW297	704	69.4	79.6	83.3	80.9	<b>78.3</b>	81.7	78.3	79.0	78.6	<b>79.4</b>	<b>78.8</b>
5	K1317 (C)	705	77.0	84.7	85.8	80.7	<b>82.0</b>	84.9	83.4	84.1	85.4	<b>84.4</b>	<b>83.2</b>
6	DBW296	706	75.5	81.9	81.5	83.3	<b>80.6</b>	84.6	80.3	79.8	82.0	<b>81.7</b>	<b>81.1</b>
7	JAUW672	707	72.9	83.2	81.4	78.2	<b>78.9</b>	84.0	77.7	78.5	78.5	<b>79.7</b>	<b>79.3</b>
8	WH1268	708	72.3	80.9	82.0	77.9	<b>78.3</b>	82.3	79.5	78.8	76.8	<b>79.4</b>	<b>78.8</b>
9	DBW299	709	78.6	82.4	84.7	80.5	<b>81.6</b>	84.6	80.3	81.1	79.5	<b>81.4</b>	<b>81.5</b>
10	WH1269	710	70.0	82.3	80.6	74.7	<b>76.9</b>	82.4	78.3	78.9	81.9	<b>80.4</b>	<b>78.7</b>
11	PBW817	711	77.7	81.4	81.0	79.7	<b>79.9</b>	83.8	79.3	79.2	77.8	<b>80.0</b>	<b>80.0</b>
12	NW7069	712	74.4	83.9	83.2	83.5	<b>81.3</b>	86.8	82.8	80.5	80.0	<b>82.5</b>	<b>81.9</b>
13	HD2888 (C)	713	74.8	80.3	80.0	84.4	<b>79.9</b>	84.8	84.4	84.5	86.6	<b>85.1</b>	<b>82.5</b>
14	HD3339	714	77.6	81.7	81.1	83.6	<b>81.0</b>	83.9	82.2	78.0	81.9	<b>81.5</b>	<b>81.2</b>
15	HUW838	715	77.1	81.7	83.7	83.0	<b>81.4</b>	85.7	81.2	82.0	83.7	<b>83.2</b>	<b>82.3</b>
16	K1810	716	77.7	82.6	81.6	80.9	<b>80.7</b>	86.3	81.6	83.2	84.8	<b>84.0</b>	<b>82.3</b>
17	HD3337	717	72.6	81.5	81.5	77.8	<b>78.4</b>	81.9	80.7	78.9	82.0	<b>80.9</b>	<b>79.6</b>
18	K1809	718	65.6	81.2	81.7	78.2	<b>76.6</b>	85.3	78.4	80.8	80.8	<b>81.3</b>	<b>79.0</b>
19	HD3336	719	76.4	81.8	81.9	82.2	<b>80.6</b>	85.4	81.5	80.5	83.8	<b>82.8</b>	<b>81.7</b>
20	UP3036	720	75.1	83.2	84.3	80.0	<b>80.6</b>	85.0	82.3	81.6	81.1	<b>82.5</b>	<b>81.6</b>
21	WH1142 (C)	721	75.7	81.8	84.6	82.1	<b>81.1</b>	85.7	83.1	81.3	82.9	<b>83.3</b>	<b>82.2</b>
22	PBW644 (C)	722	73.5	81.2	82.5	80.9	<b>79.5</b>	84.2	81.8	79.7	84.7	<b>82.6</b>	<b>81.1</b>
23	HD3338	723	76.0	82.8	83.9	83.0	<b>81.4</b>	87.4	80.7	81.3	83.2	<b>83.1</b>	<b>82.3</b>
24	HD3335	724	74.2	81.2	81.0	82.8	<b>79.8</b>	85.3	81.4	80.0	84.3	<b>82.7</b>	<b>81.3</b>
25	PBW816	725	74.4	80.2	80.5	81.2	<b>79.0</b>	83.9	79.8	79.3	81.6	<b>81.1</b>	<b>80.1</b>
<b>Mean</b>			<b>74.4</b>	<b>81.9</b>	<b>82.6</b>	<b>80.5</b>	<b>79.8</b>	<b>84.5</b>	<b>80.8</b>	<b>80.7</b>	<b>81.9</b>	<b>82.0</b>	<b>80.9</b>

**Table 33: Protein content (%) at 12% moisture basis of *T. aestivum* genotypes in NIVT-5A**

Sr. No.	Entry	Trial Code	NWPZ					NEPZ					Overall Mean
			Ludhiana	Hisar	Pantnagar	Delhi	Mean	Kanpur	Sabour	Pusa	Varanasi	Mean	
1	BRW3847	701	10.45	7.66	8.42	12.75	<b>9.82</b>	10.10	9.69	9.11	10.97	<b>9.97</b>	<b>9.89</b>
2	UP3037	702	11.50	9.17	8.98	13.39	<b>10.76</b>	10.84	10.52	9.14	11.59	<b>10.52</b>	<b>10.64</b>
3	DBW298	703	12.08	9.17	7.52	12.23	<b>10.25</b>	9.84	9.79	8.95	11.38	<b>9.99</b>	<b>10.12</b>
4	DBW297	704	12.70	9.56	7.87	12.79	<b>10.73</b>	10.41	9.89	9.03	10.15	<b>9.87</b>	<b>10.30</b>
5	K1317 (C)	705	12.18	9.94	9.61	13.64	<b>11.34</b>	11.13	9.74	9.44	11.66	<b>10.49</b>	<b>10.92</b>
6	DBW296	706	11.81	9.09	9.64	11.63	<b>10.54</b>	10.70	10.53	9.20	11.61	<b>10.51</b>	<b>10.53</b>
7	JAUW672	707	10.90	8.54	9.06	12.29	<b>10.20</b>	9.71	8.89	8.77	11.30	<b>9.67</b>	<b>9.93</b>
8	WH1268	708	11.30	7.91	7.86	11.89	<b>9.74</b>	10.61	8.92	8.54	11.61	<b>9.92</b>	<b>9.83</b>
9	DBW299	709	11.17	8.81	7.91	11.40	<b>9.82</b>	10.51	9.20	10.25	11.74	<b>10.43</b>	<b>10.12</b>
10	WH1269	710	12.08	8.25	9.12	13.90	<b>10.84</b>	9.51	9.92	9.35	10.35	<b>9.78</b>	<b>10.31</b>
11	PBW817	711	11.72	8.80	8.91	12.68	<b>10.53</b>	10.68	9.52	9.07	11.66	<b>10.23</b>	<b>10.38</b>
12	NW7069	712	10.60	9.32	9.32	11.59	<b>10.21</b>	10.97	9.45	9.66	9.91	<b>10.00</b>	<b>10.10</b>
13	HD2888 (C)	713	11.45	10.89	10.01	13.64	<b>11.49</b>	12.82	9.66	8.96	12.38	<b>10.96</b>	<b>11.23</b>
14	HD3339	714	11.09	8.59	8.36	11.29	<b>9.83</b>	10.41	9.31	8.71	10.24	<b>9.67</b>	<b>9.75</b>
15	HUW838	715	9.93	9.23	8.54	11.57	<b>9.82</b>	10.45	9.69	9.10	11.44	<b>10.17</b>	<b>9.99</b>
16	K1810	716	12.16	8.97	9.54	13.45	<b>11.03</b>	10.87	12.06	9.78	12.01	<b>11.18</b>	<b>11.10</b>
17	HD3337	717	11.52	9.46	9.26	12.59	<b>10.71</b>	10.20	9.19	9.48	12.06	<b>10.23</b>	<b>10.47</b>
18	K1809	718	12.41	8.31	9.31	12.72	<b>10.69</b>	10.10	11.63	8.93	10.90	<b>10.39</b>	<b>10.54</b>
19	HD3336	719	11.76	9.89	8.96	13.78	<b>11.10</b>	10.08	10.26	9.42	11.56	<b>10.33</b>	<b>10.71</b>
20	UP3036	720	12.79	8.72	8.45	13.56	<b>10.88</b>	9.63	9.18	10.33	11.54	<b>10.17</b>	<b>10.52</b>
21	WH1142 (C)	721	10.16	8.49	7.11	12.13	<b>9.47</b>	10.15	9.10	8.25	11.24	<b>9.68</b>	<b>9.58</b>
22	PBW644 (C)	722	10.71	8.04	8.41	11.30	<b>9.61</b>	10.03	8.98	8.99	11.21	<b>9.80</b>	<b>9.71</b>
23	HD3338	723	12.16	9.00	8.90	12.29	<b>10.59</b>	10.66	9.94	8.16	11.09	<b>9.96</b>	<b>10.28</b>
24	HD3335	724	11.05	8.78	8.45	12.11	<b>10.10</b>	9.01	9.64	8.78	10.07	<b>9.37</b>	<b>9.74</b>
25	PBW816	725	11.22	8.76	7.02	11.92	<b>9.73</b>	9.91	8.90	8.87	11.05	<b>9.68</b>	<b>9.71</b>
<b>Mean</b>			<b>11.48</b>	<b>8.93</b>	<b>8.66</b>	<b>12.50</b>	<b>10.39</b>	<b>10.37</b>	<b>9.74</b>	<b>9.13</b>	<b>11.23</b>	<b>10.12</b>	<b>10.26</b>

**Table 34: Sedimentation value (ml) of *T. aestivum* genotypes in NIVT-5A**

Sr. No.	Entry	Trial Code	NWPZ					NEPZ					Overall Mean
			Ludhiana	Hisar	Pantnagar	Delhi	Mean	Kanpur	Sabour	Pusa	Varanasi	Mean	
1	BRW3847	701	38	44	42	48	<b>43</b>	43	38	41	43	<b>41</b>	<b>42</b>
2	UP3037	702	40	42	30	39	<b>38</b>	38	35	39	41	<b>38</b>	<b>38</b>
3	DBW298	703	43	32	31	44	<b>38</b>	32	40	34	39	<b>36</b>	<b>37</b>
4	DBW297	704	38	37	37	46	<b>40</b>	33	43	40	38	<b>39</b>	<b>39</b>
5	K1317 (C)	705	33	36	40	40	<b>37</b>	35	36	39	38	<b>37</b>	<b>37</b>
6	DBW296	706	38	41	46	48	<b>43</b>	41	39	38	45	<b>41</b>	<b>42</b>
7	JAUW672	707	39	39	31	37	<b>37</b>	35	34	32	30	<b>33</b>	<b>35</b>
8	WH1268	708	41	37	30	36	<b>36</b>	36	35	33	31	<b>34</b>	<b>35</b>
9	DBW299	709	47	46	38	44	<b>44</b>	43	47	40	32	<b>41</b>	<b>42</b>
10	WH1269	710	46	44	39	46	<b>44</b>	44	47	38	50	<b>45</b>	<b>44</b>
11	PBW817	711	40	40	37	42	<b>40</b>	43	35	36	48	<b>41</b>	<b>40</b>
12	NW7069	712	38	48	44	44	<b>44</b>	40	37	30	45	<b>38</b>	<b>41</b>
13	HD2888 (C)	713	33	31	30	31	<b>31</b>	35	30	31	30	<b>32</b>	<b>31</b>
14	HD3339	714	35	39	30	33	<b>34</b>	34	32	35	31	<b>33</b>	<b>34</b>
15	HUW838	715	46	36	43	44	<b>42</b>	45	42	40	37	<b>41</b>	<b>42</b>
16	K1810	716	43	31	44	37	<b>39</b>	42	40	36	30	<b>37</b>	<b>38</b>
17	HD3337	717	38	30	31	39	<b>35</b>	31	30	33	35	<b>32</b>	<b>33</b>
18	K1809	718	40	35	42	38	<b>39</b>	34	31	34	38	<b>34</b>	<b>37</b>
19	HD3336	719	38	43	40	38	<b>40</b>	37	32	40	41	<b>38</b>	<b>39</b>
20	UP3036	720	48	50	45	46	<b>47</b>	46	30	44	44	<b>41</b>	<b>44</b>
21	WH1142 (C)	721	37	30	33	36	<b>34</b>	36	30	33	37	<b>34</b>	<b>34</b>
22	PBW644 (C)	722	38	31	35	37	<b>35</b>	38	31	37	35	<b>35</b>	<b>35</b>
23	HD3338	723	33	35	36	34	<b>35</b>	37	32	39	36	<b>36</b>	<b>35</b>
24	HD3335	724	34	30	38	39	<b>35</b>	34	30	34	35	<b>33</b>	<b>34</b>
25	PBW816	725	36	42	30	41	<b>37</b>	37	36	37	34	<b>36</b>	<b>37</b>
<b>Mean</b>			<b>39</b>	<b>38</b>	<b>37</b>	<b>40</b>	<b>39</b>	<b>38</b>	<b>36</b>	<b>37</b>	<b>38</b>	<b>37</b>	<b>38</b>

**Table 35: Phenol test score (Max-10) of *T. aestivum* genotypes in NIVT-5A**

Sr. No.	Entry	Trial Code	NWPZ					NEPZ					Overall Mean
			Ludhiana	Hisar	Pantnagar	Delhi	Mean	Kanpur	Sabour	Pusa	Varanasi	Mean	
1	BRW3847	701	5	5	4	5	<b>4.8</b>	5	5	5	5	<b>5.0</b>	<b>4.9</b>
2	UP3037	702	5	4	4	3	<b>4.0</b>	4	4	4	3	<b>3.8</b>	<b>3.9</b>
3	DBW298	703	8	7	8	8	<b>7.8</b>	8	7	7	7	<b>7.3</b>	<b>7.5</b>
4	DBW297	704	4	4	4	4	<b>4.0</b>	4	3	3	3	<b>3.3</b>	<b>3.6</b>
5	K1317 (C)	705	4	3	3	3	<b>3.3</b>	3	3	4	3	<b>3.3</b>	<b>3.3</b>
6	DBW296	706	7	8	7	7	<b>7.3</b>	7	6	7	7	<b>6.8</b>	<b>7.0</b>
7	JAUW672	707	8	8	7	8	<b>7.8</b>	8	7	8	8	<b>7.8</b>	<b>7.8</b>
8	WH1268	708	8	8	7	8	<b>7.8</b>	8	8	8	8	<b>8.0</b>	<b>7.9</b>
9	DBW299	709	8	7	8	8	<b>7.8</b>	8	8	8	8	<b>8.0</b>	<b>7.9</b>
10	WH1269	710	8	8	8	8	<b>8.0</b>	8	8	8	6	<b>7.5</b>	<b>7.8</b>
11	PBW817	711	7	7	7	8	<b>7.3</b>	8	6	7	8	<b>7.3</b>	<b>7.3</b>
12	NW7069	712	6	7	7	7	<b>6.8</b>	7	7	7	7	<b>7.0</b>	<b>6.9</b>
13	HD2888 (C)	713	4	3	3	3	<b>3.3</b>	3	3	4	3	<b>3.3</b>	<b>3.3</b>
14	HD3339	714	8	7	7	7	<b>7.3</b>	8	8	8	8	<b>8.0</b>	<b>7.6</b>
15	HUW838	715	7	8	8	8	<b>7.8</b>	8	8	8	7	<b>7.8</b>	<b>7.8</b>
16	K1810	716	8	8	8	8	<b>8.0</b>	7	8	7	8	<b>7.5</b>	<b>7.8</b>
17	HD3337	717	7	8	8	8	<b>7.8</b>	8	8	7	8	<b>7.8</b>	<b>7.8</b>
18	K1809	718	5	5	4	4	<b>4.5</b>	5	5	6	3	<b>4.8</b>	<b>4.6</b>
19	HD3336	719	8	7	8	8	<b>7.8</b>	7	7	7	8	<b>7.3</b>	<b>7.5</b>
20	UP3036	720	8	8	8	8	<b>8.0</b>	8	7	7	7	<b>7.3</b>	<b>7.6</b>
21	WH1142 (C)	721	8	8	7	8	<b>7.8</b>	8	7	8	8	<b>7.8</b>	<b>7.8</b>
22	PBW644 (C)	722	7	8	7	7	<b>7.3</b>	8	7	8	7	<b>7.5</b>	<b>7.4</b>
23	HD3338	723	8	8	7	7	<b>7.5</b>	8	7	8	7	<b>7.5</b>	<b>7.5</b>
24	HD3335	724	8	8	8	8	<b>8.0</b>	8	7	7	8	<b>7.5</b>	<b>7.8</b>
25	PBW816	725	7	7	7	8	<b>7.3</b>	8	8	8	8	<b>8.0</b>	<b>7.6</b>
<b>Mean</b>			<b>6.8</b>	<b>6.8</b>	<b>6.6</b>	<b>6.8</b>	<b>6.7</b>	<b>6.9</b>	<b>6.5</b>	<b>6.8</b>	<b>6.5</b>	<b>6.7</b>	<b>6.7</b>

**Table 36: Grain appearance score (Max-10) of *T. aestivum* and *T. durum* genotypes in NIVT-5B**

Sr. No.	Entry	Trial Code	CZ					PZ					Overall Mean
			Vijapur	Indore	P' Kheda	Junagarh	Mean	Dharwad	Bagalkot	Niphad	Pune	Mean	
<i>T. aestivum</i>													
1	MACS6736	801	6.5	6.2	4.8	6.5	<b>6.0</b>	6.4	6.0	6.3	6.6	<b>6.3</b>	<b>6.2</b>
2	GW520	804	6.6	6.8	5.0	6.8	<b>6.3</b>	6.7	6.4	6.8	7.0	<b>6.7</b>	<b>6.5</b>
3	HI1605 (C)	807	6.0	5.9	6.1	5.5	<b>5.9</b>	6.5	6.3	5.1	5.2	<b>5.8</b>	<b>5.8</b>
4	HI1645	809	6.9	6.3	5.5	6.0	<b>6.2</b>	6.4	6.1	6.6	5.5	<b>6.2</b>	<b>6.2</b>
5	UAS3009	811	6.0	5.8	6.5	5.5	<b>6.0</b>	6.8	5.4	6.9	5.4	<b>6.1</b>	<b>6.0</b>
6	UAS3010	812	5.8	5.8	6.0	5.5	<b>5.8</b>	6.7	6.0	6.5	5.3	<b>6.1</b>	<b>6.0</b>
7	DBW110 (C)	813	5.0	5.2	4.6	4.8	<b>4.9</b>	5.5	6.4	5.2	5.3	<b>5.6</b>	<b>5.3</b>
8	CG1033	814	6.5	6.8	5.7	7.0	<b>6.5</b>	7.0	6.5	7.1	6.5	<b>6.8</b>	<b>6.6</b>
9	HI1643	815	6.4	6.1	5.4	6.0	<b>6.0</b>	6.7	6.8	5.0	5.5	<b>6.0</b>	<b>6.0</b>
10	HI1644	816	6.5	6.3	5.8	6.1	<b>6.2</b>	6.0	5.8	6.6	5.5	<b>6.0</b>	<b>6.1</b>
11	NIAW3643	817	6.7	6.8	5.5	6.9	<b>6.5</b>	6.8	6.3	6.8	6.8	<b>6.7</b>	<b>6.6</b>
12	NIAW3624	818	8.4	9.0	6.2	8.3	<b>8.0</b>	8.5	8.4	8.2	8.4	<b>8.4</b>	<b>8.2</b>
13	DBW300	821	5.5	5.4	5.2	8.4	<b>6.1</b>	5.6	5.5	6.1	5.0	<b>5.6</b>	<b>5.8</b>
14	MP3512	823	6.5	6.2	6.0	6.5	<b>6.3</b>	6.5	6.0	6.4	5.5	<b>6.1</b>	<b>6.2</b>
15	MP1356	824	4.8	5.9	5.4	4.8	<b>5.2</b>	6.3	6.0	6.5	5.8	<b>6.2</b>	<b>5.7</b>
16	MP1358	825	5.9	6.2	4.1	6.1	<b>5.6</b>	6.8	6.1	6.5	6.0	<b>6.4</b>	<b>6.0</b>
<b>Mean</b>			<b>6.3</b>	<b>6.3</b>	<b>5.5</b>	<b>6.3</b>	<b>6.1</b>	<b>6.6</b>	<b>6.3</b>	<b>6.4</b>	<b>6.0</b>	<b>6.3</b>	<b>6.2</b>
<i>T. durum</i>													
17	MACS4087(d)	802	8.5	8.4	8.0	8.5	<b>8.4</b>	8.4	8.1	8.5	8.0	<b>8.3</b>	<b>8.3</b>
18	MPO1357(d)	803	5.5	8.2	8.0	5.9	<b>6.9</b>	8.1	7.3	7.6	8.0	<b>7.8</b>	<b>7.3</b>
19	GW1353(d)	805	7.8	7.0	6.0	7.5	<b>7.1</b>	6.5	8.3	8.1	6.0	<b>7.2</b>	<b>7.2</b>
20	UAS472(d)	806	7.0	8.0	7.0	6.5	<b>7.1</b>	8.0	7.5	8.6	8.0	<b>8.0</b>	<b>7.6</b>
21	HI8823(d)	819	7.9	7.8	7.0	7.5	<b>7.6</b>	7.0	8.2	7.6	7.1	<b>7.5</b>	<b>7.5</b>
22	HI8824(d)	820	6.5	7.0	6.8	7.0	<b>6.8</b>	7.0	8.0	7.5	7.0	<b>7.4</b>	<b>7.1</b>
23	DDW52(d)	822	6.5	6.5	6.2	6.2	<b>6.4</b>	8.3	7.4	7.4	6.5	<b>7.4</b>	<b>6.9</b>
24	HI8627(d) (C)	808	7.4	8.8	7.2	7.4	<b>7.7</b>	8.2	7.5	8.3	8.2	<b>8.1</b>	<b>7.9</b>
25	UAS446(d) (C)	810	5.8	8.0	7.0	7.8	<b>7.2</b>	8.2	7.3	7.1	7.6	<b>7.6</b>	<b>7.4</b>
<b>Mean</b>			<b>7.0</b>	<b>7.7</b>	<b>7.0</b>	<b>7.1</b>	<b>7.2</b>	<b>7.7</b>	<b>7.7</b>	<b>7.9</b>	<b>7.4</b>	<b>7.7</b>	<b>7.5</b>



**Table 37: Hectolitre weight (kg/hl) of *T. aestivum* and *T. durum* genotypes in NIVT-5B**

Sr. No.	Entry	Trial Code	CZ					PZ					Overall Mean
			Vijapur	Indore	P' Kheda	Junagarh	Mean	Dharwad	Bagalkot	Niphad	Pune	Mean	
<i>T. aestivum</i>													
1	MACS6736	801	85.4	86.7	86.2	88.3	<b>86.6</b>	84.5	84.5	85.9	84.4	<b>84.8</b>	<b>85.7</b>
2	GW520	804	83.5	86.0	86.3	85.8	<b>85.4</b>	83.3	84.3	86.1	84.4	<b>84.5</b>	<b>85.0</b>
3	HI1605 (C)	807	84.6	87.8	88.6	83.6	<b>86.2</b>	84.0	85.1	83.9	81.1	<b>83.5</b>	<b>84.8</b>
4	HI1645	809	83.8	86.2	85.2	82.4	<b>84.4</b>	81.9	82.4	83.6	80.6	<b>82.1</b>	<b>83.3</b>
5	UAS3009	811	79.2	83.6	83.6	77.6	<b>81.0</b>	80.9	81.4	82.3	80.6	<b>81.3</b>	<b>81.1</b>
6	UAS3010	812	84.4	88.9	87.1	82.4	<b>85.7</b>	85.7	85.5	87.4	82.1	<b>85.2</b>	<b>85.4</b>
7	DBW110 (C)	813	79.3	82.8	84.3	76.4	<b>80.7</b>	80.2	83.7	83.6	79.2	<b>81.7</b>	<b>81.2</b>
8	CG1033	814	85.4	88.1	88.0	85.8	<b>86.8</b>	85.2	85.3	88.3	87.2	<b>86.5</b>	<b>86.7</b>
9	HI1643	815	85.2	86.7	86.4	84.9	<b>85.8</b>	82.7	79.8	83.0	84.0	<b>82.4</b>	<b>84.1</b>
10	HI1644	816	83.9	87.0	86.1	81.9	<b>84.7</b>	83.4	83.3	86.5	82.2	<b>83.9</b>	<b>84.3</b>
11	NIAW3643	817	84.1	86.5	85.5	83.9	<b>85.0</b>	84.0	83.1	84.5	82.5	<b>83.5</b>	<b>84.3</b>
12	NIAW3624	818	81.4	84.3	81.6	81.3	<b>82.1</b>	79.8	80.6	80.4	79.4	<b>80.1</b>	<b>81.1</b>
13	DBW300	821	79.8	85.7	84.0	86.7	<b>84.0</b>	82.1	81.8	84.2	80.2	<b>82.1</b>	<b>83.1</b>
14	MP3512	823	85.1	87.3	86.3	84.7	<b>85.9</b>	83.0	85.0	87.5	84.1	<b>84.9</b>	<b>85.4</b>
15	MP1356	824	81.8	85.8	85.3	75.9	<b>82.2</b>	82.1	83.5	86.2	80.9	<b>83.2</b>	<b>82.7</b>
16	MP1358	825	82.9	84.2	84.7	81.0	<b>83.2</b>	82.9	82.5	86.2	82.4	<b>83.5</b>	<b>83.4</b>
<b>Mean</b>			<b>83.1</b>	<b>86.1</b>	<b>85.6</b>	<b>82.7</b>	<b>84.4</b>	<b>82.8</b>	<b>83.2</b>	<b>85.0</b>	<b>82.2</b>	<b>83.3</b>	<b>83.8</b>
<i>T. durum</i>													
17	MACS4087(d)	802	85.5	86.8	88.2	84.7	<b>86.3</b>	85.1	84.5	84.9	83.4	<b>84.5</b>	<b>85.4</b>
18	MPO1357(d)	803	78.4	87.1	89.3	83.5	<b>84.6</b>	85.0	82.9	86.6	84.8	<b>84.8</b>	<b>84.7</b>
19	GW1353(d)	805	76.9	79.2	78.7	74.0	<b>77.2</b>	74.4	76.2	79.7	74.1	<b>76.1</b>	<b>76.6</b>
20	UAS472(d)	806	84.4	86.4	88.4	81.8	<b>85.2</b>	85.3	84.7	88.1	83.7	<b>85.5</b>	<b>85.4</b>
21	HI8823(d)	819	86.9	90.3	90.5	84.5	<b>88.1</b>	86.0	80.5	88.7	85.6	<b>85.2</b>	<b>86.6</b>
22	HI8824(d)	820	83.0	87.8	88.0	80.6	<b>84.8</b>	84.2	82.1	82.8	83.2	<b>83.1</b>	<b>84.0</b>
23	DDW52(d)	822	82.9	87.9	87.5	81.6	<b>85.0</b>	85.9	83.7	86.1	81.9	<b>84.4</b>	<b>84.7</b>
24	HI8627(d) (C)	808	82.9	87.3	88.9	81.0	<b>85.0</b>	85.2	84.0	87.1	87.5	<b>85.9</b>	<b>85.5</b>
25	UAS446(d) (C)	810	83.2	87.6	87.3	82.2	<b>85.1</b>	83.9	83.6	85.6	86.1	<b>84.8</b>	<b>84.9</b>
<b>Mean</b>			<b>82.7</b>	<b>86.7</b>	<b>87.4</b>	<b>81.5</b>	<b>84.6</b>	<b>83.9</b>	<b>82.5</b>	<b>85.5</b>	<b>83.4</b>	<b>83.8</b>	<b>84.2</b>

