

# **SECTION A**

## **ADVANCE VARIETAL TRIALS**

- i. Grain Appearance**
- ii. Hectolitre Weight**
- iii. Protein Content**
- iv. Sedimentation Value**
- v. Grain Hardness Index**
- vi. Phenol Test**
- vii. Yellow Pigment Content**
- viii. Fe and Zn content**
- ix. High Molecular Weight Glutenin Subunits**

## 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.
- 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.

**Remarks:** 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                                     | HS 507 (C)  | <b>1901</b> | 6.0        | 6.2        | 6.0        | <b>6.1</b> |
| 2                                     | HS 562 (C)  | <b>1902</b> | 5.8        | 5.8        | 5.2        | <b>5.6</b> |
| 3                                     | HPW 349 (C) | <b>1903</b> | 6.4        | 5.8        | 5.0        | <b>5.7</b> |
| 4                                     | VL 907 (C)  | <b>1905</b> | 5.8        | 5.8        | 5.4        | <b>5.7</b> |
| 5                                     | HS 668      | <b>1904</b> | 5.8        | 5.6        | 4.4        | <b>5.3</b> |
| 6                                     | VL 2036     | <b>1906</b> | 5.8        | 5.6        | 5.6        | <b>5.7</b> |
|                                       | Mean        |             | <b>5.9</b> | <b>5.8</b> | <b>5.3</b> | <b>5.7</b> |
| <b>Rainfed Timely Sown</b>            |             |             |            |            |            |            |
| 1                                     | HS 507 (C)  | <b>1901</b> | 6.0        | 5.6        | 6.4        | <b>6.0</b> |
| 2                                     | HS 562 (C)  | <b>1902</b> | 5.8        | 5.8        | 5.8        | <b>5.8</b> |
| 3                                     | HPW 349 (C) | <b>1903</b> | 5.4        | 5.2        | 5.8        | <b>5.5</b> |
| 4                                     | VL 907 (C)  | <b>1905</b> | 5.2        | 5.4        | 5.6        | <b>5.4</b> |
| 5                                     | HS 668      | <b>1904</b> | 5.8        | 5.6        | 6.0        | <b>5.8</b> |
| 6                                     | VL 2036     | <b>1906</b> | 5.4        | 5.4        | 5.8        | <b>5.5</b> |
|                                       | Mean        |             | <b>5.6</b> | <b>5.5</b> | <b>5.9</b> | <b>5.7</b> |
| <b>Restricted Irrigated Late Sown</b> |             |             |            |            |            |            |
| 1                                     | VL 892 (C)  | <b>1908</b> | 5.2        | 5.4        | 5.8        | <b>5.5</b> |
| 2                                     | HS 490 (C)  | <b>1910</b> | 4.8        | 5.4        | 5.8        | <b>5.3</b> |
| 3                                     | HS 681      | <b>1901</b> | 6.0        | 6          | 6.4        | <b>6.1</b> |
| 4                                     | VL 3022     | <b>1902</b> | 5.6        | 5.8        | 5.8        | <b>5.7</b> |
| 5                                     | HS 680      | <b>1903</b> | 5.6        | 5.8        | 6.0        | <b>5.8</b> |
| 6                                     | VL 3023     | <b>1904</b> | 5.6        | 5.6        | 5.6        | <b>5.6</b> |
| 7                                     | HPW 474     | <b>1905</b> | 5.4        | 5.4        | 5.8        | <b>5.5</b> |
| 8                                     | UP 3069     | <b>1906</b> | 5.6        | 5.8        | 6.0        | <b>5.8</b> |
| 9                                     | HPW 473     | <b>1907</b> | 5.6        | 5.4        | 5.4        | <b>5.5</b> |
| 10                                    | VL 3024     | <b>1909</b> | 4.8        | 5.6        | 5.4        | <b>5.3</b> |
| 11                                    | HS 679      | <b>1911</b> | 5.4        | 5.6        | 5.6        | <b>5.5</b> |
|                                       | Mean        |             | <b>5.4</b> | <b>5.6</b> | <b>5.8</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                                     | HS 507 (C)  | <b>1901</b> | 79.5        | 81.2        | 82.2        | <b>81.0</b> |
| 2                                     | HS 562 (C)  | <b>1902</b> | 77.3        | 78.0        | 80.0        | <b>78.4</b> |
| 3                                     | HPW 349 (C) | <b>1903</b> | 79.0        | 79.5        | 79.7        | <b>79.4</b> |
| 4                                     | VL 907 (C)  | <b>1905</b> | 77.8        | 77.6        | 79.0        | <b>78.1</b> |
| 5                                     | HS 668      | <b>1904</b> | 79.3        | 81.0        | 77.0        | <b>79.1</b> |
| 6                                     | VL 2036     | <b>1906</b> | 78.7        | 78.0        | 79.0        | <b>78.6</b> |
|                                       | Mean        |             | <b>78.6</b> | <b>79.2</b> | <b>79.5</b> | <b>79.1</b> |
| <b>Rainfed Timely Sown</b>            |             |             |             |             |             |             |
| 1                                     | HS 507 (C)  | <b>1901</b> | 79.0        | 81.3        | 82.4        | <b>80.9</b> |
| 2                                     | HS 562 (C)  | <b>1902</b> | 75.7        | 80.1        | 75.2        | <b>77.0</b> |
| 3                                     | HPW 349 (C) | <b>1903</b> | 78.0        | 80.0        | 78.0        | <b>78.7</b> |
| 4                                     | VL 907 (C)  | <b>1905</b> | 77.0        | 79.5        | 77.5        | <b>78.0</b> |