**Table 38: Protein content (%) at 12% moisture basis of *T. aestivum* and *T. durum* genotypes in NIVT-5B**

Sr. No.	Entry	Trial Code	CZ					PZ					Overall Mean
			Vijapur	Indore	P' Kheda	Junagarh	Mean	Dharwad	Bagalkot	Niphad	Pune	Mean	
<i>T. aestivum</i>													
1	MACS6736	801	13.5	10.0	10.4	13.4	<b>11.8</b>	11.3	12.5	12.5	10.3	<b>11.6</b>	<b>11.7</b>
2	GW520	804	15.4	12.0	10.7	15.0	<b>13.3</b>	14.1	13.6	15.4	13.9	<b>14.3</b>	<b>13.8</b>
3	HI1605 (C)	807	14.2	11.3	10.0	15.8	<b>12.8</b>	12.2	12.7	15.2	13.6	<b>13.4</b>	<b>13.1</b>
4	HI1645	809	13.0	10.3	8.8	13.5	<b>11.4</b>	12.3	13.0	13.4	11.8	<b>12.6</b>	<b>12.0</b>
5	UAS3009	811	14.2	11.2	9.9	15.7	<b>12.7</b>	12.2	12.8	12.1	12.4	<b>12.4</b>	<b>12.6</b>
6	UAS3010	812	13.9	11.9	11.3	16.5	<b>13.4</b>	12.6	12.5	14.3	15.7	<b>13.8</b>	<b>13.6</b>
7	DBW110 (C)	813	14.0	10.6	8.5	15.2	<b>12.1</b>	13.0	11.9	13.6	15	<b>13.4</b>	<b>12.8</b>
8	CG1033	814	14.0	10.6	8.4	14.7	<b>11.9</b>	12.5	11.3	12.5	10.6	<b>11.7</b>	<b>11.8</b>
9	HI1643	815	12.3	11.1	9.6	12.7	<b>11.4</b>	10.8	11.6	12.5	9.6	<b>11.1</b>	<b>11.3</b>
10	HI1644	816	12.6	10.6	8.7	13.4	<b>11.3</b>	11.5	11.6	12.8	12.6	<b>12.1</b>	<b>11.7</b>
11	NIAW3643	817	14.0	11.1	8.9	13.6	<b>11.9</b>	12.0	12.8	12.6	11.8	<b>12.3</b>	<b>12.1</b>
12	NIAW3624	818	13.2	10.6	8.1	14.0	<b>11.5</b>	10.9	11.7	12.6	9.4	<b>11.2</b>	<b>11.4</b>
13	DBW300	821	15.8	11.3	11.4	15.0	<b>13.4</b>	12.9	13.9	13.8	14.8	<b>13.9</b>	<b>13.7</b>
14	MP3512	823	13.4	11.6	10.6	14.2	<b>12.4</b>	12.0	12.8	11.9	11.4	<b>12</b>	<b>12.2</b>
15	MP1356	824	14.4	11.7	10.6	15.8	<b>13.1</b>	11.1	12.3	12.2	12.8	<b>12.1</b>	<b>12.6</b>
16	MP1358	825	13.6	10.8	8.6	14.2	<b>11.8</b>	11.8	11.2	13.1	12.1	<b>12</b>	<b>11.9</b>
<b>Mean</b>			<b>13.8</b>	<b>11.0</b>	<b>9.7</b>	<b>14.5</b>	<b>12.3</b>	<b>12.1</b>	<b>12.4</b>	<b>13.2</b>	<b>12.4</b>	<b>12.5</b>	<b>12.4</b>
<i>T. durum</i>													
17	MACS4087(d)	802	14.7	10.8	9.0	15.7	<b>12.5</b>	12.8	13.1	14.6	14.5	<b>13.8</b>	<b>13.2</b>
18	MPO1357(d)	803	14.0	11.1	9.2	16.8	<b>12.8</b>	13.2	13.2	13.5	10.1	<b>12.5</b>	<b>12.7</b>
19	GW1353(d)	805	13.6	10.7	9.5	14.3	<b>12</b>	10.5	11.2	12.1	10.5	<b>11.1</b>	<b>11.6</b>
20	UAS472(d)	806	14.6	11.4	9.9	17.6	<b>13.4</b>	12.2	12.5	11.8	13.8	<b>12.6</b>	<b>13.0</b>
21	HI8823(d)	819	14.5	10.2	8.0	17.2	<b>12.5</b>	12.1	11.7	13.9	12.7	<b>12.6</b>	<b>12.6</b>
22	HI8824(d)	820	14.3	9.9	9.1	17.2	<b>12.6</b>	12.9	13.4	15.1	12.5	<b>13.5</b>	<b>13.1</b>
23	DDW52(d)	822	16.0	9.7	9.0	17.6	<b>13.1</b>	12.7	14.3	13.6	14.2	<b>13.7</b>	<b>13.4</b>
24	HI8627(d) (C)	808	15.2	9.8	9.3	17.5	<b>13</b>	11.9	14.1	14.6	9.9	<b>12.6</b>	<b>12.8</b>
25	UAS446(d) (C)	810	14.9	10.8	9.8	15.8	<b>12.8</b>	13.0	13.5	15.0	11.2	<b>13.2</b>	<b>13.0</b>
<b>Mean</b>			<b>14.6</b>	<b>10.5</b>	<b>9.2</b>	<b>16.6</b>	<b>12.7</b>	<b>12.4</b>	<b>13.0</b>	<b>13.8</b>	<b>12.2</b>	<b>12.8</b>	<b>12.8</b>

**Table 39: Sedimentation value (ml) of *T. aestivum* and *T. durum* genotypes in NIVT-5B**

Sr. No.	Entry	Trial Code	CZ					PZ					Overall Mean
			Vijapur	Indore	P' Kheda	Junagarh	Mean	Dharwad	Bagalkot	Niphad	Pune	Mean	
<i>T. aestivum</i>													
1	MACS6736	801	61	55	50	55	<b>55</b>	50	51	61	53	<b>54</b>	<b>54</b>
2	GW520	804	51	46	44	47	<b>47</b>	44	47	51	48	<b>47</b>	<b>47</b>
3	HI1605 (C)	807	60	57	51	58	<b>56</b>	53	57	59	59	<b>57</b>	<b>56</b>
4	HI1645	809	55	41	43	57	<b>49</b>	47	49	54	49	<b>50</b>	<b>49</b>
5	UAS3009	811	51	51	52	59	<b>53</b>	50	50	56	51	<b>51</b>	<b>52</b>
6	UAS3010	812	58	51	54	66	<b>57</b>	57	56	62	62	<b>59</b>	<b>58</b>
7	DBW110 (C)	813	59	48	48	62	<b>54</b>	55	49	62	56	<b>55</b>	<b>55</b>
8	CG1033	814	53	49	50	57	<b>52</b>	50	50	53	55	<b>52</b>	<b>52</b>
9	HI1643	815	38	37	35	40	<b>37</b>	37	44	40	50	<b>43</b>	<b>40</b>
10	HI1644	816	40	38	37	42	<b>39</b>	38	38	40	44	<b>40</b>	<b>39</b>
11	NIAW3643	817	49	41	44	56	<b>47</b>	44	46	51	50	<b>48</b>	<b>47</b>
12	NIAW3624	818	52	37	46	55	<b>47</b>	49	34	53	48	<b>46</b>	<b>47</b>
13	DBW300	821	62	47	51	59	<b>55</b>	54	52	60	55	<b>55</b>	<b>55</b>
14	MP3512	823	56	49	47	52	<b>51</b>	46	49	54	51	<b>50</b>	<b>51</b>
15	MP1356	824	53	48	48	53	<b>50</b>	50	48	56	54	<b>52</b>	<b>51</b>
16	MP1358	825	61	54	51	64	<b>57</b>	52	53	62	60	<b>57</b>	<b>57</b>
<b>Mean</b>			<b>54</b>	<b>47</b>	<b>47</b>	<b>55</b>	<b>50</b>	<b>49</b>	<b>48</b>	<b>55</b>	<b>53</b>	<b>51</b>	<b>51</b>
<i>T. durum</i>													
17	MACS4087(d)	802	32	26	30	33	<b>30</b>	32	34	33	32	<b>33</b>	<b>31</b>
18	MPO1357(d)	803	33	22	29	34	<b>29</b>	34	31	31	30	<b>31</b>	<b>30</b>
19	GW1353(d)	805	30	26	26	30	<b>28</b>	30	28	30	28	<b>29</b>	<b>28</b>
20	UAS472(d)	806	32	27	30	36	<b>31</b>	32	31	31	32	<b>31</b>	<b>31</b>
21	HI8823(d)	819	30	27	30	33	<b>30</b>	31	32	32	32	<b>32</b>	<b>31</b>
22	HI8824(d)	820	36	30	34	40	<b>35</b>	34	35	33	33	<b>34</b>	<b>34</b>
23	DDW52(d)	822	34	30	34	37	<b>34</b>	34	32	30	36	<b>33</b>	<b>33</b>
24	HI8627(d) (C)	808	31	26	28	36	<b>30</b>	31	30	30	29	<b>30</b>	<b>30</b>
25	UAS446(d) (C)	810	40	32	38	47	<b>39</b>	42	41	41	40	<b>41</b>	<b>40</b>
<b>Mean</b>			<b>33</b>	<b>27</b>	<b>31</b>	<b>36</b>	<b>32</b>	<b>33</b>	<b>33</b>	<b>32</b>	<b>32</b>	<b>33</b>	<b>32</b>

**Table 40: Yellow berry incidence (%) of *T. aestivum* and *T. durum* genotypes in NIVT-5B**

Sr. No.	Entry	Trial Code	CZ					PZ					Overall Mean
			Vijapur	Indore	P' Kheda	Junagarh	Mean	Dharwad	Bagalkot	Niphad	Pune	Mean	
<i>T. aestivum</i>													
1	MACS6736	801	1	7	10	1	5	7	5	1	6	5	5
2	GW520	804	1	0	5	1	2	1	1	0	1	1	1
3	HI1605 (C)	807	0	3	3	0	1	0	1	1	1	0	1
4	HI1645	809	0	2	11	1	3	1	0	0	2	1	2
5	UAS3009	811	0	5	5	1	3	3	2	2	1	2	2
6	UAS3010	812	0	1	3	0	1	0	0	0	0	0	0
7	DBW110 (C)	813	2	10	35	2	12	3	0	0	0	1	6
8	CG1033	814	0	2	10	0	3	1	4	0	1	1	2
9	HI1643	815	0	4	17	0	5	1	3	0	8	3	4
10	HI1644	816	0	1	6	1	2	0	2	0	1	1	1
11	NIAW3643	817	0	2	14	0	4	1	0	0	2	1	2
12	NIAW3624	818	2	4	25	0	8	2	2	1	16	5	6
13	DBW300	821	0	0	2	0	0	1	1	0	0	0	0
14	MP3512	823	0	6	4	0	2	3	5	1	2	3	2
15	MP1356	824	1	1	2	0	1	1	0	0	0	0	0
16	MP1358	825	0	2	22	1	6	0	6	1	2	2	4
<b>Mean</b>			<b>0</b>	<b>3</b>	<b>11</b>	<b>1</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>2</b>
<i>T. durum</i>													
17	MACS4087(d)	802	0	4	15	1	5	0	2	1	1	1	3
18	MPO1357(d)	803	1	1	8	1	3	1	0	1	2	1	2
19	GW1353(d)	805	0	23	39	0	15	11	4	2	9	6	11
20	UAS472(d)	806	0	0	13	1	3	2	4	1	2	2	3
21	HI8823(d)	819	0	4	33	0	9	1	3	1	2	2	5
22	HI8824(d)	820	1	15	19	0	9	1	2	0	1	1	5
23	DDW52(d)	822	1	16	7	1	6	2	1	2	1	2	4
24	HI8627(d) (C)	808	0	9	23	1	8	2	1	1	5	2	5
25	UAS446(d) (C)	810	0	6	13	0	5	1	0	0	0	0	2
<b>Mean</b>			<b>0</b>	<b>9</b>	<b>19</b>	<b>1</b>	<b>7</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>4</b>

**Table 41: Yellow pigment content (ppm) of *T. aestivum* and *T. durum* genotypes in NIVT-5B**

Sr. No.	Entry	Trial Code	CZ					PZ					Overall Mean
			Vijapur	Indore	P' Kheda	Junagarh	Mean	Dharwad	Bagalkot	Niphad	Pune	Mean	
<i>T. aestivum</i>													
1	MACS6736	801	3.00	2.87	3.45	3.49	<b>3.20</b>	3.65	3.08	3.18	3.42	<b>3.33</b>	<b>3.27</b>
2	GW520	804	3.50	3.22	3.22	2.46	<b>3.10</b>	2.50	3.03	3.08	3.17	<b>2.94</b>	<b>3.02</b>
3	HI1605 (C)	807	3.41	3.39	3.18	4.00	<b>3.50</b>	3.72	3.02	3.41	3.19	<b>3.33</b>	<b>3.42</b>
4	HI1645	809	3.81	3.43	3.40	4.72	<b>3.84</b>	3.96	3.51	3.79	4.10	<b>3.84</b>	<b>3.84</b>
5	UAS3009	811	3.77	5.60	3.11	4.58	<b>4.26</b>	4.05	3.44	3.41	3.67	<b>3.64</b>	<b>3.95</b>
6	UAS3010	812	3.76	3.04	3.35	2.74	<b>3.22</b>	2.25	4.28	3.64	3.36	<b>3.38</b>	<b>3.30</b>
7	DBW110 (C)	813	3.30	2.99	3.28	4.23	<b>3.45</b>	3.33	3.97	3.45	3.14	<b>3.47</b>	<b>3.46</b>
8	CG1033	814	2.33	2.74	3.25	3.00	<b>2.83</b>	2.45	2.92	2.89	3.62	<b>2.97</b>	<b>2.90</b>
9	HI1643	815	3.59	3.57	3.14	3.51	<b>3.45</b>	4.04	3.65	3.39	3.34	<b>3.61</b>	<b>3.53</b>
10	HI1644	816	2.91	3.11	3.11	2.88	<b>3.00</b>	2.86	3.58	3.11	3.08	<b>3.16</b>	<b>3.08</b>
11	NIAW3643	817	4.05	2.96	3.27	4.58	<b>3.72</b>	4.31	3.22	3.67	3.54	<b>3.69</b>	<b>3.70</b>
12	NIAW3624	818	2.96	2.82	3.21	3.01	<b>3.00</b>	2.85	3.67	3.41	3.46	<b>3.35</b>	<b>3.18</b>
13	DBW300	821	3.77	3.12	3.22	5.97	<b>4.02</b>	4.20	3.58	3.55	4.48	<b>3.95</b>	<b>3.99</b>
14	MP3512	823	3.11	2.80	3.05	4.33	<b>3.32</b>	3.80	3.48	3.94	3.72	<b>3.74</b>	<b>3.53</b>
15	MP1356	824	3.90	3.05	4.40	3.80	<b>3.79</b>	3.39	3.88	3.95	4.03	<b>3.81</b>	<b>3.80</b>
16	MP1358	825	3.62	2.72	2.91	4.41	<b>3.42</b>	3.92	3.15	3.30	3.54	<b>3.48</b>	<b>3.45</b>
<b>Mean</b>			<b>3.42</b>	<b>3.21</b>	<b>3.28</b>	<b>3.86</b>	<b>3.45</b>	<b>3.46</b>	<b>3.47</b>	<b>3.45</b>	<b>3.55</b>	<b>3.48</b>	<b>3.46</b>
<i>T. durum</i>													
17	MACS4087(d)	802	3.66	4.04	3.84	3.58	<b>3.78</b>	3.93	3.98	4.31	4.45	<b>4.17</b>	<b>3.97</b>
18	MPO1357(d)	803	7.48	6.61	6.53	6.91	<b>6.88</b>	7.86	7.60	6.40	6.76	<b>7.16</b>	<b>7.02</b>
19	GW1353(d)	805	4.04	3.01	3.80	4.54	<b>3.85</b>	4.74	4.26	3.88	4.03	<b>4.23</b>	<b>4.04</b>
20	UAS472(d)	806	6.91	6.87	6.46	6.25	<b>6.62</b>	6.58	6.71	6.38	6.86	<b>6.63</b>	<b>6.63</b>
21	HI8823(d)	819	5.22	5.24	5.32	6.84	<b>5.65</b>	6.69	4.91	5.96	6.69	<b>6.06</b>	<b>5.86</b>
22	HI8824(d)	820	6.04	5.50	5.17	5.26	<b>5.49</b>	5.47	5.86	5.91	5.73	<b>5.74</b>	<b>5.62</b>
23	DDW52(d)	822	6.12	5.67	5.40	6.62	<b>5.95</b>	6.37	6.76	6.17	6.57	<b>6.47</b>	<b>6.21</b>
24	HI8627(d) (C)	808	6.63	6.47	6.06	6.33	<b>6.37</b>	6.06	7.27	6.24	7.19	<b>6.69</b>	<b>6.53</b>
25	UAS446(d) (C)	810	6.00	5.43	5.51	7.09	<b>6.01</b>	6.08	6.36	6.19	6.01	<b>6.16</b>	<b>6.08</b>
<b>Mean</b>			<b>5.79</b>	<b>5.43</b>	<b>5.34</b>	<b>5.94</b>	<b>5.62</b>	<b>5.98</b>	<b>5.97</b>	<b>5.72</b>	<b>6.03</b>	<b>5.92</b>	<b>5.77</b>

**Table 42: Grain appearance score (Max-10) of *T. aestivum* genotypes in Northern Hills Zone IVT**

Sr. No.	Entry	Trial Code	Almora	Shimla	Malan	Mean
Rainfed Timely Sown						
1	HS507 (C)	1805	5.0	5.4	5.8	<b>5.4</b>
2	HS562 (C)	1812	5.4	5.8	5.4	<b>5.5</b>
3	HD3340	1816	5.4	5.6	5.8	<b>5.6</b>
4	HPW462	1801	4.4	5.6	5.0	<b>5.0</b>
5	HPW463	1815	4.6	5.4	5.2	<b>5.1</b>
6	HPW464	1814	4.6	5.6	5.2	<b>5.1</b>
7	HPW466	1802	4.8	5.8	5.0	<b>5.2</b>
8	HS667	1808	5.4	5.8	5.2	<b>5.5</b>
9	HS668	1809	5.2	6.2	5.8	<b>5.7</b>
10	HS669	1810	5.2	5.4	5.6	<b>5.4</b>
11	UP3038	1806	5.2	5.6	5.8	<b>5.5</b>
12	UP3039	1811	4.8	6.0	5.8	<b>5.5</b>
13	VL2035	1807	5.6	5.8	5.2	<b>5.5</b>
14	VL2036	1813	4.8	5.6	5.4	<b>5.3</b>
15	VL2037	1804	5.6	6.0	6.0	<b>5.9</b>
16	VL2038	1803	4.6	5.6	4.8	<b>5.0</b>
<b>Mean</b>			<b>5.0</b>	<b>5.7</b>	<b>5.4</b>	<b>5.4</b>

**Table 43: Hectolitre weight (kg/hl) of *T. aestivum* genotypes in Northern Hills Zone IVT**

Sr. No.	Entry	Trial Code	Almora	Shimla	Malan	Mean
Rainfed Timely Sown						
1	HS507 (C)	1805	77.3	81.0	81.0	<b>79.8</b>
2	HS562 (C)	1812	75.7	79.6	80.5	<b>78.6</b>
3	HD3340	1816	74.6	78.0	81.1	<b>77.9</b>
4	HPW462	1801	73.7	79.0	79.5	<b>77.4</b>
5	HPW463	1815	74.7	76.7	78.7	<b>76.7</b>
6	HPW464	1814	69.5	81.0	81.0	<b>77.2</b>
7	HPW466	1802	75.0	80.0	79.6	<b>78.2</b>
8	HS667	1808	75.0	82.6	81.4	<b>79.7</b>
9	HS668	1809	78.0	82.0	81.6	<b>80.5</b>
10	HS669	1810	74.0	80.7	80.3	<b>78.3</b>
11	UP3038	1806	78.6	82.4	81.7	<b>80.9</b>
12	UP3039	1811	75.0	81.6	80.8	<b>79.1</b>
13	VL2035	1807	77.4	80.6	80.0	<b>79.3</b>
14	VL2036	1813	74.6	79.9	79.7	<b>78.1</b>
15	VL2037	1804	78.7	82.0	82.6	<b>81.1</b>
16	VL2038	1803	75.2	82.0	80.7	<b>79.3</b>
<b>Mean</b>			<b>75.4</b>	<b>80.6</b>	<b>80.6</b>	<b>78.9</b>

**Table 44: Protein content (%) at 12% moisture basis of *T. aestivum* genotypes in Northern Hills Zone IVT**

Sr. No.	Entry	Trial Code	Almora	Shimla	Malan	Mean
Rainfed Timely Sown						
1	HS507 (C)	1805	10.55	8.65	8.63	<b>9.28</b>
2	HS562 (C)	1812	10.75	7.86	7.55	<b>8.72</b>
3	HD3340	1816	11.98	12.93	9.4	<b>11.44</b>
4	HPW462	1801	10.87	9.89	8.19	<b>9.65</b>
5	HPW463	1815	11.37	10.95	8.92	<b>10.42</b>
6	HPW464	1814	10.74	10.42	7.98	<b>9.71</b>
7	HPW466	1802	10.29	10.25	7.91	<b>9.48</b>
8	HS667	1808	11.8	8.16	8.45	<b>9.47</b>
9	HS668	1809	10.85	8.39	8.1	<b>9.11</b>
10	HS669	1810	10.74	7.14	8.16	<b>8.68</b>
11	UP3038	1806	10.48	7.99	8.22	<b>8.89</b>
12	UP3039	1811	11.19	9.25	8.82	<b>9.75</b>
13	VL2035	1807	10.26	7.63	7.52	<b>8.47</b>
14	VL2036	1813	10.92	9.27	7.98	<b>9.39</b>
15	VL2037	1804	10.92	9.81	9.11	<b>9.94</b>
16	VL2038	1803	10.53	7.61	8.55	<b>8.89</b>
<b>Mean</b>			<b>10.89</b>	<b>9.14</b>	<b>8.34</b>	<b>9.46</b>

**Table 45: Sedimentation value (ml) of *T. aestivum* genotypes in Northern Hills Zone IVT**

Sr. No.	Entry	Trial Code	Almora	Shimla	Malan	Mean
Rainfed Timely Sown						
1	HS507 (C)	1805	13	45	48	<b>35</b>
2	HS562 (C)	1812	70	48	55	<b>58</b>
3	HD3340	1816	57	55	53	<b>55</b>
4	HPW462	1801	49	43	48	<b>47</b>
5	HPW463	1815	50	50	53	<b>51</b>
6	HPW464	1814	48	50	50	<b>50</b>
7	HPW466	1802	48	52	48	<b>49</b>
8	HS667	1808	67	48	51	<b>55</b>
9	HS668	1809	46	41	46	<b>44</b>
10	HS669	1810	46	35	46	<b>42</b>
11	UP3038	1806	69	57	62	<b>63</b>
12	UP3039	1811	68	56	62	<b>62</b>
13	VL2035	1807	67	52	53	<b>57</b>
14	VL2036	1813	67	60	60	<b>62</b>
15	VL2037	1804	53	65	62	<b>60</b>
16	VL2038	1803	40	34	40	<b>38</b>
<b>Mean</b>			<b>54</b>	<b>49</b>	<b>52</b>	<b>52</b>

**Table 46: Phenol test score of *T. aestivum* genotypes in Northern Hills Zone IVT**

Sr. No.	Entry	Trial Code	Almora	Shimla	Malan	Mean
Rainfed Timely Sown						
1	HS507 (C)	1805	6.0	6.0	7.5	<b>6.5</b>
2	HS562 (C)	1812	7.0	6.5	8.0	<b>7.2</b>
3	HD3340	1816	7.0	7.0	8.5	<b>7.5</b>
4	HPW462	1801	7.5	6.5	8.0	<b>7.3</b>
5	HPW463	1815	7.5	7.5	8.5	<b>7.8</b>
6	HPW464	1814	8.0	6.0	8.0	<b>7.3</b>
7	HPW466	1802	6.5	6.0	7.5	<b>6.7</b>
8	HS667	1808	5.0	4.5	5.5	<b>5.0</b>
9	HS668	1809	6.0	5.5	8.5	<b>6.7</b>
10	HS669	1810	6.0	6.0	8.0	<b>6.7</b>
11	UP3038	1806	6.5	6.5	9.0	<b>7.3</b>
12	UP3039	1811	7.0	7.5	9.5	<b>8.0</b>
13	VL2035	1807	5.0	5.5	6.0	<b>5.5</b>
14	VL2036	1813	6.0	6.0	7.5	<b>6.5</b>
15	VL2037	1804	4.0	4.0	6.0	<b>4.7</b>
16	VL2038	1803	4.0	4.0	8.0	<b>5.3</b>
<b>Mean</b>			<b>6.2</b>	<b>5.9</b>	<b>7.8</b>	<b>6.6</b>

**Table 47: Hardness index of *T. aestivum* genotypes in Northern Hills Zone IVT**

Sr. No.	Entry	Trial Code	Almora	Shimla	Malan	Mean
Rainfed Timely Sown						
1	HS507 (C)	1805			76	76
2	HS562 (C)	1812			75	75
3	HD3340	1816			73	73
4	HPW462	1801			54	54
5	HPW463	1815			61	61
6	HPW464	1814			61	61
7	HPW466	1802			61	61
8	HS667	1808			82	82
9	HS668	1809			78	78
10	HS669	1810			69	69
11	UP3038	1806			74	74
12	UP3039	1811			75	75
13	VL2035	1807			69	69
14	VL2036	1813			64	64
15	VL2037	1804			84	84
16	VL2038	1803			77	77
<b>Mean</b>					<b>71</b>	<b>71</b>



**Table 48: Grain Iron content (ppm) of *T. aestivum* genotypes in Northern Hills Zone IVT**

Sr. No.	Entry	Trial Code	Almora	Shimla	Malan	Mean
Rainfed Timely Sown						
1	HS507 (C)	1805	37.4	33.0	40.9	<b>37.1</b>
2	HS562 (C)	1812	35.4	36.1	44.0	<b>38.5</b>
3	HD3340	1816	39.7	43.1	40.9	<b>41.2</b>
4	HPW462	1801	36.2	40.7	47.4	<b>41.4</b>
5	HPW463	1815	32.8	48.6	38.1	<b>39.8</b>
6	HPW464	1814	33.0	37.7	43.3	<b>38.0</b>
7	HPW466	1802	37.6	37.5	38.2	<b>37.8</b>
8	HS667	1808	36.6	33.4	41.3	<b>37.1</b>
9	HS668	1809	37.2	38.6	40.7	<b>38.8</b>
10	HS669	1810	31.5	33.3	40.8	<b>35.2</b>
11	UP3038	1806	31.9	34.7	41.7	<b>36.1</b>
12	UP3039	1811	36.5	47.5	48.0	<b>44.0</b>
13	VL2035	1807	37.6	35.5	36.9	<b>36.7</b>
14	VL2036	1813	36.2	38.1	42.1	<b>38.8</b>
15	VL2037	1804	39.8	41.6	45.5	<b>42.3</b>
16	VL2038	1803	36.7	35.9	46.3	<b>39.6</b>
<b>Mean</b>			<b>36.0</b>	<b>38.5</b>	<b>42.3</b>	<b>38.9</b>

**Table 49: Grain Zinc content (ppm) of *T. aestivum* genotypes in Northern Hills Zone IVT**

Sr. No.	Entry	Trial Code	Almora	Shimla	Malan	Mean
Rainfed Timely Sown						
1	HS507 (C)	1805	46.1	28.0	21.2	<b>31.8</b>
2	HS562 (C)	1812	45.6	26.3	26.7	<b>32.9</b>
3	HD3340	1816	54.2	44.4	29.4	<b>42.7</b>
4	HPW462	1801	42.7	38.3	23.1	<b>34.7</b>
5	HPW463	1815	44.4	45.3	20.8	<b>36.8</b>
6	HPW464	1814	36.4	38.0	25.2	<b>33.2</b>
7	HPW466	1802	48.9	34.7	23.7	<b>35.8</b>
8	HS667	1808	43.4	27.4	22.9	<b>31.2</b>
9	HS668	1809	51.2	38.5	27.7	<b>39.1</b>
10	HS669	1810	38.6	26.6	27.4	<b>30.9</b>
11	UP3038	1806	35.2	27.5	23.3	<b>28.7</b>
12	UP3039	1811	39.1	34.6	25.3	<b>33.0</b>
13	VL2035	1807	42.3	26.5	23.5	<b>30.8</b>
14	VL2036	1813	40.2	31.9	20.9	<b>31.0</b>
15	VL2037	1804	51.7	36.2	28.7	<b>38.9</b>
16	VL2038	1803	46.9	33.7	29.9	<b>36.8</b>
<b>Mean</b>			<b>44.2</b>	<b>33.6</b>	<b>25.0</b>	<b>34.3</b>

# **SECTION D**

## **NURSERY**

### **QCWBN**

## Quality Component & Wheat Biofortification Nursery (QCWBN)

In 2018-19, the QCSN and biofortification nurseries were combined to make a single nursery QCWBN. The nursery was constituted to select useful donors for quality traits and micronutrient content. The nursery were evaluated from 12 locations having 52 entries including 7 checks namely UP 2672, MACS 6222, HD 2967, WB2, HD 3086, GW 322 and HS 490. Grain quality analysis was done at IIBWR, Karnal. Samples from Twelve centres were analysed for 4 parameters namely grain protein content at 12% grain moisture level, hectolitre weight, sedimentation value, grain appearance score and grain hardness index from 4 centres representing one centre from each zone (Table 1-5). Iron and zinc analysis was conducted of the hand thrashed samples provided by six centres only (Table 6-7).

**Quality analysis:** GW 20171-596 and UP 2994 recorded highest grain protein content of 14.6% and 13.8% respectively. HD3304, HD3241 recorded highest sedimentation value (75) followed by HD3215 (73). QLD112 was the softest genotype with grain hardness index of 15 followed by QLD110 (43). UP2994 recorded highest Iron content of 49.0 ppm followed by BWL-7800 with 48.3 ppm. BWL-7805 recorded highest Zinc content of 46.9 ppm followed by Raj 4541 (46.3 ppm).

### Promising genotypes identified in QCSN 2018-19 for individual quality parameters

Component	Genotypes	Range	Best Check
Protein content (%)	GW20171-596, UP2994	13.8 - 14.6	WB2 (13.5)
Sedimentation value (ml)	HD3304, HD3241, HD3215	73 - 75	WB2 (72)
Grain hardness index (hard wheat)	DBP-17-05 ( D ), NIAW3284, QLD109	87 - 89	GW 322 & HD 3086 (84)
Grain hardness index (soft wheat)	QLD112	15.0	HS 490 (30)
Hectolitre weight (Kg/hl)	RAJ-4541, QLD109, QBP-18-8, QBP-18-10, KA-1805, UP2994	80.2- 82.5	HD 3086 (78.2)
Grain appearance score (Max. score 10)	RAJ-4541, UP2994, QBP-18-10, QBP-18-19	7.0 - 7.2	MACS 6222 (6.7)
Iron content (ppm)	UP2994, BWL-7800, QBP-17-7	48.1 – 49.0	WB2 (44.8)
Zinc content (ppm)	BWL-7805, Raj-4541, BWL-7800, UP2994	43.5 – 46.9	UP 2672 (39.8)

## Quality analysis of Quality Component Screening Nursery (QCSN) of preliminary Entries

At Karnal centre, 68 new genotypes contributed by the co-operators were evaluated for quality parameters. Thirteen entries had grain protein content more than 14.0% (on 12% moisture basis). Hectolitre weight of twelve entries was more than 80.0 Kg/hl. Seven entries had hectolitre weight of less than 70 Kg/hl. Nineteen entries gave sedimentation volume of more than 65ml. The grain appearance of eleven entries was poor ( $\leq 4.0$ ), six entries had score of  $\geq 7.0$ . Promising genotypes are given in the table below.

**Table : Promising genotypes noted in preliminary screening**

Component	Genotypes	Range
Protein content (%)	QBP-18-15, GW-2018-930(d), GW-2018-936(d), GW-2018-934(d), BWL-5429	15.03 – 16.52
Sedimentation Value (ml)	QBP-18-14, QBP-18-15, BWL-8035, BWL-5429, NIAW3889, KA1821, MP-3522, MP-3520	73 - 76
Hectolitre weight (kg/hl)	BWL-8035, NIAW-3877, GW-2018-931(d)	81.4 – 82.0
Grain appearance score (Max 10)	GW-2018-935(d), BWL-8035, GW-2018-896, AKAW-5079, QBP-18-14 BWL-8036	7.0 – 7.4

**Table 1: Grain appearance score (Max-10) of QCWBN entries**

Sr. No.	Genotype	NWPZ					NEPZ		
		Karnal	Ludhiana	Pantnagar	Delhi	Mean	Kanpur	Sabour	Mean
1	DR-16-05	5.0	-	6.2	3.5	<b>4.9</b>	5.4	4.0	<b>4.7</b>
2	VA-2016-17	5.0	3.6	6.2	6.0	<b>5.2</b>	7.2	5.2	<b>6.2</b>
3	UP2672 ( C )	6.0	5.4	6.4	6.2	<b>6.0</b>	7.0	5.4	<b>6.2</b>
4	VA-2016-37	6.2	4.6	6.4	6.4	<b>5.9</b>	7.2	5.6	<b>6.4</b>
5	HD3215	6.6	4.6	6.0	6.4	<b>5.9</b>	7.0	4.6	<b>5.8</b>
6	MACS6222 ( C )	6.8	5.6	6.2	6.4	<b>6.3</b>	7.2	4.8	<b>6.0</b>
7	JWS855	5.2	-	5.8	5.4	<b>5.5</b>	6.4	4.8	<b>5.6</b>
8	HD2967 ( C )	6.4	5.8	6.2	6.4	<b>6.2</b>	6.6	5.0	<b>5.8</b>
9	WB2 ( C )	6.4	5.6	6.6	6.2	<b>6.2</b>	6.8	5.2	<b>6.0</b>
10	HD3086 ( C )	6.4	6.2	6.4	6.2	<b>6.3</b>	7.8	6.2	<b>7.0</b>
11	DBP-17-05 ( D )	6.2	4.0	6.2	5.8	<b>5.6</b>	5.0	4.0	<b>4.5</b>
12	GW322 ( C )	6.0	3.8	6.2	5.8	<b>5.5</b>	7.6	4.6	<b>6.1</b>
13	QLD102	6.4	5.4	5.8	6.2	<b>6.0</b>	6.4	4.8	<b>5.6</b>
14	HS490 ( C )	6.0	4.6	6.0	5.4	<b>5.5</b>	6.8	4.0	<b>5.4</b>
15	BNSR-1	6.0	5.6	6.0	6.6	<b>6.1</b>	7.8	4.4	<b>6.1</b>
16	BWL-7809	5.8	5.4	5.8	6.4	<b>5.9</b>	8.0	4.8	<b>6.4</b>
17	BNSR-2	6.8	5.4	6.4	6.6	<b>6.3</b>	7.6	6.2	<b>6.9</b>
18	SBP-MABB-1	6.4	4.6	6.2	6.6	<b>6.0</b>	7.6	6.0	<b>6.8</b>
19	MP-3532	5.8	3.6	5.8	6.2	<b>5.4</b>	7.0	5.6	<b>6.3</b>
23	QBP-18-8	6.8	5.6	7.0	6.6	<b>6.5</b>	7.8	6.0	<b>6.0</b>
24	RAJ-4541	7.0	5.8	7.0	7.6	<b>6.9</b>	8.0	5.8	<b>6.9</b>
25	BWL-7803	6.6	6.0	6.2	6.6	<b>6.4</b>	7.6	5.6	<b>6.6</b>
26	SBP-MABB-5	6.2	5.6	6.0	6.2	<b>6.0</b>	7.6	5.8	<b>6.7</b>
29	QLD112	5.8	6.0	5.8	5.8	<b>5.9</b>	6.2	5.6	<b>5.9</b>
31	DR-18-07	5.2	-	5.2	3.5	<b>4.6</b>	5.4	-	<b>5.4</b>
34	HPW-459	5.8	5.4	6.0	5.6	<b>5.7</b>	6.4	5.6	<b>6.0</b>
36	NIAW-3284	6.8	-	6.4	6.4	<b>6.5</b>	6.6	5.8	<b>6.2</b>
37	QLD109	6.2	5.6	6.4	6.2	<b>6.1</b>	6.6	5.8	<b>6.2</b>
39	DR-17-10	5.0	-	5.4	4.0	<b>4.8</b>	5.4	4.0	<b>4.7</b>
42	GW2017-825	7.0	3.6	6.6	6.6	<b>6.0</b>	7.2	6.0	<b>6.6</b>
44	KA-1805	6.0	5.4	6.4	6.6	<b>6.1</b>	7.0	5.6	<b>6.3</b>
46	HD3310	6.6	5.8	6.8	6.6	<b>6.5</b>	6.8	5.8	<b>6.3</b>
47	UP2996	7.0	5.6	6.8	6.4	<b>6.5</b>	7.6	5.8	<b>6.7</b>
48	SBP-MABB-4	5.6	3.8	6.2	6.2	<b>5.5</b>	7.0	5.2	<b>6.1</b>
49	QLD107	5.8	5.8	6.4	6.6	<b>6.2</b>	7.8	5.4	<b>6.6</b>
51	QBP-18-19	7.2	6.0	7.2	6.6	<b>6.8</b>	8.0	5.8	<b>6.9</b>
54	DBP-17-02 ( D )	7.0	5.6	6.4	5.6	<b>6.2</b>	7.6	6.2	<b>6.9</b>
56	QBP-17-7	6.6	5.0	6.4	6.2	<b>6.1</b>	6.6	5.4	<b>6.0</b>
57	HD3241	7.2	5.6	6.8	6.4	<b>6.5</b>	6.6	5.2	<b>5.9</b>
58	SBP-MABB-6	6.6	5.4	6.6	6.0	<b>6.2</b>	6.6	5.8	<b>6.2</b>
60	QBP-18-10	6.4	6.4	6.8	7.0	<b>6.7</b>	7.8	6.2	<b>7.0</b>
61	QLD101	7.0	6.0	6.6	6.6	<b>6.6</b>	6.6	5.2	<b>5.9</b>
64	QLD98	6.2	5.2	6.4	6.8	<b>6.2</b>	7.6	5.8	<b>6.7</b>
68	QLD111	6.4	5.8	6.6	6.6	<b>6.4</b>	6.2	5.4	<b>5.8</b>
69	HD3304	6.4	6.2	6.6	6.8	<b>6.5</b>	6.8	4.8	<b>5.8</b>
71	BWL-7805	6.8	5.4	6.6	6.4	<b>6.3</b>	6.8	4.8	<b>5.8</b>
73	GW20171-596	7.0	3.6	6.6	6.4	<b>5.9</b>	7.6	5.4	<b>6.5</b>
74	QLD110	6.2	6.0	6.4	6.0	<b>6.2</b>	7.4	5.8	<b>6.6</b>
76	QLD108	7.0	6.2	6.8	7.0	<b>6.8</b>	7.8	5.6	<b>6.7</b>
78	BWL-7800	6.8	4.0	6.2	6.4	<b>5.9</b>	7.8	5.2	<b>6.5</b>
79	UP2994	6.8	6.2	7.0	7.0	<b>6.8</b>	7.8	6.8	<b>7.3</b>
80	QBP-18-11	6.4	6.0	6.0	6.2	<b>6.2</b>	7.4	4.8	<b>6.1</b>
<b>Mean</b>		<b>6.3</b>	<b>5.3</b>	<b>6.3</b>	<b>6.2</b>	<b>6.0</b>	<b>7.0</b>	<b>5.4</b>	<b>6.2</b>

Grain appearance score continues

Sr. No.	Genotype	CZ					PZ			Overall Mean
		Vijapur	Jabalpur	P'kheda	Indore	Mean	Pune	Dharwad	Mean	
1	DR-16-05	6.0	5.4	5.2	5.4	<b>5.5</b>	5.6	5.6	<b>5.6</b>	<b>5.2</b>
2	VA-2016-17	7.8	5.4	5.6	7.2	<b>6.5</b>	7.4	8.0	<b>7.7</b>	<b>6.4</b>
3	UP2672 ( C )	7.6	6.0	6.0	7.0	<b>6.7</b>	7.6	6.2	<b>6.9</b>	<b>6.4</b>
4	VA-2016-37	7.6	5.8	6.2	7.6	<b>6.8</b>	7.6	8.6	<b>8.1</b>	<b>6.8</b>
5	HD3215	6.8	5.6	6.0	7.4	<b>6.5</b>	7.0	7.8	<b>7.4</b>	<b>6.4</b>
6	MACS6222 ( C )	7.4	5.6	6.0	7.6	<b>6.7</b>	7.4	8.4	<b>7.9</b>	<b>6.7</b>
7	JWS855	6.0	5.6	5.6	6.4	<b>5.9</b>	6.8	7.8	<b>7.3</b>	<b>6.1</b>
8	HD2967 ( C )	5.8	5.6	6.0	6.0	<b>5.9</b>	6.6	5.8	<b>6.2</b>	<b>6.0</b>
9	WB2 ( C )	7.4	5.6	6.2	6.0	<b>6.3</b>	7.0	8.0	<b>7.5</b>	<b>6.5</b>
10	HD3086 ( C )	6.2	5.4	6.4	5.4	<b>5.9</b>	7.2	6.8	<b>7.0</b>	<b>6.5</b>
11	DBP-17-05 ( D )	6.0	5.6	6.0	5.8	<b>5.9</b>	6.2	8.2	<b>7.2</b>	<b>5.8</b>
12	GW322 ( C )	7.0	5.4	6.0	6.2	<b>6.2</b>	6.2	7.6	<b>6.9</b>	<b>6.2</b>
13	QLD102	6.2	5.6	5.8	6.8	<b>6.1</b>	6.6	5.8	<b>6.2</b>	<b>6.0</b>
14	HS490 ( C )	5.6	5.4	6.2	6.4	<b>5.9</b>	6.0	-	<b>6.0</b>	<b>5.7</b>
15	BNSR-1	7.6	5.8	6.0	7.2	<b>6.7</b>	7.6	8.4	<b>8.0</b>	<b>6.7</b>
16	BWL-7809	7.6	5.2	6.2	7.8	<b>6.7</b>	7.4	7.8	<b>7.6</b>	<b>6.6</b>
17	BNSR-2	7.6	5.6	6.0	6.6	<b>6.5</b>	7.0	8.2	<b>7.6</b>	<b>6.8</b>
18	SBP-MABB-1	7.8	5.4	6.0	6.8	<b>6.5</b>	6.8	8.0	<b>7.4</b>	<b>6.7</b>
19	MP-3532	7.2	5.2	5.8	6.8	<b>6.3</b>	6.6	6.8	<b>6.7</b>	<b>6.2</b>
23	QBP-18-8	7.4	5.8	6.2	7.6	<b>6.8</b>	6.8	5.8	<b>6.3</b>	<b>6.4</b>
24	RAJ-4541	7.6	6.2	6.6	7.6	<b>7.0</b>	7.4	8.4	<b>7.9</b>	<b>7.2</b>
25	BWL-7803	7.6	5.4	5.8	7.2	<b>6.5</b>	6.8	8.0	<b>7.4</b>	<b>6.7</b>
26	SBP-MABB-5	7.4	5.4	6.0	7.0	<b>6.5</b>	7.0	8.2	<b>7.6</b>	<b>6.7</b>
29	QLD112	5.6	5.4	5.8	6.2	<b>5.8</b>	6.8	7.4	<b>7.1</b>	<b>6.2</b>
31	DR-18-07	6.2	5.0	5.0	5.4	<b>5.4</b>	5.2	6.8	<b>6.0</b>	<b>5.4</b>
34	HPW-459	7.4	5.2	6.2	6.6	<b>6.4</b>	7.0	6.8	<b>6.9</b>	<b>6.2</b>
36	NIAW-3284	7.8	5.6	6.4	6.4	<b>6.6</b>	7.6	6.2	<b>6.9</b>	<b>6.5</b>
37	QLD109	7.4	5.4	6.0	7.2	<b>6.5</b>	7.2	6.2	<b>6.7</b>	<b>6.4</b>
39	DR-17-10	6.2	5.0	5.0	5.6	<b>5.5</b>	5.4	7.0	<b>6.2</b>	<b>5.3</b>
42	GW2017-825	7.6	6.0	6.4	7.8	<b>7.0</b>	7.8	8.4	<b>8.1</b>	<b>6.9</b>
44	KA-1805	7.4	6.2	6.4	8.0	<b>7.0</b>	7.4	7.6	<b>7.5</b>	<b>6.7</b>
46	HD3310	7.6	5.4	5.8	7.6	<b>6.6</b>	7.6	8.2	<b>7.9</b>	<b>6.8</b>
47	UP2996	6.4	5.6	6.0	6.2	<b>6.1</b>	7.0	7.2	<b>7.1</b>	<b>6.6</b>
48	SBP-MABB-4	5.6	5.4	5.8	5.8	<b>5.7</b>	6.8	8.2	<b>7.5</b>	<b>6.2</b>
49	QLD107	6.6	5.4	6.2	5.8	<b>6.0</b>	7.2	7.8	<b>7.5</b>	<b>6.6</b>
51	QBP-18-19	7.6	5.6	6.2	6.4	<b>6.5</b>	7.6	8.2	<b>7.9</b>	<b>7.0</b>
54	DBP-17-02 ( D )	7.8	5.6	6.2	8.0	<b>6.9</b>	7.4	7.8	<b>7.6</b>	<b>6.9</b>
56	QBP-17-7	7.4	5.4	6.0	7.8	<b>6.7</b>	7.0	7.8	<b>7.4</b>	<b>6.5</b>
57	HD3241	7.2	5.6	5.8	5.8	<b>6.1</b>	6.6	7.8	<b>7.2</b>	<b>6.4</b>
58	SBP-MABB-6	5.4	5.4	6.0	5.0	<b>5.5</b>	7.2	8.2	<b>7.7</b>	<b>6.4</b>
60	QBP-18-10	7.6	5.8	6.4	8.0	<b>7.0</b>	7.4	8.0	<b>7.7</b>	<b>7.1</b>
61	QLD101	5.4	5.4	6.2	6.2	<b>5.8</b>	6.8	7.6	<b>7.2</b>	<b>6.4</b>
64	QLD98	6.4	5.8	6.6	7.8	<b>6.7</b>	6.8	8.2	<b>7.5</b>	<b>6.8</b>
68	QLD111	6.6	5.2	6.0	6.0	<b>6.0</b>	7.0	7.8	<b>7.4</b>	<b>6.4</b>
69	HD3304	6.6	5.6	6.0	6.2	<b>6.1</b>	7.2	7.4	<b>7.3</b>	<b>6.4</b>
71	BWL-7805	6.4	5.8	6.0	6.4	<b>6.2</b>	7.4	8.2	<b>7.8</b>	<b>6.5</b>
73	GW20171-596	7.8	5.4	6.2	7.8	<b>6.8</b>	7.2	7.8	<b>7.5</b>	<b>6.7</b>
74	QLD110	6.4	5.8	6.0	6.4	<b>6.2</b>	7.0	7.8	<b>7.4</b>	<b>6.6</b>
76	QLD108	7.0	5.8	6.0	6.4	<b>6.3</b>	7.2	8.0	<b>7.6</b>	<b>6.8</b>
78	BWL-7800	7.2	5.8	6.0	6.6	<b>6.4</b>	7.0	8.0	<b>7.5</b>	<b>6.6</b>
79	UP2994	7.6	5.6	6.2	7.6	<b>6.8</b>	7.2	7.8	<b>7.5</b>	<b>7.1</b>
80	QBP-18-11	6.2	5.6	6.2	6.4	<b>6.1</b>	6.6	7.6	<b>7.1</b>	<b>6.4</b>
	<b>Mean</b>	<b>6.9</b>	<b>5.6</b>	<b>6.0</b>	<b>6.7</b>	<b>6.3</b>	<b>7.0</b>	<b>7.6</b>	<b>7.3</b>	<b>6.4</b>

**Table 2: Hectolitre weight (kg/hl) of QCWBN entries**

Sr. No.	Genotype	NWPZ					NEPZ		
		Karnal	Ludhiana	Pantnagar	Delhi	Mean	Kanpur	Sabour	Mean
1	DR-16-05	64.0		78.7	59.2	<b>67.3</b>	68.8	62.5	<b>65.7</b>
2	VA-2016-17	81.6	60.6	80.0	76.6	<b>74.7</b>	82.5	73.8	<b>78.2</b>
3	UP2672 ( C )	79.3	66.0	77.4	74.7	<b>74.4</b>	80.5	75.8	<b>78.2</b>
4	VA-2016-37	80.0	66.0	78.6	76.3	<b>75.2</b>	83.0	77.0	<b>80.0</b>
5	HD3215	81.3	64.2	79.5	75.4	<b>75.1</b>	81.7	74.0	<b>77.9</b>
6	MACS6222 ( C )	81.2	69.5	79.3	78.2	<b>77.1</b>	81.8	73.7	<b>77.8</b>
7	JWS855	73.6		75.0	69.2	<b>72.6</b>	78.1	72.0	<b>75.1</b>
8	HD2967 ( C )	81.0	70.4	78.2	78.0	<b>76.9</b>	80.5	76.0	<b>78.3</b>
9	WB2 ( C )	79.9	71.4	78.7	78.0	<b>77.0</b>	79.2	72.0	<b>75.6</b>
10	HD3086 ( C )	82.0	74.0	77.5	78.0	<b>77.9</b>	81.4	74.4	<b>77.9</b>
11	DBP-17-05 ( D )	80.0	62.6	79.6	75.8	<b>74.5</b>	74.1	68.0	<b>71.1</b>
12	GW322 ( C )	79.5	63.7	78.2	73.7	<b>73.8</b>	80.0	74.2	<b>77.1</b>
13	QLD102	81.0	70.5	77.3	77.0	<b>76.5</b>	77.6	70.9	<b>74.3</b>
14	HS490 ( C )	77.0	65.6	73.3	71.6	<b>71.9</b>	79.0	70.8	<b>74.9</b>
15	BNSR-1	80.0	73.0	79.0	78.0	<b>77.5</b>	80.3	71.5	<b>75.9</b>
16	BWL-7809	81.7	69.2	79.0	76.4	<b>76.6</b>	83.5	73.3	<b>78.4</b>
17	BNSR-2	80.8	72.0	81.0	79.4	<b>78.3</b>	81.0	77.5	<b>79.3</b>
18	SBP-MABB-1	81.5	64.0	79.4	81.0	<b>76.5</b>	82.0	75.2	<b>78.6</b>
19	MP-3532	81.6	62.2	80.0	77.6	<b>75.4</b>	81.5	75.0	<b>78.3</b>
23	QBP-18-8	82.5	76.0	82.6	82.7	<b>81.0</b>	83.7	77.4	<b>80.6</b>
24	RAJ-4541	82.3	77.0	82.0	83.8	<b>81.3</b>	84.0	77.6	<b>80.8</b>
25	BWL-7803	79.6	73.6	79.0	79.8	<b>78.0</b>	79.4	74.6	<b>77.0</b>
26	SBP-MABB-5	80.0	67.5	79.0	80.0	<b>76.6</b>	80.6	74.7	<b>77.7</b>
29	QLD112	80.2	74.5	77.2	79.5	<b>77.9</b>	79.0	73.8	<b>76.4</b>
31	DR-18-07	70.9		68.0	80.1	<b>73.0</b>	-		
34	HPW-459	81.3	73.0	78.5	79.1	<b>78.0</b>	81.2	74.0	<b>77.6</b>
36	NIAW-3284	79.0		80.0	76.6	<b>78.5</b>	79.4	76.0	<b>77.7</b>
37	QLD109	81.0	74.0	80.7	80.1	<b>79.0</b>	83.0	78.0	<b>80.5</b>
39	DR-17-10	66.3		67.5	64.0	<b>65.9</b>	65.3	59.8	<b>62.6</b>
42	GW2017-825	81.4	58.5	79.4	75.8	<b>73.8</b>	79.2	75.8	<b>77.5</b>
44	KA-1805	83.1	71.7	82.8	78.8	<b>79.1</b>	83.0	77.0	<b>80.0</b>
46	HD3310	80.8	73.0	78.3	78.5	<b>77.7</b>	79.4	76.4	<b>77.9</b>
47	UP2996	82.0	72.0	80.0	79.3	<b>78.3</b>	81.7	76.0	<b>78.9</b>
48	SBP-MABB-4	79.0	64.2	76.3	77.2	<b>74.2</b>	81.7	73.2	<b>77.5</b>
49	QLD107	79.0	73.4	78.0	78.7	<b>77.3</b>	81.5	75.4	<b>78.5</b>
51	QBP-18-19	81.8	74.3	81.4	80.0	<b>79.4</b>	82.0	76.0	<b>79.0</b>
54	DBP-17-02 ( D )	82.2	71.3	80.7	74.0	<b>77.1</b>	78.0	75.4	<b>76.7</b>
56	QBP-17-7	81.2	69.7	80.0	76.2	<b>76.8</b>	79.0	74.0	<b>76.5</b>
57	HD3241	82.3	70.7	80.0	79.7	<b>78.2</b>	80.0	73.8	<b>76.9</b>
58	SBP-MABB-6	80.4	69.0	78.8	78.3	<b>76.6</b>	79.6	75.6	<b>77.6</b>
60	QBP-18-10	80.7	76.5	80.3	81.0	<b>79.6</b>	82.0	76.7	<b>79.4</b>
61	QLD101	80.6	73.5	77.7	74.6	<b>76.6</b>	76.4	73.7	<b>75.1</b>
64	QLD98	78.3	64.2	77.0	77.4	<b>74.2</b>	78.7	73.4	<b>76.1</b>
68	QLD111	81.6	72.0	78.0	79.8	<b>77.9</b>	77.3	74.5	<b>75.9</b>
69	HD3304	79.3	-	80.0	79.6	<b>79.6</b>	79.6	68.6	<b>74.1</b>
71	BWL-7805	82.7	67.7	81.0	76.7	<b>77.0</b>	80.4	71.2	<b>75.8</b>
73	GW20171-596	78.5	56.0	78.3	76.2	<b>72.3</b>	78.4	74.8	<b>76.6</b>
74	QLD110	80.2	73.0	78.0	77.3	<b>77.1</b>	79.5	74.8	<b>77.2</b>
76	QLD108	79.1	70.4	78.5	76.1	<b>76.0</b>	79.3	70.0	<b>74.7</b>
78	BWL-7800	80.0	62.0	77.4	73.1	<b>73.1</b>	80.3	68.8	<b>74.6</b>
79	UP2994	81.0	76.6	80.0	80.6	<b>79.6</b>	81.5	79.4	<b>80.5</b>
80	QBP-18-11	81.5	80.7	73.0	77.5	<b>78.2</b>	80.8	73.6	<b>77.2</b>
	<b>Mean</b>	<b>79.7</b>	<b>69.6</b>	<b>78.4</b>	<b>77.0</b>	<b>76.3</b>	<b>79.8</b>	<b>73.8</b>	<b>76.8</b>

Hectolitre weight (kg/hl) continues

Sr. No.	Genotype	CZ					PZ			Overall Mean
		Vijapur	Jabalpur	P'kheda	Indore	Mean	Pune	Dharwad	Mean	
1	DR-16-05	75.0	70.3	70.8	70.1	<b>71.6</b>	73.0	75.6	<b>74.3</b>	<b>69.7</b>
2	VA-2016-17	82.3	77.6	79.8	83.4	<b>80.8</b>	83.4	84.0	<b>83.7</b>	<b>79.3</b>
3	UP2672 ( C )	80.0	76.6	77.0	79.5	<b>78.3</b>	82.5	76.5	<b>79.5</b>	<b>77.6</b>
4	VA-2016-37	82.4	77.5	79.8	83.0	<b>80.7</b>	82.7	84.0	<b>83.4</b>	<b>79.8</b>
5	HD3215	78.0	77.3	79.4	81.3	<b>79.0</b>	80.0	81.7	<b>80.9</b>	<b>78.2</b>
6	MACS6222 ( C )	81.0	78.6	79.7	82.5	<b>80.5</b>	82.6	84.2	<b>83.4</b>	<b>79.7</b>
7	JWS855	73.6	75.3	74.3	76.8	<b>75.0</b>	78.0	80.0	<b>79.0</b>	<b>75.4</b>
8	HD2967 ( C )	69.0	76.4	77.5	79.0	<b>75.5</b>	78.7	76.3	<b>77.5</b>	<b>77.0</b>
9	WB2 ( C )	78.0	76.2	78.6	79.0	<b>78.0</b>	80.5	80.8	<b>80.7</b>	<b>77.8</b>
10	HD3086 ( C )	71.4	77.7	79.6	73.5	<b>75.6</b>	80.5	82.6	<b>81.6</b>	<b>78.2</b>
11	DBP-17-05 ( D )	76.5	77.0	76.8	79.5	<b>77.5</b>	79.8	81.7	<b>80.8</b>	<b>75.9</b>
12	GW322 ( C )	76.5	75.0	78.3	75.0	<b>76.2</b>	78.6	81.0	<b>79.8</b>	<b>76.7</b>
13	QLD102	73.3	75.7	78.3	80.5	<b>77.0</b>	77.8	76.6	<b>77.2</b>	<b>76.2</b>
14	HS490 ( C )	71.0	72.0	75.6	77.5	<b>74.0</b>	76.0	-	<b>76.0</b>	<b>74.2</b>
15	BNSR-1	75.3	76.6	77.2	80.8	<b>77.5</b>	80.0	82.0	<b>81.0</b>	<b>78.0</b>
16	BWL-7809	80.0	76.0	81.7	82.5	<b>80.1</b>	81.3	83.0	<b>82.2</b>	<b>79.3</b>
17	BNSR-2	78.0	76.5	79.7	81.8	<b>79.0</b>	81.1	81.6	<b>81.4</b>	<b>79.5</b>
18	SBP-MABB-1	80.5	76.0	79.2	81.3	<b>79.3</b>	80.9	82.6	<b>81.8</b>	<b>79.0</b>
19	MP-3532	80.0	75.8	79.0	82.0	<b>79.2</b>	80.6	82.8	<b>81.7</b>	<b>78.6</b>
23	QBP-18-8	80.4	79.0	82.2	83.7	<b>81.3</b>	83.2	76.2	<b>79.7</b>	<b>80.6</b>
24	RAJ-4541	82.7	80.0	82.0	85.0	<b>82.4</b>	85.6	85.4	<b>85.5</b>	<b>82.5</b>
25	BWL-7803	78.2	75.5	78.2	78.3	<b>77.6</b>	80.2	82.3	<b>81.3</b>	<b>78.5</b>
26	SBP-MABB-5	74.5	75.2	77.8	77.5	<b>76.3</b>	79.3	81.0	<b>80.2</b>	<b>77.7</b>
29	QLD112	77.1	74.0	78.0	79.3	<b>77.1</b>	80.7	82.4	<b>81.6</b>	<b>78.2</b>
31	DR-18-07	73.3	70.0	71.7	73.7	<b>72.2</b>	75.0	81.4	<b>78.2</b>	<b>74.5</b>
34	HPW-459	81.5	76.0	80.0	80.5	<b>79.5</b>	81.5	81.5	<b>81.5</b>	<b>79.1</b>
36	NIAW-3284	81.4	76.5	80.4	79.6	<b>79.5</b>	82.2	82.3	<b>82.3</b>	<b>79.5</b>
37	QLD109	82.5	77.3	79.8	84.6	<b>81.1</b>	82.5	82.5	<b>82.5</b>	<b>80.8</b>
39	DR-17-10	74.0	66.5	72.6	73.0	<b>71.5</b>	74.0	79.3	<b>76.7</b>	<b>69.2</b>
42	GW2017-825	80.6	78.0	80.6	83.3	<b>80.6</b>	81.5	83.0	<b>82.3</b>	<b>78.5</b>
44	KA-1805	81.3	79.3	81.2	81.7	<b>80.9</b>	83.7	79.2	<b>81.5</b>	<b>80.4</b>
46	HD3310	79.0	75.8	77.8	80.3	<b>78.2</b>	80.8	84.0	<b>82.4</b>	<b>79.0</b>
47	UP2996	76.0	76.8	80.0	80.5	<b>78.3</b>	80.0	81.0	<b>80.5</b>	<b>79.0</b>
48	SBP-MABB-4	67.3	75.2	79.2	77.3	<b>74.8</b>	80.5	84.3	<b>82.4</b>	<b>77.2</b>
49	QLD107	77.6	75.0	79.2	78.0	<b>77.5</b>	81.3	80.3	<b>80.8</b>	<b>78.5</b>
51	QBP-18-19	79.0	77.2	79.7	77.8	<b>78.4</b>	81.2	80.5	<b>80.9</b>	<b>79.4</b>
54	DBP-17-02 ( D )	81.0	79.5	82.4	84.4	<b>81.8</b>	84.0	81.3	<b>82.7</b>	<b>79.6</b>
56	QBP-17-7	80.0	75.4	79.5	81.8	<b>79.2</b>	81.8	78.0	<b>79.9</b>	<b>78.1</b>
57	HD3241	79.5	74.5	79.6	76.0	<b>77.4</b>	81.0	81.0	<b>81.0</b>	<b>78.4</b>
58	SBP-MABB-6	70.0	75.4	78.0	67.8	<b>72.8</b>	81.0	80.0	<b>80.5</b>	<b>76.9</b>
60	QBP-18-10	81.8	77.3	80.6	81.8	<b>80.4</b>	82.6	82.2	<b>82.4</b>	<b>80.4</b>
61	QLD101	69.1	74.0	79.0	75.3	<b>74.4</b>	77.5	77.8	<b>77.7</b>	<b>75.9</b>
64	QLD98	72.9	74.8	78.6	78.8	<b>76.3</b>	79.0	82.4	<b>80.7</b>	<b>76.8</b>
68	QLD111	76.4	74.0	78.0	76.8	<b>76.3</b>	79.5	81.8	<b>80.7</b>	<b>77.7</b>
69	HD3304	76.8	74.6	78.6	78.6	<b>77.2</b>	81.3	80.8	<b>81.1</b>	<b>78.0</b>
71	BWL-7805	76.3	79.0	79.2	75.3	<b>77.5</b>	82.0	84.0	<b>83.0</b>	<b>78.3</b>
73	GW20171-596	79.8	75.7	79.0	81.0	<b>78.9</b>	81.3	80.7	<b>81.0</b>	<b>77.2</b>
74	QLD110	81.4	76.3	78.0	80.5	<b>79.1</b>	82.7	81.0	<b>81.9</b>	<b>78.8</b>
76	QLD108	78.9	75.8	80.2	74.3	<b>77.3</b>	81.0	81.8	<b>81.4</b>	<b>77.3</b>
78	BWL-7800	77.7	77.8	76.4	78.6	<b>77.6</b>	79.8	80.7	<b>80.3</b>	<b>76.4</b>
79	UP2994	-	77.6	77.8	82.7	<b>79.4</b>	81.0	81.7	<b>81.4</b>	<b>80.2</b>
80	QBP-18-11	76.7	79.0	80.3	79.4	<b>78.9</b>	82.2	80.4	<b>81.3</b>	<b>78.9</b>
	<b>Mean</b>	<b>77.4</b>	<b>76.0</b>	<b>78.6</b>	<b>79.2</b>	<b>77.8</b>	<b>80.6</b>	<b>81.2</b>	<b>80.8</b>	<b>77.9</b>



**Table 3: Protein content (%) at 12% moisture basis of QCWBN entries**

Sr. No.	Genotype	NWPZ					Kanpur	NEPZ		
		Karnal	Ludhiana	Pantnagar	Delhi	Mean		Sabour	Varanasi	Mean
1	DR-16-05	11.9	-	8.8	15.5	<b>12.2</b>	11.3	11.9	10.7	<b>11.3</b>
2	VA-2016-17	11.3	11.6	9.2	12.2	<b>10.7</b>	10.8	10.4	10.7	<b>10.6</b>
3	UP2672 ( C )	12.1	12.5	10.3	14.2	<b>12.3</b>	10.6	12.9	11.6	<b>11.7</b>
4	VA-2016-37	11.8	11.1	9.8	12.5	<b>11.1</b>	9.9	10.9	10.8	<b>10.5</b>
5	HD3215	11.2	12.1	8.3	14.2	<b>11.3</b>	9.9	11.2	11.5	<b>10.9</b>
6	MACS6222 ( C )	12.1	11.5	9.6	13.2	<b>11.4</b>	9.9	11.5	11.5	<b>11.0</b>
7	JWS855	14.5	-	11.6	15.3	<b>13.4</b>	11.6	12.4	13.0	<b>12.3</b>
8	HD2967 ( C )	11.9	11.6	8.4	13.4	<b>10.9</b>	10.8	11.6	11.5	<b>11.3</b>
9	WB2 ( C )	13.1	11.5	10.6	14.9	<b>12.8</b>	14.9	12.7	11.8	<b>13.1</b>
10	HD3086 ( C )	11.0	10.7	9.2	12.6	<b>10.9</b>	12.5	11.1	10.5	<b>11.4</b>
11	DBP-17-05 ( D )	12.0	14.6	9.1	16.5	<b>12.8</b>	13.0	12.9		<b>13.0</b>
12	GW322 ( C )	10.0	11.3	9.1	12.5	<b>10.8</b>	10.0	10.0	10.5	<b>10.1</b>
13	QLD102	10.7	-	8.3	13.3	<b>10.8</b>	10.0	11.1	11.0	<b>10.7</b>
14	HS490 ( C )	10.6	12.0	7.9	13.1	<b>10.5</b>	9.8	10.6	10.6	<b>10.3</b>
15	BNSR-1	13.3	13.6	10.9	15.4	<b>13.1</b>	12.8	10.8	13.0	<b>12.2</b>
16	BWL-7809	10.1	11.7	8.6	13.0	<b>10.8</b>	11.4	11.9	10.2	<b>11.1</b>
17	BNSR-2	14.9	13.3	10.8	13.8	<b>12.3</b>	12.9	11.1	11.4	<b>11.8</b>
18	SBP-MABB-1	12.1	12.1	10.0	12.8	<b>11.4</b>	11.1	11.0	10.8	<b>11.0</b>
19	MP-3532	10.8	11.9	9.0	12.8	<b>10.9</b>	9.8	11.2	9.7	<b>10.2</b>
23	QBP-18-8	13.6	12.5	11.7	13.2	<b>12.5</b>	12.1	10.5	11.0	<b>11.2</b>
24	RAJ-4541	12.6	12.9	10.7	12.9	<b>11.8</b>	13.4	10.7	10.3	<b>11.5</b>
25	BWL-7803	14.6	12.9	12.1	14.0	<b>13.1</b>	15.4	11.7	11.2	<b>12.8</b>
26	SBP-MABB-5	11.3	-	10.2	11.8	<b>11.0</b>	13.0	10.6	9.8	<b>11.1</b>
29	QLD112	11.5	-	10.8	13.8	<b>12.3</b>	13.6	11.8	11.4	<b>12.2</b>
31	DR-18-07	12.4	-	10.7	13.2	<b>12.0</b>	-	-	12.3	<b>12.3</b>
34	HPW-459	11.3	-	8.2	13.3	<b>10.8</b>	11.2	12.0	11.7	<b>11.6</b>
36	NIAW-3284	11.0	-	8.2	13.2	<b>10.7</b>	10.6	11.2	10.4	<b>10.8</b>
37	QLD109	12.9	12.9	11.0	13.9	<b>12.5</b>	13.1	11.5	12.0	<b>12.2</b>
39	DR-17-10	14.0	-	9.6	15.5	<b>12.6</b>	14.8	12.3	11.5	<b>12.9</b>
42	GW2017-825	11.1	12.9	11.1	13.6	<b>12.4</b>	14.2	10.9	9.9	<b>11.7</b>
44	KA-1805	10.2	11.8	9.2	12.4	<b>10.8</b>	11.6	10.7	9.8	<b>10.7</b>
46	HD3310	12.3	13.2	10.3	14.4	<b>12.4</b>	14.7	12.1	11.6	<b>12.8</b>
47	UP2996	10.5	12.0	9.2	13.4	<b>11.3</b>	13.7	11.0	10.9	<b>11.9</b>
48	SBP-MABB-4	8.7	12.0	7.9	12.4	<b>10.2</b>	11.8	11.0	10.0	<b>10.9</b>
49	QLD107	14.2	12.7	9.2	13.7	<b>11.4</b>	12.3	11.9	12.1	<b>12.1</b>
51	QBP-18-19	10.1	10.8	9.4	12.6	<b>11.0</b>	10.9	11.1	9.9	<b>10.6</b>
54	DBP-17-02 ( D )	9.7	11.6	9.3	15.6	<b>12.4</b>	12.3	11.6	10.4	<b>11.4</b>
56	QBP-17-7	11.9	13.0	9.7	14.4	<b>12.1</b>	14.2	12.5	10.7	<b>12.5</b>
57	HD3241	11.0	12.3	11.0	12.8	<b>11.9</b>	13.4	11.9	10.8	<b>12.0</b>
58	SBP-MABB-6	10.6	11.5	8.3	12.6	<b>10.5</b>	12.8	10.4	9.6	<b>10.9</b>
60	QBP-18-10	10.9	11.3	9.7	13.2	<b>11.5</b>	14.2	11.5	10.4	<b>12.0</b>
61	QLD101	10.4	11.1	9.4	13.7	<b>11.6</b>	14.7	12.4	10.7	<b>12.6</b>
64	QLD98	9.5	11.8	9.1	12.5	<b>10.8</b>	14.7	11.7	11.3	<b>12.6</b>
68	QLD111	11.1	11.9	9.4	12.9	<b>11.2</b>	11.9	12.5	11.0	<b>11.8</b>
69	HD3304	10.9	11.1	9.0	12.3	<b>10.6</b>	12.2	11.9	10.1	<b>11.4</b>
71	BWL-7805	11.0	12.5	9.8	13.9	<b>11.9</b>	13.8	12.0	11.5	<b>12.4</b>
73	GW20171-596	13.2	15.5	11.9	15.2	<b>13.5</b>	17.4	14.2	12.1	<b>14.6</b>
74	QLD110	11.7	11.8	10.1	13.4	<b>11.7</b>	14.8	11.9	11.6	<b>12.8</b>
76	QLD108	12.5	11.7	9.1	13.2	<b>11.1</b>	14.6	11.7	11.2	<b>12.5</b>
78	BWL-7800	10.9	12.6	8.5	13.6	<b>11.0</b>	13.7	12.3	13.3	<b>13.1</b>
79	UP2994	13.5	12.3	10.1	16.1	<b>13.1</b>	16.3	11.7	14.4	<b>14.1</b>
80	QBP-18-11	11.0	10.6	8.4	12.5	<b>10.5</b>	12.7	10.7	11.6	<b>11.6</b>
	<b>Mean</b>	<b>11.7</b>	<b>12.1</b>	<b>9.7</b>	<b>13.6</b>	<b>11.6</b>	<b>12.6</b>	<b>11.5</b>	<b>11.1</b>	<b>11.8</b>

**Protein content (%) continues**

Sr. No.	Genotype	CZ					PZ			Overall Mean
		Vijapur	Jabalpur	P'kheda	Indore	Mean	Pune	Dharwad	Mean	
1	DR-16-05	11.2	12.4	11.3	8.9	<b>11.0</b>	10.7	12.6	<b>11.7</b>	<b>11.5</b>
2	VA-2016-17	12.8	11.5	11.2	11.0	<b>11.6</b>	11.5	12.6	<b>12.0</b>	<b>11.2</b>
3	UP2672 ( C )	12.5	12.5	12.0	11.8	<b>12.2</b>	13.0	13.9	<b>13.5</b>	<b>12.4</b>
4	VA-2016-37	10.8	11.7	11.0	11.1	<b>11.2</b>	13.2	13.5	<b>13.4</b>	<b>11.5</b>
5	HD3215	11.3	10.6	10.5	12.0	<b>11.1</b>	13.0	11.3	<b>12.2</b>	<b>11.4</b>
6	MACS6222 ( C )	10.1	10.1	10.5	11.9	<b>10.6</b>	11.8	13.2	<b>12.5</b>	<b>10.7</b>
7	JWS855	13.0	13.4	13.3	13.2	<b>13.2</b>	13.7	14.7	<b>14.2</b>	<b>13.3</b>
8	HD2967 ( C )	13.4	12.0	11.1	10.7	<b>11.8</b>	12.6	10.8	<b>11.7</b>	<b>11.4</b>
9	WB2 ( C )	13.7	12.2	12.5	11.3	<b>12.4</b>	13.8	16.0	<b>14.9</b>	<b>13.3</b>
10	HD3086 ( C )	11.8	11.8	10.6	8.9	<b>10.8</b>	12.4	12.6	<b>12.5</b>	<b>11.4</b>
11	DBP-17-05 ( D )	13.1	12.3	11.3	11.2	<b>12.0</b>	13.4	15.0	<b>14.2</b>	<b>13.0</b>
12	GW322 ( C )	13.2	11.5	10.3	9.1	<b>11.0</b>	11.2	14.9	<b>13.0</b>	<b>11.3</b>
13	QLD102	14.5	13.0	10.5	11.0	<b>12.3</b>	11.2	14.6	<b>12.9</b>	<b>11.7</b>
14	HS490 ( C )	12.5	13.1	11.0	10.1	<b>11.7</b>	10.6	-	<b>10.6</b>	<b>10.8</b>
15	BNSR-1	11.5	14.3	12.8	12.3	<b>12.7</b>	13.3	15.7	<b>14.5</b>	<b>13.1</b>
16	BWL-7809	10.8	13.5	9.6	11.4	<b>11.3</b>	10.6	13.2	<b>11.9</b>	<b>11.3</b>
17	BNSR-2	15.2	13.7	12.2	12.4	<b>13.4</b>	11.2	15.8	<b>13.5</b>	<b>12.8</b>
18	SBP-MABB-1	13.8	12.1	11.6	12.0	<b>12.4</b>	11.6	13.1	<b>12.4</b>	<b>11.8</b>
19	MP-3532	12.0	12.9	9.9	9.7	<b>11.1</b>	11.6	13.1	<b>12.4</b>	<b>11.2</b>
23	QBP-18-8	12.1	14.2	12.6	11.9	<b>12.7</b>	12.3	16.8	<b>14.6</b>	<b>12.7</b>
24	RAJ-4541	13.8	13.9	11.4	11.3	<b>12.6</b>	10.8	14.4	<b>12.6</b>	<b>12.1</b>
25	BWL-7803	13.7	14.8	12.7	11.7	<b>13.2</b>	13.1	14.6	<b>13.9</b>	<b>13.2</b>
26	SBP-MABB-5	13.5	13.3	11.0	12.1	<b>12.5</b>	10.4	15.8	<b>13.1</b>	<b>11.9</b>
29	QLD112	11.7	14.5	11.4	10.6	<b>12.1</b>	12.2	14.6	<b>13.4</b>	<b>12.5</b>
31	DR-18-07	10.6	13.1	12.7	11.6	<b>12.0</b>	10.6	12.4	<b>11.5</b>	<b>11.9</b>
34	HPW-459	12.8	12.0	10.3	12.2	<b>11.8</b>	13.1	14.2	<b>13.6</b>	<b>12.0</b>
36	NIAW-3284	11.1	12.4	11.8	11.3	<b>11.6</b>	12.5	9.0	<b>10.8</b>	<b>11.0</b>
37	QLD109	10.6	13.7	12.9	13.0	<b>12.6</b>	12.6	14.4	<b>13.5</b>	<b>12.7</b>
39	DR-17-10	10.0	14.5	12.1	11.9	<b>12.1</b>	12.9	16.4	<b>14.7</b>	<b>13.1</b>
42	GW2017-825	12.9	13.3	10.9	10.4	<b>11.9</b>	12.9	13.7	<b>13.3</b>	<b>12.3</b>
44	KA-1805	12.4	12.5	12.0	11.1	<b>12.0</b>	12.1	12.4	<b>12.2</b>	<b>11.4</b>
46	HD3310	12.6	13.9	12.2	13.6	<b>13.1</b>	14.8	12.3	<b>13.5</b>	<b>12.9</b>
47	UP2996	11.1	13.8	10.2	12.3	<b>11.8</b>	13.1	10.7	<b>11.9</b>	<b>11.7</b>
48	SBP-MABB-4	11.4	13.3	10.7	9.8	<b>11.3</b>	12.6	11.5	<b>12.1</b>	<b>11.1</b>
49	QLD107	14.8	11.9	10.4	12.7	<b>12.4</b>	12.0	14.6	<b>13.3</b>	<b>12.3</b>
51	QBP-18-19	12.0	10.4	9.4	10.7	<b>10.6</b>	12.1	13.0	<b>12.5</b>	<b>11.2</b>
54	DBP-17-02 ( D )	13.7	11.9	10.6	11.3	<b>11.9</b>	11.5	13.3	<b>12.4</b>	<b>12.0</b>
56	QBP-17-7	13.5	15.0	11.7	12.8	<b>13.3</b>	13.0	16.5	<b>14.7</b>	<b>13.1</b>
57	HD3241	12.2	14.6	11.3	11.1	<b>12.3</b>	12.6	15.8	<b>14.2</b>	<b>12.6</b>
58	SBP-MABB-6	12.1	14.2	10.7	10.7	<b>11.9</b>	12.4	15.2	<b>13.8</b>	<b>11.8</b>
60	QBP-18-10	12.4	14.0	9.5	12.3	<b>12.1</b>	13.3	14.2	<b>13.7</b>	<b>12.3</b>
61	QLD101	11.8	13.9	9.3	11.4	<b>11.6</b>	13.8	12.4	<b>13.1</b>	<b>12.2</b>
64	QLD98	14.1	13.6	9.4	12.0	<b>12.3</b>	13.0	14.5	<b>13.7</b>	<b>12.3</b>
68	QLD111	11.8	14.4	11.6	11.8	<b>12.4</b>	13.6	12.1	<b>12.8</b>	<b>12.1</b>
69	HD3304	13.2	11.5	11.7	11.1	<b>11.9</b>	11.8	14.0	<b>12.9</b>	<b>11.7</b>
71	BWL-7805	12.1	11.4	11.6	9.8	<b>11.2</b>	13.2	13.7	<b>13.5</b>	<b>12.2</b>
73	GW20171-596	13.6	15.8	13.1	13.6	<b>14.0</b>	15.0	15.2	<b>15.1</b>	<b>14.3</b>
74	QLD110	12.4	13.9	11.9	11.4	<b>12.4</b>	12.9	13.7	<b>13.3</b>	<b>12.6</b>
76	QLD108	11.0	13.4	9.6	10.2	<b>11.0</b>	12.8	13.1	<b>13.0</b>	<b>11.9</b>
78	BWL-7800	10.4	14.0	11.6	12.3	<b>12.1</b>	12.6	13.8	<b>13.2</b>	<b>12.4</b>
79	UP2994	13.0	14.9	13.8	15.3	<b>14.2</b>	12.7	15.3	<b>14.0</b>	<b>13.9</b>
80	QBP-18-11	11.9	12.7	8.0	11.0	<b>10.9</b>	11.5	16.5	<b>14.0</b>	<b>11.8</b>
	<b>Mean</b>	<b>12.4</b>	<b>13.1</b>	<b>11.2</b>	<b>11.5</b>	<b>12.0</b>	<b>12.4</b>	<b>13.9</b>	<b>13.1</b>	<b>12.1</b>

**Table 4: Sedimentation value (ml) of QCWBN entries**

Sr. No.	Genotype	NWPZ					NEPZ		
		Karnal	Ludhiana	Pantnagar	Delhi	Mean	Kanpur	Sabour	Mean
1	DR-16-05	27	-	36	27	<b>30</b>	29	34	<b>32</b>
2	VA-2016-17	57	54	44	54	<b>52</b>	57	59	<b>58</b>
3	UP2672 ( C )	71	72	54	67	<b>66</b>	67	74	<b>70</b>
4	VA-2016-37	53	43	41	53	<b>48</b>	48	57	<b>53</b>
5	HD3215	75	73	55	72	<b>69</b>	75	76	<b>76</b>
6	MACS6222 ( C )	48	48	36	50	<b>46</b>	46	56	<b>51</b>
7	JWS855	69	-	48	70	<b>62</b>	60	68	<b>64</b>
8	HD2967 ( C )	72	67	51	74	<b>66</b>	72	74	<b>73</b>
9	WB2 ( C )	74	-	58	78	<b>70</b>	74	76	<b>75</b>
10	HD3086 ( C )	74	72	48	55	<b>62</b>	64	46	<b>55</b>
11	DBP-17-05 ( D )	41	37	34	37	<b>37</b>	53	41	<b>47</b>
12	GW322 ( C )	42	37	35	39	<b>38</b>	46	76	<b>61</b>
13	QLD102	64	74	50	76	<b>66</b>	71	41	<b>56</b>
14	HS490 ( C )	39	28	29	41	<b>34</b>	43	46	<b>44</b>
15	BNSR-1	72	72	54	62	<b>65</b>	76	71	<b>74</b>
16	BWL-7809	54	53	44	48	<b>50</b>	58	76	<b>67</b>
17	BNSR-2	74	76	64	61	<b>69</b>	71	56	<b>64</b>
18	SBP-MABB-1	55	63	39	41	<b>49</b>	56	64	<b>60</b>
19	MP-3532	46	57	38	40	<b>45</b>	51	69	<b>60</b>
23	QBP-18-8	74	71	58	57	<b>65</b>	74	69	<b>72</b>
24	RAJ-4541	46	46	41	43	<b>44</b>	50	53	<b>52</b>
25	BWL-7803	55	57	43	45	<b>50</b>	48	64	<b>56</b>
26	SBP-MABB-5	74	72	60	62	<b>67</b>	73	66	<b>70</b>
29	QLD112	55	57	48	49	<b>52</b>	53	55	<b>54</b>
31	DR-18-07	60	-	40	53	<b>51</b>	62	-	<b>62</b>
34	HPW-459	43	57	35	45	<b>45</b>	60	59	<b>59</b>
36	NIAW-3284	52	-	41	50	<b>48</b>	62	62	<b>62</b>
37	QLD109	46	55	43	39	<b>46</b>	59	73	<b>66</b>
39	DR-17-10	55	-	43	53	<b>50</b>	65	72	<b>68</b>
42	GW2017-825	43	52	41	50	<b>47</b>	55	50	<b>53</b>
44	KA-1805	48	59	43	48	<b>49</b>	60	64	<b>62</b>
46	HD3310	53	57	46	46	<b>50</b>	72	72	<b>72</b>
47	UP2996	76	71	60	69	<b>69</b>	75	76	<b>75</b>
48	SBP-MABB-4	41	46	34	44	<b>41</b>	60	50	<b>55</b>
49	QLD107	67	61	49	57	<b>59</b>	76	75	<b>76</b>
51	QBP-18-19	60	63	46	57	<b>56</b>	69	74	<b>72</b>
54	DBP-17-02 ( D )	27	24	22	34	<b>27</b>	35	53	<b>44</b>
56	QBP-17-7	69	67	50	59	<b>61</b>	77	75	<b>76</b>
57	HD3241	79	76	67	60	<b>70</b>	78	76	<b>77</b>
58	SBP-MABB-6	60	57	45	53	<b>54</b>	71	62	<b>67</b>
60	QBP-18-10	67	67	49	62	<b>61</b>	76	76	<b>76</b>
61	QLD101	72	74	55	69	<b>67</b>	75	79	<b>77</b>
64	QLD98	64	72	55	59	<b>62</b>	76	80	<b>78</b>
68	QLD111	57	62	48	48	<b>54</b>	64	67	<b>66</b>
69	HD3304	80	74	54	68	<b>69</b>	76	80	<b>78</b>
71	BWL-7805	74	74	56	71	<b>69</b>	72	75	<b>73</b>
73	GW20171-596	51	48	46	48	<b>48</b>	53	54	<b>53</b>
74	QLD110	57	64	52	62	<b>59</b>	73	74	<b>73</b>
76	QLD108	72	74	55	64	<b>66</b>	72	75	<b>73</b>
78	BWL-7800	67	64	53	62	<b>62</b>	69	77	<b>73</b>
79	UP2994	53	59	50	41	<b>51</b>	54	79	<b>66</b>
80	QBP-18-11	67	70	27	60	<b>56</b>	67	77	<b>72</b>
	<b>Mean</b>	<b>59</b>	<b>60</b>	<b>46</b>	<b>54</b>	<b>55</b>	<b>63</b>	<b>66</b>	<b>64</b>

**Sedimentation value (ml) continues**

Sr. No.	Genotype	CZ					PZ			Overall Mean
		Vijapur	Jabalpur	P'kheda	Indore	Mean	Pune	Dharwad	Mean	
1	DR-16-05	27	27	24	27	<b>26</b>	28	29	<b>28</b>	<b>29</b>
2	VA-2016-17	55	57	50	53	<b>54</b>	57	64	<b>61</b>	<b>56</b>
3	UP2672 ( C )	62	76	57	67	<b>66</b>	73	74	<b>74</b>	<b>69</b>
4	VA-2016-37	46	53	46	47	<b>48</b>	62	55	<b>58</b>	<b>52</b>
5	HD3215	76	75	73	74	<b>75</b>	71	76	<b>73</b>	<b>73</b>
6	MACS6222 ( C )	49	48	39	41	<b>44</b>	52	53	<b>52</b>	<b>48</b>
7	JWS855	61	69	54	53	<b>59</b>	65	57	<b>61</b>	<b>62</b>
8	HD2967 ( C )	75	72	53	62	<b>66</b>	79	51	<b>65</b>	<b>67</b>
9	WB2 ( C )	56	79	72	68	<b>68</b>	76	76	<b>76</b>	<b>72</b>
10	HD3086 ( C )	60	57	56	56	<b>57</b>	75	57	<b>66</b>	<b>60</b>
11	DBP-17-05 ( D )	38	41	36	43	<b>39</b>	39	69	<b>54</b>	<b>44</b>
12	GW322 ( C )	44	42	35	41	<b>41</b>	46	72	<b>59</b>	<b>49</b>
13	QLD102	74	64	33	79	<b>62</b>	79	78	<b>78</b>	<b>66</b>
14	HS490 ( C )	51	39	34	37	<b>40</b>	39	-	<b>39</b>	<b>39</b>
15	BNSR-1	56	72	62	73	<b>66</b>	79	72	<b>75</b>	<b>70</b>
16	BWL-7809	51	54	48	58	<b>53</b>	55	64	<b>60</b>	<b>57</b>
17	BNSR-2	64	74	52	72	<b>65</b>	76	72	<b>74</b>	<b>68</b>
18	SBP-MABB-1	47	55	46	50	<b>50</b>	57	55	<b>56</b>	<b>54</b>
19	MP-3532	44	50	46	45	<b>46</b>	48	53	<b>51</b>	<b>51</b>
23	QBP-18-8	67	74	64	70	<b>69</b>	76	53	<b>64</b>	<b>67</b>
24	RAJ-4541	53	46	45	46	<b>48</b>	46	48	<b>47</b>	<b>47</b>
25	BWL-7803	52	55	50	57	<b>54</b>	55	70	<b>62</b>	<b>56</b>
26	SBP-MABB-5	79	74	64	75	<b>73</b>	73	69	<b>71</b>	<b>70</b>
29	QLD112	62	55	45	51	<b>53</b>	53	53	<b>53</b>	<b>53</b>
31	DR-18-07	44	60	50	46	<b>50</b>	50	65	<b>58</b>	<b>55</b>
34	HPW-459	43	43	48	48	<b>46</b>	53	70	<b>61</b>	<b>53</b>
36	NIAW-3284	43	52	54	56	<b>51</b>	57	41	<b>49</b>	<b>53</b>
37	QLD109	45	46	49	48	<b>47</b>	46	56	<b>51</b>	<b>53</b>
39	DR-17-10	49	55	44	48	<b>49</b>	53	69	<b>61</b>	<b>57</b>
42	GW2017-825	55	43	43	41	<b>46</b>	55	55	<b>55</b>	<b>50</b>
44	KA-1805	69	48	46	54	<b>54</b>	58	46	<b>52</b>	<b>54</b>
46	HD3310	57	53	50	50	<b>53</b>	55	51	<b>53</b>	<b>57</b>
47	UP2996	71	76	69	72	<b>72</b>	79	43	<b>61</b>	<b>69</b>
48	SBP-MABB-4	72	40	43	50	<b>51</b>	51	34	<b>42</b>	<b>47</b>
49	QLD107	52	67	58	74	<b>63</b>	62	78	<b>70</b>	<b>67</b>
51	QBP-18-19	79	60	60	71	<b>67</b>	70	75	<b>72</b>	<b>67</b>
54	DBP-17-02 ( D )	74	27	27	29	<b>39</b>	30	62	<b>46</b>	<b>39</b>
56	QBP-17-7	78	69	65	64	<b>69</b>	76	77	<b>77</b>	<b>71</b>
57	HD3241	76	79	74	75	<b>76</b>	80	73	<b>76</b>	<b>75</b>
58	SBP-MABB-6	80	60	56	57	<b>63</b>	80	68	<b>74</b>	<b>64</b>
60	QBP-18-10	62	67	61	65	<b>64</b>	77	67	<b>72</b>	<b>68</b>
61	QLD101	72	72	63	72	<b>70</b>	79	46	<b>62</b>	<b>69</b>
64	QLD98	60	64	65	77	<b>67</b>	79	65	<b>72</b>	<b>70</b>
68	QLD111	49	57	55	60	<b>55</b>	57	43	<b>50</b>	<b>56</b>
69	HD3304	71	80	75	77	<b>76</b>	79	78	<b>78</b>	<b>75</b>
71	BWL-7805	81	74	68	43	<b>66</b>	74	51	<b>62</b>	<b>68</b>
73	GW20171-596	78	51	50	55	<b>59</b>	43	61	<b>52</b>	<b>53</b>
74	QLD110	69	57	64	65	<b>64</b>	67	76	<b>72</b>	<b>67</b>
76	QLD108	72	73	55	74	<b>68</b>	74	73	<b>74</b>	<b>70</b>
78	BWL-7800	68	67	69	77	<b>70</b>	76	76	<b>76</b>	<b>70</b>
79	UP2994	70	53	58	47	<b>57</b>	57	72	<b>65</b>	<b>60</b>
80	QBP-18-11	77	67	67	70	<b>70</b>	76	71	<b>73</b>	<b>68</b>
	<b>Mean</b>	<b>61</b>	<b>59</b>	<b>53</b>	<b>58</b>	<b>58</b>	<b>62</b>	<b>62</b>	<b>62</b>	<b>60</b>

**Table 5: Hardness index of QCWBN entries**

Sr. No.	Genotype	NWPZ	NEPZ	CZ	PZ	Mean
		Delhi	Kanpur	Vijapur	Pune	
1	DR-16-05	91	80	93	77	85
2	VA-2016-17	88	70	79	79	79
3	UP2672 ( C )	85	67	75	69	74
4	VA-2016-37	83	61	70	79	73
5	HD3215	87	71	85	83	81
6	MACS6222 ( C )	91	76	82	80	82
7	JWS855	89	69	86	81	81
8	HD2967 ( C )	81	68	84	83	79
9	WB2 ( C )	83	70	81	75	77
10	HD3086 ( C )	93	70	89	83	84
11	DBP-17-05 ( D )	95	85	88	88	89
12	GW322 ( C )	88	77	87	86	84
13	QLD102	90	79	82	82	83
14	HS490 ( C )	27	24	33	37	30
15	BNSR-1	75	69	81	75	75
16	BWL-7809	88	67	85	80	80
17	BNSR-2	73	71	79	77	75
18	SBP-MABB-1	78	66	78	85	77
19	MP-3532	87	77	89	86	85
23	QBP-18-8	75	74	81	82	78
24	RAJ-4541	78	76	80	79	78
25	BWL-7803	66	66	76	72	70
26	SBP-MABB-5	82	80	88	78	82
29	QLD112	16	15	15	15	15
31	DR-18-07	88	88	88	79	86
34	HPW-459	66	63	75	75	70
36	NIAW-3284	96	82	86	85	87
37	QLD109	93	82	87	87	87
39	DR-17-10	91	84	80	87	85
42	GW2017-825	94	75	85	83	84
44	KA-1805	84	73	81	81	80
46	HD3310	72	67	73	69	70
47	UP2996	75	63	79	77	73
48	SBP-MABB-4	80	70	83	76	77
49	QLD107	74	58	75	66	68
51	QBP-18-19	80	69	69	74	73
54	DBP-17-02 ( D )	94	80	84	79	84
56	QBP-17-7	88	78	83	70	80
57	HD3241	75	71	75	69	72
58	SBP-MABB-6	90	76	86	75	82
60	QBP-18-10	69	63	74	69	69
61	QLD101	78	72	90	79	80
64	QLD98	79	70	88	73	78
68	QLD111	65	66	71	71	68
69	HD3304	85	77	83	77	80
71	BWL-7805	89	74	86	80	82
73	GW20171-596	78	75	67	68	72
74	QLD110	43	45	40	43	43
76	QLD108	79	63	76	71	72
78	BWL-7800	91	76	89	86	85
79	UP2994	75	65	73	73	71
80	QBP-18-11	79	68	87	77	78
	<b>Mean</b>	<b>80</b>	<b>70</b>	<b>78</b>	<b>75</b>	<b>76</b>

**Table 6: Iron Content (ppm) of QCWBN entries**

Sr. No.	Genotype	NWPZ				NEPZ			CZ		Overall Mean
		Karnal	Ludhiana	Delhi	Mean	Kanpur	Varanasi	Mean	Jabalpur	Mean	
1	DR-16-05	36.8	34.1	54.3	<b>41.7</b>	41.4	36.5	<b>39.0</b>	38.9	<b>38.9</b>	<b>39.9</b>
2	VA-2016-17	40.3	37.8	53.6	<b>43.9</b>	38.4	42.6	<b>40.5</b>	43.7	<b>43.7</b>	<b>42.7</b>
3	UP2672 (C)	39.3	36.4	51.8	<b>42.5</b>	33.1	37.7	<b>35.4</b>	40.2	<b>40.2</b>	<b>39.4</b>
4	VA-2016-37	42.5	37.9	45.8	<b>42.1</b>	40.1	39.7	<b>39.9</b>	45.3	<b>45.3</b>	<b>42.4</b>
5	HD3215	45.9	33.6	49.0	<b>42.8</b>	37.2	46.9	<b>42.1</b>	43.1	<b>43.1</b>	<b>42.7</b>
6	MACS6222 ( C )	44.0	31.0	39.1	<b>38.0</b>	40.1	43.6	<b>41.9</b>	39.6	<b>39.6</b>	<b>39.8</b>
7	JWS855	41.0	34.7	61.1	<b>45.6</b>	32.5	45.0	<b>38.8</b>	41.6	<b>41.6</b>	<b>42.0</b>
8	HD2967 (C)	40.4	36.2	51.8	<b>42.8</b>	41.3	42.9	<b>42.1</b>	40.8	<b>40.8</b>	<b>41.9</b>
9	WB2 ( C )	47.2	36.4	41.9	<b>41.8</b>	48.9	40.2	<b>44.6</b>	47.9	<b>47.9</b>	<b>44.8</b>
10	HD3086 (C)	38.0	36.2	47.2	<b>40.5</b>	47.0	48.9	<b>48.0</b>	41.8	<b>41.8</b>	<b>43.4</b>
11	DBP-17-05 ( D )	42.9	39.4	47.6	<b>43.3</b>	36.4	41.0	<b>38.7</b>	44.5	<b>44.5</b>	<b>42.2</b>
12	GW322 ( C )	37.1	36.1	42.5	<b>38.6</b>	40.4	38.5	<b>39.5</b>	42.5	<b>42.5</b>	<b>40.2</b>
13	QLD102	36.8	37.5	50.8	<b>41.7</b>	40.4	38.5	<b>39.5</b>	44.8	<b>44.8</b>	<b>42.0</b>
14	HS490 ( C )	40.2	36.6	40.0	<b>38.9</b>	37.3	38.8	<b>38.1</b>	38.9	<b>38.9</b>	<b>38.6</b>
15	BNSR-1	43.7	35.4	66.3	<b>48.5</b>	41.6	47.6	<b>44.6</b>	48.4	<b>48.4</b>	<b>47.2</b>
16	BWL-7809	35.2	36.3	42.0	<b>37.8</b>	46.6	41.5	<b>44.1</b>	43.4	<b>43.4</b>	<b>41.8</b>
17	BNSR-2	44.7	32.1	53.0	<b>43.3</b>	42.8	39.6	<b>41.2</b>	40	<b>40</b>	<b>41.5</b>
18	SBP-MABB-1	41.9	30.2	46.6	<b>39.6</b>	38.4	43.7	<b>41.1</b>	38.6	<b>38.6</b>	<b>39.7</b>
19	MP-3532	38.2	36.7	45.8	<b>40.2</b>	37.5	38.6	<b>38.1</b>	39.6	<b>39.6</b>	<b>39.3</b>
23	QBP-18-8	44.4	35.6	50.0	<b>43.3</b>	46.3	38.5	<b>42.4</b>	43.3	<b>43.3</b>	<b>43.0</b>
24	RAJ-4541	47.2	37.8	47.4	<b>44.1</b>	40.8	39.0	<b>39.9</b>	43.5	<b>43.5</b>	<b>42.5</b>
25	BWL-7803	48.1	38.1	48.3	<b>44.8</b>	44.3	43.8	<b>44.1</b>	46.5	<b>46.5</b>	<b>45.1</b>
26	SBP-MABB-5	39.9	32.5	44.4	<b>38.9</b>	48.0	38.3	<b>43.2</b>	42.6	<b>42.6</b>	<b>41.6</b>
29	QLD112	39.6	37.6	46.5	<b>41.2</b>	46.7	36.8	<b>41.8</b>	41.2	<b>41.2</b>	<b>41.4</b>
31	DR-18-07	37.5	35.9	34.8	<b>36.1</b>	35.6	36.6	<b>36.1</b>	44.6	<b>44.6</b>	<b>38.9</b>
34	HPW-459	38.4	31.2	50.2	<b>39.9</b>	37.8	40.1	<b>39.0</b>	37.1	<b>37.1</b>	<b>38.7</b>
36	NIAW-3284	37.8	32.1	52.5	<b>40.8</b>	40.1	37.8	<b>39.0</b>	55.1	<b>55.1</b>	<b>45.0</b>
37	QLD109	40.7	33.5	54.7	<b>43.0</b>	44.1	41.2	<b>42.7</b>	45.7	<b>45.7</b>	<b>43.8</b>
39	DR-17-10	37.5	37.7	39.9	<b>38.4</b>	30.8	41.1	<b>36.0</b>	32.1	<b>32.1</b>	<b>35.5</b>
42	GW2017-825	36.6	40.2	42.3	<b>39.7</b>	46.2	39.8	<b>43.0</b>	49.7	<b>49.7</b>	<b>44.1</b>
44	KA-1805	38.9	38.8	43.7	<b>40.5</b>	37.3	43.5	<b>40.4</b>	42.6	<b>42.6</b>	<b>41.2</b>
46	HD3310	45.3	30.4	54.9	<b>43.5</b>	43.9	44.7	<b>44.3</b>	54.8	<b>54.8</b>	<b>47.5</b>
47	UP2996	38.6	-	43.7	<b>41.2</b>	46.1	42.6	<b>44.4</b>	56.6	<b>56.6</b>	<b>47.4</b>
48	SBP-MABB-4	32.9	34.8	42.7	<b>36.8</b>	42.5	40.0	<b>41.3</b>	36.5	<b>36.5</b>	<b>38.2</b>
49	QLD107	46.8	35.7	49.7	<b>44.1</b>	43.4	39.6	<b>41.5</b>	39.4	<b>39.4</b>	<b>41.7</b>
51	QBP-18-19	44.0	-	51.6	<b>47.8</b>	41.0	51.8	<b>46.4</b>	40.8	<b>40.8</b>	<b>45.0</b>
54	DBP-17-02 ( D )	38.4	34.9	49.9	<b>41.1</b>	33.9	41.7	<b>37.8</b>	37.9	<b>37.9</b>	<b>38.9</b>
56	QBP-17-7	37.3	41.2	51.0	<b>43.2</b>	46.6	43.8	<b>45.2</b>	55.8	<b>55.8</b>	<b>48.1</b>
57	HD3241	39.2	30.9	45.7	<b>38.6</b>	40.6	36.3	<b>38.5</b>	53.8	<b>53.8</b>	<b>43.6</b>
58	SBP-MABB-6	37.2	29.9	46.6	<b>37.9</b>	36.0	36.4	<b>36.2</b>	37.3	<b>37.3</b>	<b>37.1</b>
60	QBP-18-10	43.1	33.0	48.3	<b>41.5</b>	43.8	38.3	<b>41.1</b>	48.7	<b>48.7</b>	<b>43.7</b>
61	QLD101	41.0	40.6	73.8	<b>51.8</b>	41.0	41.5	<b>41.3</b>	34.8	<b>34.8</b>	<b>42.6</b>
64	QLD98	40.7	30.0	46.8	<b>39.2</b>	50.5	45.4	<b>48.0</b>	42.8	<b>42.8</b>	<b>43.3</b>
68	QLD111	45.6	35.4	44.3	<b>41.8</b>	43.0	41.1	<b>42.1</b>	48.2	<b>48.2</b>	<b>44.0</b>
69	HD3304	42.8	32.6	47.8	<b>41.1</b>	42.8	46.1	<b>44.5</b>	45.4	<b>45.4</b>	<b>43.6</b>
71	BWL-7805	44.6	35.6	47.6	<b>42.6</b>	41.6	40.4	<b>41.0</b>	47.5	<b>47.5</b>	<b>43.7</b>
73	GW20171-596	41.3	40.4	46.5	<b>42.7</b>	43.9	47.1	<b>45.5</b>	46.8	<b>46.8</b>	<b>45.0</b>
74	QLD110	38.3	30.8	46.0	<b>38.4</b>	39.7	43.4	<b>41.6</b>	39.7	<b>39.7</b>	<b>39.9</b>
76	QLD108	41.5	-	54.8	<b>48.2</b>	44.5	37.3	<b>40.9</b>	53.3	<b>53.3</b>	<b>47.5</b>
78	BWL-7800	<b>47.2</b>	36.6	52.5	<b>45.4</b>	44.2	52.8	<b>48.5</b>	51.1	<b>51.1</b>	<b>48.3</b>
79	UP2994	42.2	29.4	51.8	<b>41.1</b>	48.6	44.4	<b>46.5</b>	59.5	<b>59.5</b>	<b>49.0</b>
80	QBP-18-11	39.2	-	48.4	<b>43.8</b>	40.2	41.8	<b>41.0</b>	42.6	<b>42.6</b>	<b>42.5</b>
	<b>Mean</b>	<b>41.0</b>	<b>35.2</b>	<b>48.6</b>	<b>41.8</b>	<b>41.5</b>	<b>41.6</b>	<b>41.6</b>	<b>44.2</b>	<b>44.2</b>	<b>42.5</b>

**Table 7: Zinc Content (ppm) of QCWBN entries**

Sr. No.	Genotype	NWPZ				NEPZ			CZ		Overall Mean
		Karnal	Ludhiana	Delhi	Mean	Kanpur	Varanasi	Mean	Jabalpur	Mean	
1	DR-16-05	33.4	-	46.4	<b>39.9</b>	37.7	37.5	<b>37.6</b>	36.4	<b>36.4</b>	<b>38.0</b>
2	VA-2016-17	28.6	43.5	43.9	<b>38.7</b>	35.4	39.3	<b>37.4</b>	36.0	<b>36.0</b>	<b>37.3</b>
3	UP2672 (C)	31.7	37.9	53.1	<b>40.9</b>	38.6	38.4	<b>38.5</b>	40.1	<b>40.1</b>	<b>39.8</b>
4	VA-2016-37	27.3	38.1	46.0	<b>37.1</b>	31.7	40.1	<b>35.9</b>	38.5	<b>38.5</b>	<b>37.2</b>
5	HD3215	28.6	30.5	50.6	<b>36.6</b>	30.8	35.1	<b>33.0</b>	35.3	<b>35.3</b>	<b>34.9</b>
6	MACS6222(C)	30.2	34.6	49.5	<b>38.1</b>	36.8	36.6	<b>36.7</b>	33.0	<b>33.0</b>	<b>35.9</b>
7	JWS855	34.6	-	47.4	<b>41.0</b>	40.5	43.0	<b>41.8</b>	45.4	<b>45.4</b>	<b>42.7</b>
8	HD2967 (C)	26.8	28.0	51.8	<b>35.5</b>	26.4	37.9	<b>32.2</b>	34.2	<b>34.2</b>	<b>34.0</b>
9	WB2 (C)	28.1	33.9	44.4	<b>35.5</b>	31.8	37.5	<b>34.7</b>	44.3	<b>44.3</b>	<b>38.1</b>
10	HD3086 (C)	28.5	34.7	40.8	<b>34.7</b>	31.7	30.2	<b>31.0</b>	34.0	<b>34.0</b>	<b>33.2</b>
11	DBP-17-05 (D)	30.0	44.5	54.5	<b>43.0</b>	31.9	45.2	<b>38.6</b>	33.5	<b>33.5</b>	<b>38.3</b>
12	GW322 (C)	26.3	37.0	47.8	<b>37.0</b>	35.3	35.8	<b>35.6</b>	38.2	<b>38.2</b>	<b>36.9</b>
13	QLD102	27.6	39.4	51.8	<b>39.6</b>	30.3	27.6	<b>29.0</b>	31.9	<b>31.9</b>	<b>33.5</b>
14	HS490 (C)	27.9	39.6	57.8	<b>41.8</b>	23.1	36.7	<b>29.9</b>	35.3	<b>35.3</b>	<b>35.7</b>
15	BNSR-1	33.6	30.1	56.2	<b>40.0</b>	30.0	43.3	<b>36.7</b>	35.5	<b>35.5</b>	<b>37.4</b>
16	BWL-7809	28.8	35.1	54.0	<b>39.3</b>	36.3	31.6	<b>34.0</b>	36.8	<b>36.8</b>	<b>36.7</b>
17	BNSR-2	34.1	34.4	53.9	<b>40.8</b>	35.8	36.3	<b>36.1</b>	37.9	<b>37.9</b>	<b>38.3</b>
18	SBP-MABB-1	32.5	46.3	57.0	<b>45.3</b>	35.0	36.3	<b>35.7</b>	29.8	<b>29.8</b>	<b>36.9</b>
19	MP-3532	26.1	41.9	53.9	<b>40.6</b>	35.9	31.6	<b>33.8</b>	34.3	<b>34.3</b>	<b>36.2</b>
23	QBP-18-8	33.2	38.5	47.7	<b>39.8</b>	33.6	37.4	<b>35.5</b>	41.6	<b>41.6</b>	<b>39.0</b>
24	RAJ-4541	36.6	29.9	65.0	<b>43.8</b>	37.8	38.3	<b>38.1</b>	57.1	<b>57.1</b>	<b>46.3</b>
25	BWL-7803	37.0	25.8	52.4	<b>38.4</b>	34.4	41.5	<b>38.0</b>	38.5	<b>38.5</b>	<b>38.3</b>
26	SBP-MABB-5	25.9	-	40.1	<b>33.0</b>	32.7	29.1	<b>30.9</b>	32.5	<b>32.5</b>	<b>32.1</b>
29	QLD112	31.9	35.5	48.8	<b>38.7</b>	32.8	34.1	<b>33.5</b>	42.1	<b>42.1</b>	<b>38.1</b>
31	DR-18-07	39.2	-	46.2	<b>42.7</b>	30.5	33.5	<b>32.0</b>	35.0	<b>35.0</b>	<b>36.6</b>
34	HPW-459	31.3	33.6	61.5	<b>42.1</b>	37.6	39.2	<b>38.4</b>	34.0	<b>34.0</b>	<b>38.2</b>
36	NIAW-3284	27.6	30.2	53.6	<b>37.1</b>	33.2	33.7	<b>33.5</b>	38.7	<b>38.7</b>	<b>36.4</b>
37	QLD109	34.6	35.8	63.2	<b>44.5</b>	42.9	29.9	<b>36.4</b>	44.8	<b>44.8</b>	<b>41.9</b>
39	DR-17-10	29.2	-	58.3	<b>43.8</b>	34.8	39.8	<b>37.3</b>	36.8	<b>36.8</b>	<b>39.3</b>
42	GW2017-825	28.4	45.7	60.7	<b>44.9</b>	36.1	38.1	<b>37.1</b>	44.2	<b>44.2</b>	<b>42.1</b>
44	KA-1805	27.1	35.6	54.7	<b>39.1</b>	33.1	37.8	<b>35.5</b>	33.6	<b>33.6</b>	<b>36.1</b>
46	HD3310	41.6	40.7	56.9	<b>46.4</b>	31.8	43.0	<b>37.4</b>	39.0	<b>39.0</b>	<b>40.9</b>
47	UP2996	33.5	38.2	50.9	<b>40.9</b>	35.3	36.1	<b>35.7</b>	44.2	<b>44.2</b>	<b>40.3</b>
48	SBP-MABB-4	26.5	-	47.8	<b>37.2</b>	33.0	28.2	<b>30.6</b>	36.1	<b>36.1</b>	<b>34.6</b>
49	QLD107	39.4	34.2	45.8	<b>39.8</b>	36.2	34.1	<b>35.2</b>	35.4	<b>35.4</b>	<b>36.8</b>
51	QBP-18-19	30.0	31.4	53.1	<b>38.2</b>	35.3	39.3	<b>37.3</b>	36.4	<b>36.4</b>	<b>37.3</b>
54	DBP-17-02 (D)	28.6	43.3	61.6	<b>44.5</b>	34.4	35.6	<b>35.0</b>	41.9	<b>41.9</b>	<b>40.5</b>
56	QBP-17-7	26.5	34.8	55.8	<b>39.0</b>	38.5	36.3	<b>37.4</b>	38.6	<b>38.6</b>	<b>38.3</b>
57	HD3241	29.2	32.3	54.6	<b>38.7</b>	37.6	35.8	<b>36.7</b>	41.3	<b>41.3</b>	<b>38.9</b>
58	SBP-MABB-6	26.7	41.1	41.1	<b>36.3</b>	27.9	28.1	<b>28.0</b>	42.7	<b>42.7</b>	<b>35.7</b>
60	QBP-18-10	37.0	42.9	62.7	<b>47.5</b>	30.9	36.9	<b>33.9</b>	39.8	<b>39.8</b>	<b>40.4</b>
61	QLD101	29.7	32.7	57.5	<b>40.0</b>	32.4	34.9	<b>33.7</b>	41.6	<b>41.6</b>	<b>38.4</b>
64	QLD98	29.2	38.7	36.0	<b>34.6</b>	28.6	33.6	<b>31.1</b>	47.0	<b>47.0</b>	<b>37.6</b>
68	QLD111	30.8	38.4	44.1	<b>37.8</b>	36.7	34.5	<b>35.6</b>	33.8	<b>33.8</b>	<b>35.7</b>
69	HD3304	30.5	35.6	47.2	<b>37.8</b>	36.5	39.3	<b>37.9</b>	37.4	<b>37.4</b>	<b>37.7</b>
71	BWL-7805	37.7	43.6	58.7	<b>46.7</b>	43.7	44.6	<b>44.2</b>	50.0	<b>50.0</b>	<b>46.9</b>
73	GW20171-596	35.7	46.4	49.3	<b>43.8</b>	42.9	43.2	<b>43.1</b>	40.8	<b>40.8</b>	<b>42.5</b>
74	QLD110	26.3	28.8	46.3	<b>33.8</b>	27.6	42.1	<b>34.9</b>	36.8	<b>36.8</b>	<b>35.2</b>
76	QLD108	33.3	29.8	49.6	<b>37.6</b>	30.0	35.4	<b>32.7</b>	33.1	<b>33.1</b>	<b>34.5</b>
78	BWL-7800	39.5	45.4	65.9	<b>50.3</b>	38.7	44.6	<b>41.7</b>	42.5	<b>42.5</b>	<b>44.8</b>
79	UP2994	39.1	36.2	57.1	<b>44.1</b>	41.5	40.1	<b>40.8</b>	45.7	<b>45.7</b>	<b>43.5</b>
80	QBP-18-11	32.3	33.8	49.9	<b>38.7</b>	27.4	39.8	<b>33.6</b>	33.3	<b>33.3</b>	<b>35.2</b>
	<b>Mean</b>	<b>31.3</b>	<b>36.7</b>	<b>52.0</b>	<b>40.1</b>	<b>34.3</b>	<b>36.9</b>	<b>35.6</b>	<b>38.6</b>	<b>38.6</b>	<b>38.1</b>

**Table 8: Quality analysis of Quality Component Screening Nursery (QCSN) of preliminary entries**

Sr. No.	QCSN Entries	Grain Appearance Score (Max-10.0)	Hectolitre Weight (kg/hl)	Protein Content (%)	Sedimentation Value (ml)
81	KA-1822	6.6	79.5	12.53	67
82	KA-1821	5.2	76.6	13.28	74
83	KA-1824	6.8	81.3	12.94	61
84	DR-17-02	4.0	76.0	11.82	64
85	DR-17-09	3.5	67.6	13.74	51
86	DR-17-10	3.8	67.5	13.95	64
87	DR-16-12	3.8	69.5	12.70	52
88	AR-14-04	3.0	59.8	13.08	49
89	AR-15-06	3.0	62.2	13.29	46
90	AR-15-15	4.0	73.8	14.92	73
91	AR-15-17	3.2	68.2	16.15	67
92	AR-16-10	3.3	66.5	14.20	54
93	AR-15-13	3.5	74.6	13.27	22
94	DR-15-17	3.2	74.8	12.41	64
95	BWL-5429	6.0	77.4	15.03	74
96	BWL-8035	7.2	82.0	13.80	74
97	BWL-8036	7.0	81.0	13.18	63
98	BWL-8037	6.4	80.1	11.78	53
99	BWL-8038	6.8	81.3	12.40	67
100	NIAW-3877	6.4	81.8	10.84	64
101	NIAW-3733	6.8	78.3	11.71	50
102	NIAW-3889	6.4	78.4	11.58	74
103	NIAW-3911	6.4	76.8	12.41	58
104	NIAW-3882	6.4	78.4	12.54	69
105	QBP-18-12	6.8	80.3	14.37	57
106	QBP-18-13	6.6	80.5	10.90	53
107	QBP-18-14	7.0	80.0	14.55	74
108	QBP-18-15	6.2	81.3	16.52	75
109	QBP-18-16	6.6	79.2	11.49	68
110	WSM-109-4	6.4	80.0	8.50	36
111	AKAW-5079	7.0	80.6	11.87	24
112	AKAW-4776	6.8	81.3	11.22	24
113	AKAW-5112	6.8	80.2	12.89	30
114	MP-3510	5.8	75.3	14.19	71
115	MP-3516	6.0	78.6	11.96	51
116	MP-3517	6.4	79.5	11.89	68
117	MP-3520	6.2	79.0	13.15	75
118	MP-3522	6.2	80.0	12.84	74
119	MP-3533	6.8	79.5	14.45	60
120	GW-2018-895	6.8	80.0	13.06	47
121	GW-2018-896	7.0	78.2	12.36	43
122	GW-2018-897	6.6	79.5	12.47	29
123	GW-2018-898	6.8	80.0	11.36	50
124	GW-2018-899	6.6	79.5	12.37	43



125	GW-2018-900	6.2	80.2	12.43	50
126	GW-2018-901	6.0	79.4	11.89	50
127	GW-2018-902	6.0	78.3	13.18	67
128	GW-2018-903	6.2	79.3	12.79	46
129	GW-2018-904	6.0	80.2	12.61	46
130	GW-2018-905	5.8	75.7	12.66	50
131	GW-2018-906	6.0	79.0	11.99	46
132	GW-2018-907	6.2	80.2	12.27	43
133	GW-2018-930(d)	6.2	79.3	15.55	35
134	GW-2018-931(d)	6.8	81.4	12.92	31
135	GW-2018-932(d)	6.2	74.0	12.02	21
136	GW-2018-933(d)	6.4	76.2	14.14	17
137	GW-2018-934(d)	6.4	77.5	15.24	26
138	GW-2018-935(d)	7.4	81.0	12.81	43
139	GW-2018-936(d)	6.6	78.3	15.24	27
140	GW-2018-937(d)	6.4	79.4	12.64	46
141	GW-2018-938(d)	6.6	80.0	11.78	39
142	GW-2018-939(d)	6.0	77.0	12.99	49
143	GW-2018-940(d)	6.0	79.0	13.06	46
144	GW-2018-941(d)	6.0	79.7	12.82	39
145	QLD113	6.4	80.1	12.30	53
146	QLD114	6.4	78.5	11.94	66
147	QLD115	6.2	79.3	13.34	55
148	HD-3226	6.4	79.6	12.85	73
<b>Mean</b>		<b>5.9</b>	<b>77.6</b>	<b>12.9</b>	<b>54</b>

# **SECTION E**

## **WHEAT PRODUCTS**

**I. CHAPATI**

**II. BREAD**

**III. BISCUIT**

**IV. GLUTEN**

**V. PASTA**

## **WHEAT PRODUCTS EVALUATION**

All the *T.aestivum* AVT second year entries including checks were evaluated for chapati, bread & biscuit and the *T. durum* AVTs for pasta quality. The gluten content was reported as wet gluten (%), dry gluten (%) and gluten index of *T.aestivum*.

### **Chapati Quality (Table 1)**

For the evaluation of chapati quality, various parameters like water absorption, nature & colour of dough (before and after maturation), chapati appearance, colour, aroma, taste, puffing height, pliability and loss of water (just after and after 4 hrs of baking) were considered and the score was given out of 10.0.

### **Bread Quality (Table 2 & 3)**

Among various parameters, loaf volume (Table 2) is considered most important and is given maximum weightage while evaluating bread quality. For the evaluation of bread quality various parameters like loaf volume, stickiness, appearance, crust colour, texture, taste and aroma were considered and the score was given out of 10.0 (Table 3).

### **Biscuit Quality (Table 4)**

Biscuit spread factor was calculated from cookies prepared using standard methods. there was one entry (NIAW 3170) in all the zones having desirable spread factor (>10.0) for identification.

### **Gluten Content (Table 5-7):**

Wet Gluten (Table 5), Dry Gluten (6) and Gluten Index (7) were evaluated for identification of superior entries. For assessing the gluten quality, all three parameters of gluten and protein content together should be taken into consideration and not the individual parameter.

### **Pasta Quality (Table 8-9)**

Pasta product (macaroni) was prepared from the second year AVT entries including checks. For the evaluation of macaroni cooking quality (Table 8), various parameters like cooking time, water absorption, water uptake ratio, gruel solid loss and stickiness were considered. Apart from these, sensory evaluation (Table 9) was carried out where parameters like colour, texture, flavour, taste and based on these, overall acceptability using '9' point hedonic scale was considered.

**Table 1: Chapati quality (Max Score - 10) of *T. aestivum* genotypes**

**A. North Western Plains Zone (NWPZ) AVTs**

Sr. No.	Entry	Code	Ludhiana	Hisar	Delhi	Mean
<b>Irrigated Timely Sown</b>						
1	DBW 221*	105	7.83	7.08	7.87	<b>7.59</b>
2	DBW 222*	106	7.33	7.33	7.83	<b>7.50</b>
3	HD3226(I) (C)	102	7.16	7.45	7.29	<b>7.30</b>
4	HD2967 (C)	109	7.08	7.12	8.16	<b>7.45</b>
5	WH1105 (C)	101	8.00	7.87	7.08	<b>7.65</b>
6	HD3086 (C)	103	7.41	8.04	7.75	<b>7.73</b>
7	DPW621-50 (C)	111	7.41	7.95	7.62	<b>7.66</b>
8	DBW88 (C)	112	7.20	7.33	7.33	<b>7.29</b>
9	PBW550 (C)	107	7.12	8.16	7.75	<b>7.68</b>
<b>Mean</b>			<b>7.39</b>	<b>7.59</b>	<b>7.63</b>	<b>7.54</b>
<b>Irrigated Late Sown</b>						
1	PBW 771*	206	8.35	8.37	8.25	<b>8.32</b>
2	PBW752(I) (C)	201	7.20	7.12	7.37	<b>7.23</b>
3	HD3059 (C)	204	7.66	8.12	7.91	<b>7.90</b>
4	WH1021 (C)	203	7.62	8.04	7.29	<b>7.65</b>
5	WH1124 (C)	205	7.75	7.54	7.62	<b>7.64</b>
6	DBW173 (C)	202	7.25	7.14	7.41	<b>7.27</b>
<b>Mean</b>			<b>7.64</b>	<b>7.72</b>	<b>7.64</b>	<b>7.67</b>
<b>Restricted Irrigated Timely Sown</b>						
1	BRW 3806* <sup>#</sup>	308		7.79	7.33	<b>7.56</b>
2	NIAW 3170*	309		7.33	7.20	<b>7.27</b>
3	HI 1628*	303		7.54	7.66	<b>7.60</b>
4	HD3237(I) (C)	307		7.41	7.41	<b>7.41</b>
5	HI1620(I) (C)	301		7.79	6.75	<b>7.27</b>
6	WH1080 (C)	310		7.04	7.66	<b>7.35</b>
7	PBW644 (C)	306		8.29	7.58	<b>7.94</b>
8	HD3043 (C)	305		7.12	8.08	<b>7.60</b>
9	WH1142 (C)	304		7.87	7.12	<b>7.50</b>
<b>Mean</b>				<b>7.58</b>	<b>7.42</b>	<b>7.50</b>

### B. North Eastern Plains Zone (NEPZ) AVTs

Sr. No.	Entry	Code	Kanpur	Pusa	Mean
<b>Irrigated Timely Sown</b>					
1	HD3249* <sup>#Q</sup>	101	7.95	7.58	<b>7.8</b>
2	DBW187(I) (C)	108	7.75	7.66	<b>7.7</b>
3	HD2733 (C)	102	8.04	7.33	<b>7.7</b>
4	K0307 (C)	110	8.33	7.62	<b>8.0</b>
5	DBW39 (C)	105	8.28	7.41	<b>7.8</b>
6	HD2967 (C)	111	7.95	7.95	<b>8.0</b>
<b>Mean</b>			<b>8.05</b>	<b>7.59</b>	<b>7.82</b>
<b>Restricted Irrigated Timely Sown</b>					
1	DBW 252* <sup>#</sup>	306	7.75	7.12	<b>7.4</b>
2	HD2888 (C)	305	8.08	7.91	<b>8.0</b>
3	K8027 (C)	307	8.16	8.29	<b>8.2</b>
4	HD3171 (C)	304	7.41	7.37	<b>7.4</b>
5	K1317 (C)	301	8.16	7.83	<b>8.0</b>
6	HI1612 (C)	302	8.25	7.66	<b>8.0</b>
<b>Mean</b>			<b>7.97</b>	<b>7.70</b>	<b>7.83</b>

### C. Peninsular (PZ) AVTs

Sr. No.	Entry	Code	Pune	Dharwad	Niphad	Mean
<b>Restricted Irrigated Timely Sown</b>						
1	NIAW3170*	301	7.08	7.12	7.04	<b>7.08</b>
2	MACS 6695*	307	7.33	7.75	7.37	<b>7.48</b>
3	MACS 6696*	310	7.66	7.45	7.58	<b>7.56</b>
4	DBW93 (C)	304	7.25	7.45	7.58	<b>7.43</b>
5	HI1605 (C)	309	7.25	7.83	7.95	<b>7.68</b>
<b>Mean</b>			<b>7.31</b>	<b>7.52</b>	<b>7.50</b>	<b>7.45</b>

## D. Special trials

### HPYT (NWPZ)

Sr. No.	Entry	Code	Karnal	Ludhiana	Mean
1	HD3317	1	7.45	7.70	<b>7.58</b>
2	WH1254	2	8.29	7.29	<b>7.79</b>
3	DBW301	3	8.04	7.83	<b>7.94</b>
4	WH1270	4	7.70	7.25	<b>7.48</b>
5	PBW824	6	7.66	8.16	<b>7.91</b>
6	UP3043	7	7.75	7.45	<b>7.60</b>
7	DBW187	8	7.50	7.83	<b>7.67</b>
8	DBW303	10	8.00	7.75	<b>7.88</b>
9	DBW304	11	7.54	7.12	<b>7.33</b>
10	UP3042	12	8.37	7.54	<b>7.96</b>
11	DBW302	13	7.37	7.58	<b>7.48</b>
12	PBW825	14	8.00	7.25	<b>7.63</b>
13	HD3347	15	8.20	8.04	<b>8.12</b>
14	HD2967 (C)	5	8.16	8.20	<b>8.18</b>
15	HD3086 (C)	9	8.25	7.75	<b>8.00</b>
<b>Mean</b>			<b>7.89</b>	<b>7.65</b>	<b>7.77</b>

### SPL-VLS (NWPZ & NEPZ)

Sr. No.	Entry	Code	NWPZ	NEPZ	Mean
			Karnal	Kanpur	
1	HD3271*	104	7.45	7.29	<b>7.37</b>
2	HI1621*	107	8.29	7.45	<b>7.87</b>
3	PBW757 (C)	101	8.50	8.25	<b>8.38</b>
4	DBW71 (C)	106	8.33	7.75	<b>8.04</b>
5	DBW14 (C)	105	7.95	8.00	<b>7.98</b>
6	WR544 (C)	102	7.33	7.91	<b>7.62</b>
<b>Mean</b>			<b>7.98</b>	<b>7.78</b>	<b>7.88</b>

**Table 2: Bread loaf volume (ml) of *T. aestivum* genotypes****A. North Western Plains Zone (NWPZ) AVTs**

<b>Sr. No.</b>	<b>Entry</b>	<b>Code</b>	<b>Delhi</b>	<b>Hisar</b>	<b>Mean</b>
<b>Irrigated Timely Sown</b>					
1	DBW 221*	105	710	550	<b>630</b>
2	DBW 222*	106	710	585	<b>648</b>
3	HD3226(I) (C)	102	685	610	<b>648</b>
4	HD2967 (C)	109	690	575	<b>633</b>
5	WH1105 (C)	101	650	635	<b>643</b>
6	HD3086 (C)	103	690	565	<b>628</b>
7	DPW621-50 (C)	111	605	560	<b>583</b>
8	DBW88 (C)	112	645	485	<b>565</b>
9	PBW550 (C)	107	625	435	<b>530</b>
	<b>Mean</b>		<b>668</b>	<b>556</b>	<b>612</b>
<b>Irrigated Late Sown</b>					
1	PBW 771*	206	580	490	<b>535</b>
2	PBW752(I) (C)	201	640	515	<b>578</b>
3	HD3059 (C)	204	590	535	<b>563</b>
4	WH1021 (C)	203	600	510	<b>555</b>
5	WH1124 (C)	205	610	445	<b>528</b>
6	DBW173 (C)	202	600	495	<b>548</b>
	<b>Mean</b>		<b>603</b>	<b>498</b>	<b>551</b>
<b>Restricted Irrigated Timely Sown</b>					
1	BRW 3806* <sup>#</sup>	308	645	575	<b>610</b>
2	NIAW 3170*	309	595	620	<b>608</b>
3	HI 1628*	303	635	430	<b>533</b>
4	HD3237(I) (C)	307	585	435	<b>510</b>
5	HI1620(I) (C)	301	630	530	<b>580</b>
6	WH1080 (C)	310	705	550	<b>628</b>
7	PBW644 (C)	306	490	465	<b>478</b>
8	HD3043 (C)	305	600	535	<b>568</b>
9	WH1142 (C)	304	630	460	<b>545</b>
	<b>Mean</b>		<b>613</b>	<b>511</b>	<b>562</b>

### B. North Eastern Plains Zone (NEPZ) AVTs

Sr. No.	Entry	Code	Kanpur	Pusa	Mean
<b>Irrigated Timely Sown</b>					
1	HD3249* <sup>#Q</sup>	101	530	535	<b>533</b>
2	DBW187(I) (C)	108	480	510	<b>495</b>
3	HD2733 (C)	102	575	585	<b>580</b>
4	K0307 (C)	110	405	480	<b>443</b>
5	DBW39 (C)	105	580	530	<b>555</b>
6	HD2967 (C)	111	610	640	<b>625</b>
<b>Mean</b>			<b>530</b>	<b>547</b>	<b>538</b>
<b>Restricted Irrigated Timely Sown</b>					
1	DBW 252* <sup>#</sup>	306	470	445	<b>458</b>
2	HD2888 (C)	305	485	400	<b>443</b>
3	K8027 (C)	307	410	420	<b>415</b>
4	HD3171 (C)	304	400	515	<b>458</b>
5	K1317 (C)	301	480	415	<b>448</b>
6	HI1612 (C)	302	455	425	<b>440</b>
<b>Mean</b>			<b>450</b>	<b>437</b>	<b>443</b>

### C. Peninsular (PZ) AVTs

Sr. No.	Entry	Code	Pune	Dharwad	Niphad	Mean
<b>Restricted Irrigated Timely Sown</b>						
1	NIAW 3170*	301	625	610	590	<b>608</b>
2	MACS 6695*	307	550	475	570	<b>532</b>
3	MACS 6696*	310	650	565	590	<b>602</b>
4	DBW93 (C)	304	590	615	685	<b>630</b>
5	HI1605 (C)	309	660	565	595	<b>607</b>
6	<b>Mean</b>		<b>615</b>	<b>566</b>	<b>606</b>	<b>596</b>



## D. Special trials

### HPYT (NWPZ)

Sr. No.	Entry	Code	Karnal	Ludhiana	Mean
1	HD3317	1	635	525	<b>580</b>
2	WH1254	2	615	590	<b>603</b>
3	DBW301	3	630	525	<b>578</b>
4	WH1270	4	600	510	<b>555</b>
5	PBW824	6	550	455	<b>503</b>
6	UP3043	7	550	560	<b>555</b>
7	DBW187	8	670	425	<b>548</b>
8	DBW303	10	600	620	<b>610</b>
9	DBW304	11	585	600	<b>593</b>
10	UP3042	12	585	560	<b>573</b>
11	DBW302	13	700	535	<b>618</b>
12	PBW825	14	560	620	<b>590</b>
13	HD3347	15	610	645	<b>628</b>
14	HD2967 (C)	5	575	575	<b>575</b>
15	HD3086 (C)	9	590	565	<b>578</b>
	<b>Mean</b>		<b>604</b>	<b>554</b>	<b>579</b>

### SPL-VLS (NWPZ & NEPZ)

Sr. No.	Entry	Code	NWPZ	NEPZ	Mean
			Karnal	Kanpur	
1	HD3271*	104	575	590	<b>583</b>
2	HI1621*	107	595	630	<b>613</b>
3	PBW757 (C)	101	550	500	<b>525</b>
4	DBW71 (C)	106	555	455	<b>505</b>
5	DBW14 (C)	105	540	545	<b>543</b>
6	WR544 (C)	102	525	585	<b>555</b>
	<b>Mean</b>		<b>557</b>	<b>551</b>	<b>554</b>

**Table 3: Bread quality (Bread score Max-10) of *T. aestivum* genotypes****A. North Western Plains Zone (NWPZ) AVTs**

<b>Sr. No.</b>	<b>Entry</b>	<b>Code</b>	<b>Delhi</b>	<b>Hisar</b>	<b>Mean</b>
<b>Irrigated Timely Sown</b>					
1	DBW 221*	105	9.59	6.89	<b>8.24</b>
2	DBW 222*	106	9.18	7.36	<b>8.27</b>
3	HD3226(I) (C)	102	9.12	8.51	<b>8.82</b>
4	HD2967 (C)	109	8.24	7.22	<b>7.73</b>
5	WH1105 (C)	101	8.91	8.31	<b>8.61</b>
6	HD3086 (C)	103	8.78	7.36	<b>8.07</b>
7	DPW621-50 (C)	111	8.04	7.16	<b>7.60</b>
8	DBW88 (C)	112	8.71	5.60	<b>7.16</b>
9	PBW550 (C)	107	8.17	4.66	<b>6.42</b>
<b>Mean</b>			<b>8.75</b>	<b>7.00</b>	<b>7.88</b>
<b>Irrigated Late Sown</b>					
1	PBW 771*	206	7.56	4.86	<b>6.21</b>
2	PBW752(I) (C)	201	8.24	6.01	<b>7.13</b>
3	HD3059 (C)	204	7.43	6.14	<b>6.79</b>
4	WH1021 (C)	203	7.97	5.13	<b>6.55</b>
5	WH1124 (C)	205	7.56	4.93	<b>6.25</b>
6	DBW173 (C)	202	6.48	4.93	<b>5.71</b>
<b>Mean</b>			<b>7.54</b>	<b>5.33</b>	<b>6.44</b>
<b>Restricted Irrigated Timely Sown</b>					
1	BRW 3806* <sup>#</sup>	308	8.31	6.96	<b>7.64</b>
2	NIAW 3170*	309	6.01	7.83	<b>6.92</b>
3	HI 1628*	303	8.44	4.05	<b>6.25</b>
4	HD3237(I) (C)	307	6.95	4.25	<b>5.60</b>
5	HI1620(I) (C)	301	7.7	6.21	<b>6.96</b>
6	WH1080 (C)	310	9.39	6.62	<b>8.01</b>
7	PBW644 (C)	306	4.86	4.66	<b>4.76</b>
8	HD3043 (C)	305	7.02	5.87	<b>6.45</b>
9	WH1142 (C)	304	7.77	4.59	<b>6.18</b>
<b>Mean</b>			<b>7.38</b>	<b>5.67</b>	<b>6.52</b>

### B. North Eastern Plains Zone (NEPZ) AVTs

Sr. No.	Entry	Code	Kanpur	Pusa	Mean
<b>Irrigated Timely Sown</b>					
1	HD3249* <sup>#Q</sup>	101	6.62	6.28	<b>6.45</b>
2	DBW187(I) (C)	108	5.41	5.54	<b>5.48</b>
3	HD2733 (C)	102	8.04	7.23	<b>7.64</b>
4	K0307 (C)	110	3.45	5.00	<b>4.23</b>
5	DBW39 (C)	105	7.03	6.08	<b>6.56</b>
6	HD2967 (C)	111	7.70	8.37	<b>8.04</b>
<b>Mean</b>			<b>6.37</b>	<b>6.42</b>	<b>6.39</b>
<b>Restricted Irrigated Timely Sown</b>					
1	DBW 252* <sup>#</sup>	306	5.14	4.66	<b>4.90</b>
2	HD2888 (C)	305	5.61	3.92	<b>4.77</b>
3	K8027 (C)	307	3.78	3.78	<b>3.78</b>
4	HD3171 (C)	304	4.32	5.61	<b>4.97</b>
5	K1317 (C)	301	4.59	3.58	<b>4.09</b>
6	HI1612 (C)	302	5.20	4.39	<b>4.80</b>
<b>Mean</b>			<b>4.77</b>	<b>4.32</b>	<b>4.54</b>

### C. Peninsular (PZ) AVTs

Sr. No.	Entry	Code	Pune	Dharwad	Niphad	Mean
<b>Restricted Irrigated Timely Sown</b>						
1	NIAW 3170*	301	8.58	7.29	5.94	<b>7.27</b>
2	MACS 6695*	307	6.89	4.79	6.75	<b>6.14</b>
3	MACS 6696*	310	8.51	6.14	7.29	<b>7.31</b>
4	DBW93 (C)	304	6.89	8.17	9.39	<b>8.15</b>
5	HI1605 (C)	309	9.05	7.36	7.63	<b>8.01</b>
<b>Mean</b>			<b>7.98</b>	<b>6.75</b>	<b>7.40</b>	<b>7.37</b>

## D. Special trials

### HPYT (NWPZ)

Sr. No.	Entry	Code	Karnal	Ludhiana	Mean
1	HD3317	1	8.31	6.01	<b>7.16</b>
2	WH1254	2	7.09	7.16	<b>7.13</b>
3	DBW301	3	7.83	6.14	<b>6.99</b>
4	WH1270	4	7.70	5.67	<b>6.69</b>
5	PBW824	6	5.81	5.20	<b>5.51</b>
6	UP3043	7	5.27	6.75	<b>6.01</b>
7	DBW187	8	7.56	4.39	<b>5.98</b>
8	DBW303	10	6.75	7.56	<b>7.16</b>
9	DBW304	11	6.55	8.37	<b>7.46</b>
10	UP3042	12	6.41	6.75	<b>6.58</b>
11	DBW302	13	9.18	6.01	<b>7.60</b>
12	PBW825	14	6.35	8.78	<b>7.57</b>
13	HD3347	15	7.83	8.71	<b>8.27</b>
14	HD2967 (C)	5	6.01	7.09	<b>6.55</b>
15	HD3086 (C)	9	6.75	7.09	<b>6.92</b>
<b>Mean</b>			<b>7.03</b>	<b>6.78</b>	<b>6.90</b>

### SPL-VLS (NWPZ & NEPZ)

Sr. No.	Entry	Code	NWPZ	NEPZ	Mean
			Karnal	Kanpur	
1	HD3271*	104	6.01	7.7	<b>6.86</b>
2	HI1621*	107	6.41	8.65	<b>7.53</b>
3	PBW757 (C)	101	6.48	6.08	<b>6.28</b>
4	DBW71 (C)	106	5.33	4.39	<b>4.86</b>
5	DBW14 (C)	105	5.67	6.28	<b>5.98</b>
6	WR544 (C)	102	4.79	7.23	<b>6.01</b>
<b>Mean</b>			<b>5.78</b>	<b>6.72</b>	<b>6.25</b>

**Table 4: Biscuit spread factor of *T. aestivum* genotypes****A. North Western Plains Zone (NWPZ) AVTs**

<b>Sr. No.</b>	<b>Entry</b>	<b>Code</b>	<b>Delhi</b>	<b>Hisar</b>	<b>Mean</b>
<b>Irrigated Timely Sown</b>					
1	DBW 221*	105	8.22	8.65	<b>8.43</b>
2	DBW 222*	106	8.43	8.47	<b>8.45</b>
3	HD3226(I) (C)	102	8.30	8.10	<b>8.20</b>
4	HD2967 (C)	109	7.33	8.02	<b>7.68</b>
5	WH1105 (C)	101	7.85	7.64	<b>7.75</b>
6	HD3086 (C)	103	7.63	7.99	<b>7.81</b>
7	DPW621-50 (C)	111	7.46	5.82	<b>6.64</b>
8	DBW88 (C)	112	7.51	7.62	<b>7.57</b>
9	PBW550 (C)	107	7.05	7.38	<b>7.22</b>
<b>Mean</b>			<b>7.75</b>	<b>7.74</b>	<b>7.75</b>
<b>Irrigated Late Sown</b>					
1	PBW 771*	206	6.88	7.16	<b>7.02</b>
2	PBW752(I) (C)	201	6.85	6.93	<b>6.89</b>
3	HD3059 (C)	204	7.25	7.25	<b>7.25</b>
4	WH1021 (C)	203	7.65	7.82	<b>7.74</b>
5	WH1124 (C)	205	7.51	7.64	<b>7.57</b>
6	DBW173 (C)	202	7.89	7.85	<b>7.87</b>
<b>Mean</b>			<b>7.34</b>	<b>7.44</b>	<b>7.39</b>
<b>Restricted Irrigated Timely Sown</b>					
1	BRW 3806* <sup>#</sup>	308	8.24	8.31	<b>8.27</b>
2	NIAW 3170*	309	10.17	10.18	<b>10.18</b>
3	HI 1628*	303	7.26	8.32	<b>7.79</b>
4	HD3237(I) (C)	307	7.28	8.53	<b>7.90</b>
5	HI1620(I) (C)	301	8.42	9.26	<b>8.84</b>
6	WH1080 (C)	310	7.25	9.74	<b>8.49</b>
7	PBW644 (C)	306	8.19	8.06	<b>8.13</b>
8	HD3043 (C)	305	8.23	7.93	<b>8.08</b>
9	WH1142 (C)	304	8.15	8.12	<b>8.14</b>
<b>Mean</b>			<b>8.13</b>	<b>8.72</b>	<b>8.42</b>

### B. North Eastern Plains Zone (NEPZ) AVTs

Sr. No.	Entry	Code	Kanpur	Pusa	Mean
<b>Irrigated Timely Sown</b>					
1	HD3249* <sup>#Q</sup>	101	7.67	7.01	<b>7.34</b>
2	DBW187(I) (C)	108	8.25	9.03	<b>8.64</b>
3	HD2733 (C)	102	7.67	8.23	<b>7.95</b>
4	K0307 (C)	110	7.29	8.81	<b>8.05</b>
5	DBW39 (C)	105	8.19	8.48	<b>8.34</b>
6	HD2967 (C)	111	8.05	8.75	<b>8.40</b>
<b>Mean</b>			<b>7.85</b>	<b>8.38</b>	<b>8.12</b>
<b>Restricted Irrigated Timely Sown</b>					
1	DBW 252* <sup>#</sup>	306	8.07	7.52	<b>7.80</b>
2	HD2888 (C)	305	7.24	8.09	<b>7.67</b>
3	K8027 (C)	307	6.22	7.09	<b>6.66</b>
4	HD3171 (C)	304	7.80	8.90	<b>8.35</b>
5	K1317 (C)	301	7.70	6.83	<b>7.26</b>
6	HI1612 (C)	302	7.25	7.52	<b>7.39</b>
<b>Mean</b>			<b>7.38</b>	<b>7.66</b>	<b>7.52</b>

### C. Peninsular (PZ) AVTs

Sr. No.	Entry	Code	Pune	Dharwad	Mean
<b>Restricted Irrigated Timely Sown</b>					
1	NIAW 3170*	301	8.93	9.75	<b>9.34</b>
2	MACS 6695*	307	7.51	7.74	<b>7.63</b>
3	MACS 6696*	310	7.51	7.38	<b>7.45</b>
4	DBW93 (C)	304	7.31	7.60	<b>7.46</b>
5	HI1605 (C)	309	7.00	7.39	<b>7.19</b>
<b>Mean</b>			<b>7.65</b>	<b>7.97</b>	<b>7.81</b>

## D. Special trials

### HPYT (NWPZ)

Sr. No.	Entry	Code	Karnal	Ludhiana	Mean
1	HD3317	1	8.37	8.05	<b>8.21</b>
2	WH1254	2	8.08	8.49	<b>8.28</b>
3	DBW301	3	8.14	7.82	<b>7.98</b>
4	WH1270	4	7.75	7.60	<b>7.68</b>
5	PBW824	6	7.32	8.26	<b>7.79</b>
6	UP3043	7	8.75	9.50	<b>9.12</b>
7	DBW187	8	7.33	8.82	<b>8.07</b>
8	DBW303	10	8.78	7.67	<b>8.22</b>
9	DBW304	11	8.59	8.66	<b>8.62</b>
10	UP3042	12	8.39	7.76	<b>8.07</b>
11	DBW302	13	8.75	9.07	<b>8.91</b>
12	PBW825	14	7.56	8.91	<b>8.24</b>
13	HD3347	15	6.75	8.13	<b>7.44</b>
14	HD2967 (C)	5	8.54	8.20	<b>8.37</b>
15	HD3086 (C)	9	8.45	8.60	<b>8.53</b>
<b>Mean</b>			<b>8.10</b>	<b>8.37</b>	<b>8.24</b>

### SPL-VLS (NWPZ & NEPZ)

Sr. No.	Entry	Code	NWPZ	NEPZ	Mean
			Karnal	Kanpur	
1	HD3271*	104	8.17	9.06	<b>8.62</b>
2	HI1621*	107	8.24	8.80	<b>8.52</b>
3	PBW757 (C)	101	6.74	7.17	<b>6.96</b>
4	DBW71 (C)	106	8.42	8.40	<b>8.41</b>
5	DBW14 (C)	105	8.34	8.67	<b>8.50</b>
6	WR544 (C)	102	7.86	8.74	<b>8.30</b>
<b>Mean</b>			<b>7.96</b>	<b>8.47</b>	<b>8.22</b>

**Table 5: Wet gluten content (%) of *T. aestivum* genotypes****A. North Western Plains Zone (NWPZ) AVTs**

Sr. No.	Entry	Code	Delhi	Hisar	Mean
<b>Irrigated Timely Sown</b>					
1	DBW 221*	105	31.1	23.5	<b>27.3</b>
2	DBW 222*	106	31.0	23.6	<b>27.3</b>
3	HD3226(I) (C)	102	29.5	27.8	<b>28.7</b>
4	HD2967 (C)	109	33.0	28.6	<b>30.8</b>
5	WH1105 (C)	101	32.6	25.4	<b>29.0</b>
6	HD3086 (C)	103	30.0	24.5	<b>27.3</b>
7	DPW621-50 (C)	111	32.2	25.6	<b>28.9</b>
8	DBW88 (C)	112	33.2	25.8	<b>29.5</b>
9	PBW550 (C)	107	33.5	27.4	<b>30.5</b>
<b>Mean</b>			<b>31.8</b>	<b>25.8</b>	<b>28.8</b>
<b>Irrigated Late Sown</b>					
1	PBW 771*	206	29.3	24.5	<b>26.9</b>
2	PBW752(I) (C)	201	31.6	24.7	<b>28.2</b>
3	HD3059 (C)	204	30.2	22.8	<b>26.5</b>
4	WH1021 (C)	203	28.5	23.8	<b>26.2</b>
5	WH1124 (C)	205	28.4	23.2	<b>25.8</b>
6	DBW173 (C)	202	28.9	20.7	<b>24.8</b>
<b>Mean</b>			<b>29.5</b>	<b>23.3</b>	<b>26.4</b>
<b>Restricted Irrigated Timely Sown</b>					
1	BRW 3806* <sup>#</sup>	308	29.4	19.7	<b>24.6</b>
2	NIAW 3170*	309	27.4	21.7	<b>24.6</b>
3	HI 1628*	303	27.0	20.8	<b>23.9</b>
4	HD3237(I) (C)	307	27.3	20.3	<b>23.8</b>
5	HI1620(I) (C)	301	27.8	19.6	<b>23.7</b>
6	WH1080 (C)	310	26.5	20.7	<b>23.6</b>
7	PBW644 (C)	306	29.9	22.1	<b>26.0</b>
8	HD3043 (C)	305	31.3	20.0	<b>25.7</b>
9	WH1142 (C)	304	29.7	20.4	<b>25.1</b>
<b>Mean</b>			<b>29.7</b>	<b>22.0</b>	<b>25.9</b>



### B. North Eastern Plains Zone (NEPZ) AVTs

Sr. No.	Entry	Code	Kanpur	Pusa	Mean
<b>Irrigated Timely Sown</b>					
1	HD3249* <sup>#Q</sup>	101	25.3	20.1	<b>22.7</b>
2	DBW187(I) (C)	108	28.4	23.4	<b>25.9</b>
3	HD2733 (C)	102	23.1	23.7	<b>23.4</b>
4	K0307 (C)	110	20.3	20.4	<b>20.4</b>
5	DBW39 (C)	105	29.7	26.4	<b>28.1</b>
6	HD2967 (C)	111	29.9	25.2	<b>27.6</b>
<b>Mean</b>			<b>26.1</b>	<b>23.2</b>	<b>24.7</b>
<b>Restricted Irrigated Timely Sown</b>					
1	DBW 252* <sup>#</sup>	306	23.6	16.7	<b>20.2</b>
2	HD2888 (C)	305	29.2	27.2	<b>28.2</b>
3	K8027 (C)	307	24.7	17.5	<b>21.1</b>
4	HD3171 (C)	304	23.1	16.2	<b>19.7</b>
5	K1317 (C)	301	22.5	22.9	<b>22.7</b>
6	HI1612 (C)	302	28.2	17.0	<b>22.6</b>
<b>Mean</b>			<b>25.2</b>	<b>19.6</b>	<b>22.4</b>

### C. Peninsular (PZ) AVTs

Sr. No.	Entry	Code	Pune	Dharwad	Niphad	Mean
<b>Restricted Irrigated Timely Sown</b>						
1	NIAW 3170*	301	29.8	23.7	29.0	<b>27.5</b>
2	MACS 6695*	307	28.8	28.8	33.3	<b>30.3</b>
3	MACS 6696*	310	31.7	29.9	33.1	<b>31.6</b>
4	DBW93 (C)	304	31.6	27.3	34.6	<b>31.2</b>
5	HI1605 (C)	309	32.0	26.1	33.1	<b>30.4</b>
6	<b>Mean</b>		<b>30.8</b>	<b>27.2</b>	<b>32.6</b>	<b>30.2</b>

## D. Special trials

### HPYT (NWPZ)

Sr. No.	Entry	Code	Karnal	Ludhiana	Mean
1	HD3317	1	26.2	27.0	<b>26.6</b>
2	WH1254	2	28.2	28.3	<b>28.3</b>
3	DBW301	3	26.0	28.6	<b>27.3</b>
4	WH1270	4	29.4	30.8	<b>30.1</b>
5	PBW824	6	23.7	29.4	<b>26.6</b>
6	UP3043	7	25.7	27.5	<b>26.6</b>
7	DBW187	8	24.5	30.6	<b>27.6</b>
8	DBW303	10	25.6	29.6	<b>27.6</b>
9	DBW304	11	26.0	27.3	<b>26.7</b>
10	UP3042	12	25.8	28.7	<b>27.3</b>
11	DBW302	13	29.8	27.3	<b>28.6</b>
12	PBW825	14	29.9	28.1	<b>29.0</b>
13	HD3347	15	28.5	27.7	<b>28.1</b>
14	HD2967 (C)	5	25.6	28.8	<b>27.2</b>
15	HD3086 (C)	9	22.3	26.4	<b>24.4</b>
<b>Mean</b>			<b>26.5</b>	<b>28.4</b>	<b>27.4</b>

### SPL-VLS (NWPZ & NEPZ)

Sr. No.	Entry	Code	NWPZ	NEPZ	Mean
			Karnal	Kanpur	
1	HD3271*	104	27.8	28.90	<b>28.4</b>
2	HI1621*	107	26.6	29.20	<b>27.9</b>
3	PBW757 (C)	101	27.2	25.10	<b>26.2</b>
4	DBW71 (C)	106	35.2	31.30	<b>33.3</b>
5	DBW14 (C)	105	30.2	30.50	<b>30.4</b>
6	WR544 (C)	102	28.6	29.40	<b>29.0</b>
<b>Mean</b>			<b>29.3</b>	<b>29.1</b>	<b>29.2</b>

**Table 6: Dry gluten content (%) of *T. aestivum* genotypes****A. North Western Plains Zone (NWPZ) AVTs**

Sr. No.	Entry	Code	Delhi	Hisar	Mean
<b>Irrigated Timely Sown</b>					
1	DBW 221*	105	9.8	7.2	<b>8.5</b>
2	DBW 222*	106	9.6	7.5	<b>8.6</b>
3	HD3226(I) (C)	102	9.3	9.3	<b>9.3</b>
4	HD2967 (C)	109	10.6	9.3	<b>10.0</b>
5	WH1105 (C)	101	10.2	8.2	<b>9.2</b>
6	HD3086 (C)	103	9.7	7.9	<b>8.8</b>
7	DPW621-50 (C)	111	10.1	8.3	<b>9.2</b>
8	DBW88 (C)	112	10.7	8.5	<b>9.6</b>
9	PBW550 (C)	107	11.0	8.8	<b>9.9</b>
<b>Mean</b>			<b>10.1</b>	<b>8.3</b>	<b>9.2</b>
<b>Irrigated Late Sown</b>					
1	PBW 771*	206	9.4	7.8	<b>8.6</b>
2	PBW752(I) (C)	201	9.7	8.2	<b>9.0</b>
3	HD3059 (C)	204	9.5	7.6	<b>8.6</b>
4	WH1021 (C)	203	9.9	8.0	<b>9.0</b>
5	WH1124 (C)	205	9.7	7.6	<b>8.7</b>
6	DBW173 (C)	202	9.9	6.7	<b>8.3</b>
<b>Mean</b>			<b>9.7</b>	<b>7.7</b>	<b>8.7</b>
<b>Restricted Irrigated Timely Sown</b>					
1	BRW 3806* <sup>#</sup>	308	9.5	6.4	<b>8.0</b>
2	NIAW 3170*	309	8.4	7.0	<b>7.7</b>
3	HI 1628*	303	8.7	6.8	<b>7.8</b>
4	HD3237(I) (C)	307	9.1	6.6	<b>7.9</b>
5	HI1620(I) (C)	301	8.8	6.2	<b>7.5</b>
6	WH1080 (C)	310	8.9	6.8	<b>7.9</b>
7	PBW644 (C)	306	8.7	7.3	<b>8.0</b>
8	HD3043 (C)	305	9.8	6.3	<b>8.1</b>
9	WH1142 (C)	304	9.4	6.5	<b>8.0</b>
<b>Mean</b>			<b>9.6</b>	<b>7.1</b>	<b>8.4</b>

### B. North Eastern Plains Zone (NEPZ) AVTs

Sr. No.	Entry	Code	Kanpur	Pusa	Mean
<b>Irrigated Timely Sown</b>					
1	HD3249* <sup>#Q</sup>	101	8.20	6.80	<b>7.5</b>
2	DBW187(I) (C)	108	9.00	7.60	<b>8.3</b>
3	HD2733 (C)	102	7.50	7.60	<b>7.6</b>
4	K0307 (C)	110	7.00	6.90	<b>7.0</b>
5	DBW39 (C)	105	9.20	8.20	<b>8.7</b>
6	HD2967 (C)	111	9.50	8.30	<b>8.9</b>
<b>Mean</b>			<b>8.4</b>	<b>7.6</b>	<b>8.0</b>
<b>Restricted Irrigated Timely Sown</b>					
1	DBW 252* <sup>#</sup>	306	7.60	6.00	<b>6.8</b>
2	HD2888 (C)	305	9.40	8.80	<b>9.1</b>
3	K8027 (C)	307	8.00	5.80	<b>6.9</b>
4	HD3171 (C)	304	7.40	5.20	<b>6.3</b>
5	K1317 (C)	301	7.10	7.40	<b>7.3</b>
6	HI1612 (C)	302	9.90	5.70	<b>7.8</b>
<b>Mean</b>			<b>8.2</b>	<b>6.5</b>	<b>7.4</b>

### C. Peninsular (PZ) AVTs

Sr. No.	Entry	Code	Pune	Dharwad	Niphad	Mean
<b>Restricted Irrigated Timely Sown</b>						
1	NIAW 3170*	301	9.7	8.0	9.4	<b>9.0</b>
2	MACS 6695*	307	9.3	9.2	10.6	<b>9.7</b>
3	MACS 6696*	310	10.2	9.4	10.5	<b>10.0</b>
4	DBW93 (C)	304	9.8	8.6	11.2	<b>9.9</b>
5	HI1605 (C)	309	10.7	9.1	10.7	<b>10.2</b>
<b>Mean</b>			<b>9.9</b>	<b>8.9</b>	<b>10.5</b>	<b>9.8</b>

## D. Special trials

### HPYT (NWPZ)

Sr. No.	Entry	Code	Karnal	Ludhiana	Mean
1	HD3317	1	8.2	8.8	<b>8.5</b>
2	WH1254	2	9.2	8.8	<b>9.0</b>
3	DBW301	3	8.2	9.0	<b>8.6</b>
4	WH1270	4	9.7	9.4	<b>9.6</b>
5	PBW824	6	7.6	9.4	<b>8.5</b>
6	UP3043	7	8.3	8.8	<b>8.6</b>
7	DBW187	8	8.0	9.6	<b>8.8</b>
8	DBW303	10	8.1	9.2	<b>8.7</b>
9	DBW304	11	8.7	8.7	<b>8.7</b>
10	UP3042	12	8.3	9.7	<b>9.0</b>
11	DBW302	13	9.0	8.3	<b>8.7</b>
12	PBW825	14	9.7	8.8	<b>9.3</b>
13	HD3347	15	9.1	8.6	<b>8.9</b>
14	HD2967 (C)	5	7.9	9.0	<b>8.5</b>
15	HD3086 (C)	9	7.1	8.3	<b>7.7</b>
<b>Mean</b>			<b>8.5</b>	<b>9.0</b>	<b>8.7</b>

### SPL-VLS (NWPZ & NEPZ)

Sr. No.	Entry	Code	NWPZ	NEPZ	Mean
			Karnal	Kanpur	
1	HD3271*	104	9.6	9.50	<b>9.6</b>
2	HI1621*	107	9.0	9.40	<b>9.2</b>
3	PBW757 (C)	101	9.9	8.80	<b>9.4</b>
4	DBW71 (C)	106	11.2	10.10	<b>10.7</b>
5	DBW14 (C)	105	9.4	9.30	<b>9.4</b>
6	WR544 (C)	102	8.9	9.10	<b>9.0</b>
<b>Mean</b>			<b>9.7</b>	<b>9.4</b>	<b>9.5</b>

**Table 7: Gluten index of *T. aestivum* genotypes****A. North Western Plains Zone (NWPZ) AVTs**

<b>Sr. No.</b>	<b>Entry</b>	<b>Code</b>	<b>Delhi</b>	<b>Hisar</b>	<b>Mean</b>
<b>Irrigated Timely Sown</b>					
1	DBW 221*	105	72	75	<b>73.5</b>
2	DBW 222*	106	61	78	<b>69.5</b>
3	HD3226(I) (C)	102	71	94	<b>82.5</b>
4	HD2967 (C)	109	80	88	<b>84.0</b>
5	WH1105 (C)	101	55	73	<b>64.0</b>
6	HD3086 (C)	103	82	81	<b>81.5</b>
7	DPW621-50 (C)	111	68	84	<b>76.0</b>
8	DBW88 (C)	112	77	84	<b>80.5</b>
9	PBW550 (C)	107	85	76	<b>80.5</b>
<b>Mean</b>			<b>72.3</b>	<b>81.4</b>	<b>76.9</b>
<b>Irrigated Late Sown</b>					
1	PBW 771*	206	74	70	<b>72.0</b>
2	PBW752(I) (C)	201	93	95	<b>94.0</b>
3	HD3059 (C)	204	69	92	<b>80.5</b>
4	WH1021 (C)	203	95	76	<b>85.5</b>
5	WH1124 (C)	205	99	92	<b>95.5</b>
6	DBW173 (C)	202	94	96	<b>95.0</b>
<b>Mean</b>			<b>87.3</b>	<b>86.8</b>	<b>87.1</b>
<b>Restricted Irrigated Timely Sown</b>					
1	BRW 3806* <sup>#</sup>	308	81	83	<b>82.0</b>
2	NIAW 3170*	309	64	82	<b>73.0</b>
3	HI 1628*	303	92	98	<b>95.0</b>
4	HD3237(I) (C)	307	88	87	<b>87.5</b>
5	HII1620(I) (C)	301	77	92	<b>84.5</b>
6	WH1080 (C)	310	64	69	<b>66.5</b>
7	PBW644 (C)	306	-	72	<b>72.0</b>
8	HD3043 (C)	305	58	73	<b>65.5</b>
9	WH1142 (C)	304	88	94	<b>91.0</b>
<b>Mean</b>			<b>77.2</b>	<b>82.1</b>	<b>79.4</b>

### B. North Eastern Plains Zone (NEPZ) AVTs

Sr. No.	Entry	Code	Kanpur	Pusa	Mean
<b>Irrigated Timely Sown</b>					
1	HD3249* <sup>#Q</sup>	101	91	97	<b>94.0</b>
2	DBW187(I) (C)	108	58	68	<b>63.0</b>
3	HD2733 (C)	102	91	68	<b>79.5</b>
4	K0307 (C)	110	97	80	<b>88.5</b>
5	DBW39 (C)	105	45	46	<b>45.5</b>
6	HD2967 (C)	111	60	95	<b>77.5</b>
<b>Mean</b>			<b>73.7</b>	<b>75.7</b>	<b>74.7</b>
<b>Restricted Irrigated Timely Sown</b>					
1	DBW 252* <sup>#</sup>	306	99	94	<b>96.5</b>
2	HD2888 (C)	305	64	61	<b>62.5</b>
3	K8027 (C)	307	98	89	<b>93.5</b>
4	HD3171 (C)	304	100	73	<b>86.5</b>
5	K1317 (C)	301	64	83	<b>73.5</b>
6	HI1612 (C)	302	96	57	<b>76.5</b>
<b>Mean</b>			<b>86.8</b>	<b>76.2</b>	<b>81.5</b>

### C. Peninsular (PZ) AVTs

Sr. No.	Entry	Code	Pune	Dharwad	Niphad	Mean
<b>Restricted Irrigated Timely Sown</b>						
1	NIAW 3170*	301	81	99	79	<b>86.3</b>
2	MACS 6695*	307	89	75	77	<b>80.3</b>
3	MACS 6696*	310	87	76	80	<b>81.0</b>
4	DBW93 (C)	304	54	71	53	<b>59.3</b>
5	HI1605 (C)	309	80	98	81	<b>86.3</b>
<b>Mean</b>			<b>78.2</b>	<b>83.8</b>	<b>74.0</b>	<b>78.7</b>

## D. Special trials

### HPYT (NWPZ)

Sr. No.	Entry	Code	Karnal	Ludhiana	Mean
1	HD3317	1	61	92	<b>76.5</b>
2	WH1254	2	86	82	<b>84.0</b>
3	DBW301	3	60	61	<b>60.5</b>
4	WH1270	4	76	55	<b>65.5</b>
5	PBW824	6	93	63	<b>78.0</b>
6	UP3043	7	84	61	<b>72.5</b>
7	DBW187	8	90	66	<b>78.0</b>
8	DBW303	10	91	75	<b>83.0</b>
9	DBW304	11	96	55	<b>75.5</b>
10	UP3042	12	79	58	<b>68.5</b>
11	DBW302	13	28	50	<b>39.0</b>
12	PBW825	14	68	44	<b>56.0</b>
13	HD3347	15	73	60	<b>66.5</b>
14	HD2967 (C)	5	63	59	<b>61.0</b>
15	HD3086 (C)	9	84	70	<b>77.0</b>
<b>Mean</b>			<b>75.5</b>	<b>63.4</b>	<b>69.4</b>

### SPL-VLS (NWPZ & NEPZ)

Sr. No.	Entry	Code	NWPZ	NEPZ	Mean
			Karnal	Kanpur	
1	HD3271*	104	94	89	<b>91.5</b>
2	HI1621*	107	89	85	<b>87.0</b>
3	PBW757 (C)	101	96	97	<b>96.5</b>
4	DBW71 (C)	106	36	50	<b>43.0</b>
5	DBW14 (C)	105	68	64	<b>66.0</b>
6	WR544 (C)	102	70	71	<b>70.5</b>
<b>Mean</b>			<b>75.5</b>	<b>76.0</b>	<b>75.8</b>



**Table 8: Pasta Cooking Quality of *T. durum* genotypes in AVT's**

Sr. No.	Entry	Code	Cooking time (Min.)	Water absorption (%)	Water uptake ratio	Gruel solid loss (%)	Stickiness
<b>CZ-RITS</b>							
1	UAS 466(d)*	303	13.5	122.0	1.22	15.0	PS
2	DDW 47(d)*Q	306	16.5	124.2	1.24	6.25	NS
3	HI8627(d) (C)	301	13.7	128.6	1.28	15.0	PS
<b>Mean</b>			<b>14.6</b>	<b>124.9</b>	<b>1.2</b>	<b>12.1</b>	<b>PS</b>
<b>PZ-RITS</b>							
1	GW 1346(d)*	302	13.0	138.8	1.38	5.0	S
2	MACS 4058(d)*	303	11.0	126.4	1.26	10.0	PS
3	HI 8805(d)*	305	11.0	120.6	1.20	5.0	PS
4	HI 8802(d)*	312	10.5	125.2	1.25	10.0	PS
5	AKDW2997-16(d) (C)	306	12.0	122.8	1.22	10.0	PS
6	UAS446(d) (C)	308	11.5	130.4	1.30	10.0	PS
<b>Mean</b>			<b>11.5</b>	<b>127.4</b>	<b>1.3</b>	<b>8.3</b>	<b>PS</b>

**Table 9: Pasta sensory evaluation of *T. durum* genotypes in AVT's**

Sr. No.	Entry	Code	Colour	Texture	Flavour/ Aroma	Taste	Overall acceptability
<b>CZ-RITS</b>							
1	UAS 466(d)*	303	5.5	6.0	6.0	6.0	5.9
2	DDW 47(d)*Q	306	8.5	7.5	7.9	7.8	7.9
3	HI8627(d) (C)	301	5.8	5.7	6.0	5.8	5.8
<b>Mean</b>			<b>6.6</b>	<b>6.4</b>	<b>6.6</b>	<b>6.5</b>	<b>6.5</b>
<b>PZ-RITS</b>							
1	GW 1346(d)*	302	5.0	5.0	5.8	5.5	5.3
2	MACS 4058(d)*	303	3.5	5.5	5.4	5.3	4.9
3	HI 8805(d)*	305	6.0	5.9	5.4	5.5	5.7
4	HI 8802(d)*	312	6.5	6.5	5.8	6.0	6.2
5	AKDW2997-16(d) (C)	306	3.6	5.8	6.0	6.0	5.4
6	UAS446(d) (C)	308	6.0	6.3	6.1	6.0	6.1
<b>Mean</b>			<b>5.1</b>	<b>5.8</b>	<b>5.8</b>	<b>5.7</b>	<b>5.6</b>

## **RESEARCH HIGHLIGHTS**

## SUMMARY

India is the 11th largest producer of wheat in the world. This could be made possible by developing high yielding, disease resistant wheat varieties and also matching production technologies. The increase in domestic demand of baked & pasta products and economic liberalization & global trade have offered opportunities for better utilization of wheat. Wheat quality needs uppermost attention to meet the trade requirements of the domestic and international markets. The report includes aspects like identification of product specific genotypes. Promising genotypes showing superiority in various quality traits including Iron and Zinc content have been identified. Zone wise variability in wheat quality and grain nutrition parameters has been recorded. During 2018-19, 126 AVTs, 244 NIVTs, 37 SPL, 52 QCSN, and 68 preliminary QCSN were analysed from different zones and growing conditions. Details are given below.

### AVT's:

All the second year AVT entries including checks were subjected to baking evaluation for chapati, bread, biscuit, pasta and gluten content. All AVTs were analyzed for several physico-chemical properties such as grain appearance, test weight, protein, sedimentation value, yellow pigment, phenol test, grain hardness index, wet / dry gluten and gluten index, HMWGS and iron and zinc content. Promising product specific entries identified are given below.

#### Promising *T. aestivum* genotypes for chapati (Score >8.0)

Category	Genotypes
Check	HD2967 (NWPZ-HYPT), HD3086 (NWPZ-HYPT) HD2967 (NEPZ-ITS), K0307 (NEPZ-ITS), PBW757 (NWPZ & NEPZ, SPL-VLS)
AVT	PBW 771 (NWPZ-ILS), DBW301(NWPZ-HYPT), PBW824 (NWPZ-HYPT)

#### Promising *T. aestivum* genotypes for bread (Loaf volume >600 ml)

Category	Genotypes
Check	HD3226(NWPZ-ITS), WH1105 ((NWPZ-ITS), WH1080 (NWPZ-RITS) DBW93 (PZ-RITS)
AVT	DBW221 (NWPZ-ITS), DBW222 (NWPZ-ITS), BRW 3806* <sup>#</sup> (NWPZ-RITS), NIAW 3170* (NWPZ & PZ-RITS), HI1621* ( SPL-VLS), WH1254 (HYPT), DBW303 (HYPT)

**Promising *T. aestivum* genotypes for Biscuit (SF ~10.0)**

Category	Genotypes
Check	NIL
AVT	NIAW 3170* (NWPZ & PZ-RITS )

**Promising Genotypes for Various Quality Parameters**

Parameter	Value	Genotypes
<b>(<i>T. aestivum</i>)</b>		
<b>Protein</b>	≥12.5%	<b>NHZ</b> : VL3019 <b>NWPZ</b> : HD 3226 <b>CZ</b> : HD2932, MP3336, MP4010, UAS3002, DBW110 (C), MP3288 (C), DBW 277 <b>PZ</b> : PBW 823, DBW 93
<b>Sedimentation value</b>	> 65 ml	<b>NHZ</b> : HS 673 <b>NWPZ</b> : HD 3226, PBW 752, DBW 173 <b>NEPZ</b> : HD 3249, DBW 187, PBW 781, DBW 257, HI 1612 <b>CZ</b> : DBW 110, MP 3288, DBW 277
<b>Hardness Index</b>	< 35	<b>NHZ</b> : HS 490 <b>NWPZ</b> : NIAW 3170
<b>Iron</b>	≥40ppm	<b>NHZ</b> : HS 507, VL 907, HS 562, HPW 468, HS 673, UP 3041, VL 3019 <b>NWPZ</b> : HD 3086, DBW 173, <b>NEPZ</b> : HD 3249, DBW 187, K 0307, DBW 25, 7 HD 2888 <b>CZ</b> : HI 1544, CG 1029, HI 1634, MP 4010, HD 3345, DBW 277 <b>PZ</b> : PBW 823, Raj 4083, HD 3090, GW 509, HI 1633, MP 3170, DBW 93, HI 1605
<b>Zinc</b>	≥40ppm	<b>NHZ</b> : HS 673, UP 3041, VL 3019 <b>NWPZ</b> : WH 1105, PBW 550, PBW 771, PBW 752, DBW 173, WH 1021, HD 3043 <b>NEPZ</b> : HD 2888 <b>CZ</b> : PBW 822, HD 3345, MP 4010, <b>PZ</b> : PBW 823, GW 509,
<b>(<i>T. durum</i>)</b>		
<b>Protein</b>	>13.0%	<b>CZ</b> : UAS 466, DDW 47, HI 8627
<b>Sedimentation value</b>	≥ 40ml	<b>CZ</b> : HD 8737, DDW 49, UAS 466 <b>PZ</b> : MACS 3949, DDW 49, DDW 48, WHD 963
<b>Yellow Pigment</b>	>7.0ppm	<b>CZ</b> : DDW 47
<b>Iron</b>	≥ 40ppm	<b>CZ</b> : HI 8737, DDW 49, HI 8812, HI 8808, HI 8807, DDW 47, HI 8627 <b>PZ</b> : UAS 428, MACS 3949, DDW 49, WHD 963, HI 8807, HI 8802, NIDW 1149
<b>Zinc</b>	≥ 40ppm	<b>CZ</b> : HI 8737, HI 8812, DDW 49, HI 8627 <b>PZ</b> : DDW 48, HI 8807, HI 8802

### Variability in the quality parameters of *T. aestivum* in AVT's

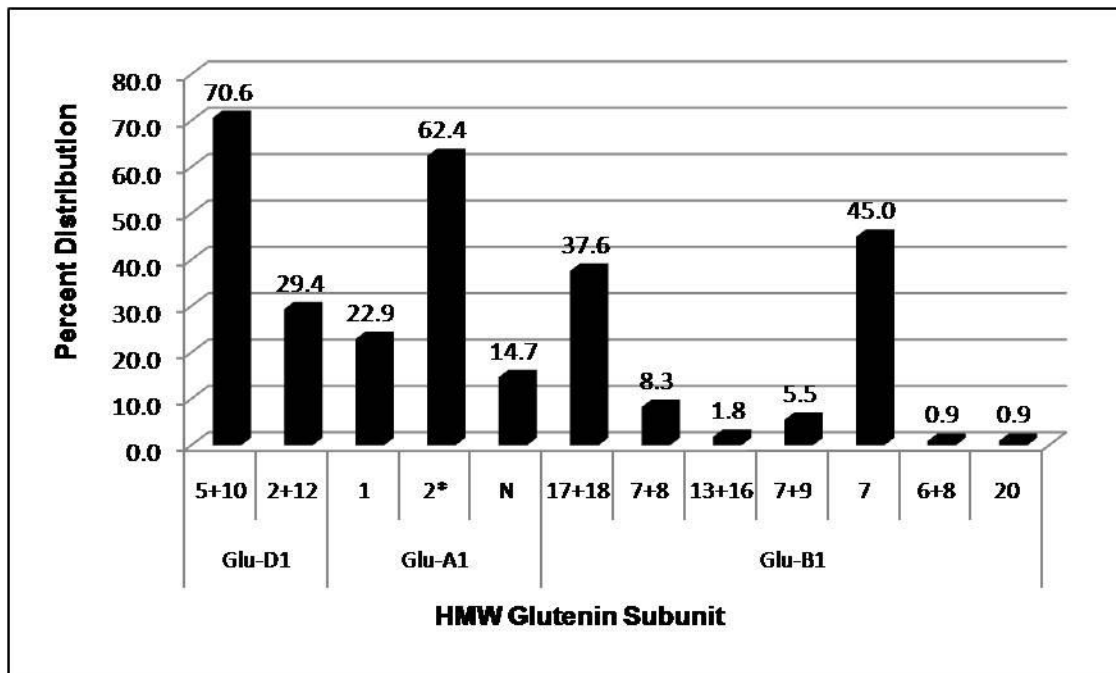
Parameter	NWPZ	NEPZ	CZ	PZ	NHZ	Overall
<b>GAS (Max. 10.0)</b>	6.3 (5.9-6.5)	6.45 (5.8-7)	6.4 (5.7-6.8)	6.4 (5.5-7.2)	5.44 (4.9-6.3)	6.19 (4.9-7.2)
<b>Hectolitre Weight (kg/hl)</b>	78.37 (76-81)	79.5 (77.1-82)	80.97 (78.7-83)	81.3 (77.3-84.4)	79.36 (74.8-82.1)	79.9 (74.8-84.4)
<b>Protein content (%)</b>	11.06 (9.54-12.6)	10.28 (9.09-12.04)	12.07 (10.3-12.9)	11.84 (10.73-12.99)	9.66 (8.26-12.74)	10.98 (8.26-12.99)
<b>Sedimentation value (ml)</b>	55 (42-67)	54. (43-68)	54 (40-69)	52 (37-68)	53 (39-67)	54 (37-69)
<b>Grain hardness index</b>	79.89 (26.8-90.1)	69.06 (59.2-78.5)	77.88 (63.5-84.7)	78.5 (41-94.9)	73.64 (29.2-83.5)	75.79 (26.8-94.9)
<b>Iron (ppm)</b>	36.74 (31.6-40.4)	39.1 (34.3-45.4)	38.57 (35.1-40.7)	39.4 (34.6-44.6)	39.1 (36.5-42.2)	38.58 (31.6-45.4)
<b>Zinc (ppm)</b>	38.33 (32.9-44.5)	31.8 (26.5-41.6)	36.8 (34.1-40.1)	36.2 (31.2-46.3)	33.06 (25.8-42.8)	35.23 (25.8-46.3)
<b>Wet gluten (%)</b>	27.0 (23.6-30.8)	23.5 (19.7-28.2)	-	30.2 (27.5-31.6)	-	26.9 (19.7-31.6)
<b>Dry gluten (%)</b>	8.77 (7.5-10)	7.7 (6.3-8.9)	-	9.8 (9-10.2)	-	8.75 (6.3-10.2)
<b>Gluten Index (%)</b>	80.34 (37.5-95.5)	78.1 (45.5-96.5)	-	78.7 (59.3-86.3)	-	79.05 (37.5-96.5)

### Variability in the quality parameters of *T. durum* in AVT's

Parameter	CZ	PZ	Overall
<b>Grain Appearance score (Max. 10.0)</b>	6.97 (6.7-7.6)	7.3 (6.7-7.6)	7.14 (6.7-7.6)
<b>Hectolitre Weight (kg/hl)</b>	82.7 (80.5-85.2)	82.6 (77.8-84.6)	82.65 (77.8-85.2)
<b>Protein content (%)</b>	12.27 (10.72-13.66)	11.79 (11.35-12.58)	12.03 (10.72-13.66)
<b>Sedimentation value (ml)</b>	37 (28 - 52)	41 (26 - 57)	39 (24 - 57)
<b>Grain hardness index</b>	81.5 (73.9-87.6)	85.7 (80.1-93.0)	83.6 (73.9-93.0)
<b>Iron (ppm)</b>	39.8 (36.4-41.6)	39.3 (36.8-41.2)	39.55 (36.4-41.6)
<b>Zinc (ppm)</b>	38.76 (36.9-42.4)	37.2 (34.1-39.9)	37.98 (34.1-42.4)
<b>Yellow pigment (ppm)</b>	5.47 (3.93-7.59)	4.8 (3.13-6.16)	5.14 (3.13-7.59)

### Distribution of HMW glutenin subunits in different trials

One hundred and nine (109) AVT, IVT and special trial entries including checks were evaluated for High Molecular Weight Glutenin subunits (HMWs) encoded by Glu-A1, Glu-B1 and Glu-D1 loci. Subunits 5+10 and 2+12 were present in 70.6 % and 29.4 % of the total entries, whereas entries having 1, 2\* and N subunits were 22.9 %, 62.4 % and 14.7 %, respectively. Entries with subunits 7, 7+8, 7+9, 17+18, 6+8, 20 and 13+16 were 45.0, 8.3, 5.5, 37.6, 0.9, 0.9 and 1.8% respectively.



## Average values of different quality parameters in NIVT Trials

### *T. aestivum*

Trial	Zone	Condition	Grain Appearance Score (Max 10)	Hectolitre Weight (Kg/hl)	Protein (%)	Sedimentation value (ml)
NIVT 1A	NWPZ	IR-TS	5.3	76.7	11.26	45
NIVT 1A	NEPZ	IR-TS	5.3	76.0	10.94	48
NIVT 1A	Overall	IR-TS	5.3	76.4	11.12	47
NIVT 1B	NWPZ	IR-TS	6.3	78.2	11.1	52
NIVT 1B	NEPZ	IR-TS	6.2	76.6	11.2	51
NIVT 1B	Overall	IR-TS	6.2	77.5	11.1	52
NIVT 2	CZ	IR-TS	6.9	79.9	11.4	42
NIVT 2	PZ	IR-TS	6.9	79.1	11.9	43
NIVT 2	Overall	IR-TS	6.9	79.5	11.7	43
NIVT 3A	NWPZ	IR-LS	5.8	76.0	11.8	38
NIVT 3A	NEPZ	IR-LS	5.6	76.5	12.4	38
NIVT 3A	Overall	IR-LS	5.7	76.3	12.1	38
NIVT 3B	CZ	IR-LS	6.5	78.4	13.3	41
NIVT 3B	PZ	IR-LS	6.7	79.2	12.8	37
NIVT 3B	Overall	IR-LS	6.6	78.8	13.0	39
NIVT 5A	NWPZ	RI-TS	5.4	79.8	10.39	39
NIVT 5A	NEPZ	RI-TS	5.3	82.0	10.12	37
NIVT 5A	Overall	RI-TS	5.3	80.9	10.26	38
NIVT 5B	CZ	RI-TS	6.1	84.4	12.3	50
NIVT 5B	PZ	RI-TS	6.3	83.3	12.5	51
NIVT 5B	Overall	RI-TS	6.2	83.8	12.4	51
IVT		RTS	5.4	78.9	9.46	52

### *T. durum*

Trial	Zone	Condition	GAS (Max 10)	Hectolitre Weight (kg/hl)	Protein (%)	Sed. value (ml)	Yellow Berry (%)	Yellow Pigment (ppm)
NIVT 4	CZ	IR-TS	6.1	83.3	11.6	28	3.9	4.8
NIVT 4	PZ	IR-TS	5.5	82.7	11.0	32	2.4	5.6
NIVT 4	Overall	IR-TS	5.8	83.0	11.3	30	3.2	5.2
NIVT 5B	CZ	RI-TS	7.2	84.6	12.7	32	7	5.6
NIVT 5B	PZ	RI-TS	7.7	83.8	12.8	33	2	5.9
NIVT 5B	Overall	RI-TS	7.5	84.2	12.8	32	4	5.8

## Average values of different quality parameters in Special Trials

### HYPT Trial

Zone	GAS (Max 10)	Hectolitre Weight (kg/hl)	Protein (%)	Sedimentation value (ml)	Hardness Index	Iron Content (ppm)	Zinc Content (ppm)
<b>NWPZ</b>	5.8	78.7	11.45	51	77	34.9	36.7

### Very Late Sown Trial

Zone	GAS (Max 10)	Hectolitre Weight (kg/hl)	Protein (%)	Sedimentation value (ml)	Hardness Index	Iron Content (ppm)	Zinc Content (ppm)
<b>NWPZ</b>	6.0	77.5	12.26	52	84	36.6	43.2
<b>NEPZ</b>	5.3	75.5	12.79	61	75	43.2	37.8
<b>Mean</b>	<b>5.7</b>	<b>76.5</b>	<b>12.52</b>	<b>57</b>	<b>79</b>	<b>39.9</b>	<b>40.5</b>

### *T. dicoccum* Trial

Zone	Thousand Grain weight (g)	Protein Content (%)	Sedimentation Value (ml)	Yellow Pigment (ppm)
<b>PZ</b>	42.17	13.31	29	3.14

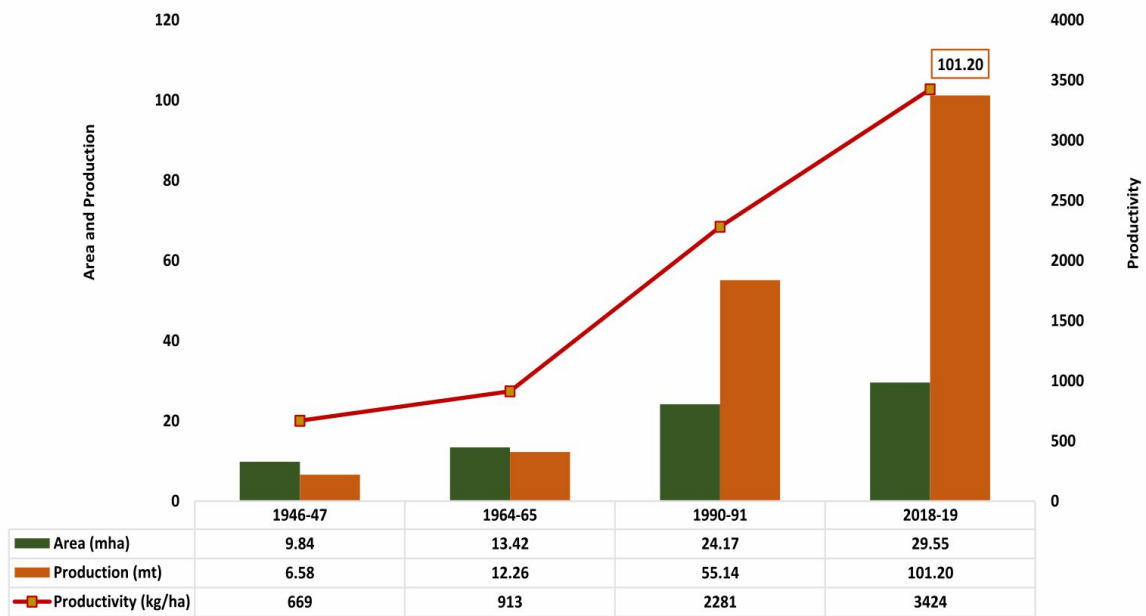
### Alkalinity/Salinity Trial

Zone	Grain Appearance Score (Max 10)	Hectolitre Weight (kg/hl)	Protein Content (%)	Sedimentation Value (ml)
<b>NWPZ</b>	5.5	81.1	9.80	41





### LAND MARK PRODUCTION DURING 2018-19 (>100 MT)



58वीं अखिल भारतीय गेहूँ एवं जौ अनुसंधान कार्यशाला  
 भा.कृ.अनु.प. - भारतीय कृषि अनुसंधान संस्थान,  
 क्षेत्रीय केन्द्र, इन्दौर में आयोजित गोष्ठी के दौरान जारी किया गया