| 5                                     | HS 668      | <b>1904</b> | 79.5        | 82.5        | 74.5        | <b>78.8</b> |
| 6                                     | VL 2036     | <b>1906</b> | 75.8        | 78.6        | 79.0        | <b>77.8</b> |
|                                       | Mean        |             | <b>77.5</b> | <b>80.3</b> | <b>77.8</b> | <b>78.5</b> |
| <b>Restricted Irrigated Late Sown</b> |             |             |             |             |             |             |
| 1                                     | VL 892 (C)  | <b>1908</b> | 79.0        | 78.6        | 81.0        | <b>79.5</b> |
| 2                                     | HS 490 (C)  | <b>1910</b> | 74.3        | 74.0        | 76.5        | <b>74.9</b> |
| 3                                     | HS 681      | <b>1901</b> | 80.0        | 78.5        | 82.0        | <b>80.2</b> |
| 4                                     | VL 3022     | <b>1902</b> | 78.2        | 79.0        | 80.2        | <b>79.1</b> |
| 5                                     | HS 680      | <b>1903</b> | 74.0        | 79.0        | 82.7        | <b>78.6</b> |
| 6                                     | VL 3023     | <b>1904</b> | 72.8        | 75.3        | 76.0        | <b>74.7</b> |
| 7                                     | HPW 474     | <b>1905</b> | 73.8        | 78.2        | 76.5        | <b>76.2</b> |
| 8                                     | UP 3069     | <b>1906</b> | 73.6        | 77.0        | 77.0        | <b>75.9</b> |
| 9                                     | HPW 473     | <b>1907</b> | 78.4        | 79.0        | 80.0        | <b>79.1</b> |
| 10                                    | VL 3024     | <b>1909</b> | 71.0        | 75.2        | 77.2        | <b>74.5</b> |
| 11                                    | HS 679      | <b>1911</b> | 76.0        | 79.0        | 79.0        | <b>78.0</b> |
|                                       | Mean        |             | <b>75.6</b> | <b>77.5</b> | <b>78.9</b> | <b>77.3</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                                     | HS 507 (C)  | <b>1901</b> | 9.6         | 9.9        | 8.9        | <b>9.5</b>  |
| 2                                     | HS 562 (C)  | <b>1902</b> | 9.5         | 6.6        | 7.9        | <b>8.0</b>  |
| 3                                     | HPW 349 (C) | <b>1903</b> | 9.8         | 7.6        | 8.1        | <b>8.5</b>  |
| 4                                     | VL 907 (C)  | <b>1905</b> | 10.3        | 6.9        | 9.9        | <b>9.0</b>  |
| 5                                     | HS 668      | <b>1904</b> | 10.6        | 8.3        | 8.8        | <b>9.2</b>  |
| 6                                     | VL 2036     | <b>1906</b> | 9.7         | 8.4        | 8.3        | <b>8.8</b>  |
|                                       | Mean        |             | <b>9.9</b>  | <b>7.9</b> | <b>8.6</b> | <b>8.8</b>  |
| <b>Rainfed Timely Sown</b>            |             |             |             |            |            |             |
| 1                                     | HS 507 (C)  | <b>1901</b> | 10.6        | 8.1        | 10.1       | <b>9.6</b>  |
| 2                                     | HS 562 (C)  | <b>1902</b> | 10.0        | 6.6        | 9.0        | <b>8.5</b>  |
| 3                                     | HPW 349 (C) | <b>1903</b> | 9.6         | 6.7        | 9.5        | <b>8.6</b>  |
| 4                                     | VL 907 (C)  | <b>1905</b> | 10.5        | 7.1        | 10.2       | <b>9.3</b>  |
| 5                                     | HS 668      | <b>1904</b> | 11.2        | 7.6        | 10.7       | <b>9.8</b>  |
| 6                                     | VL 2036     | <b>1906</b> | 10.4        | 7.3        | 9.9        | <b>9.2</b>  |
|                                       | Mean        |             | <b>10.4</b> | <b>7.2</b> | <b>9.9</b> | <b>9.2</b>  |
| <b>Restricted Irrigated Late Sown</b> |             |             |             |            |            |             |
| 1                                     | VL 892 (C)  | <b>1908</b> | 9.4         | 8.4        | 9.3        | <b>9.0</b>  |
| 2                                     | HS 490 (C)  | <b>1910</b> | 9.7         | 8.3        | 9.4        | <b>9.1</b>  |
| 3                                     | HS 681      | <b>1901</b> | 10.4        | 10.4       | 9.6        | <b>10.1</b> |
| 4                                     | VL 3022     | <b>1902</b> | 10.0        | 9.0        | 9.5        | <b>9.5</b>  |
| 5                                     | HS 680      | <b>1903</b> | 10.3        | 8.8        | 9.7        | <b>9.6</b>  |
| 6                                     | VL 3023     | <b>1904</b> | 9.7         | 7.4        | 9.2        | <b>8.7</b>  |
| 7                                     | HPW 474     | <b>1905</b> | 10.0        | 7.8        | 10.7       | <b>9.5</b>  |
| 8                                     | UP 3069     | <b>1906</b> | 10.6        | 8.4        | 10.7       | <b>9.9</b>  |
| 9                                     | HPW 473     | <b>1907</b> | 9.4         | 7.5        | 8.4        | <b>8.4</b>  |
| 10                                    | VL 3024     | <b>1909</b> | 10.7        | 7.9        | 9.4        | <b>9.3</b>  |
| 11                                    | HS 679      | <b>1911</b> | 10.6        | 7.7        | 9.9        | <b>9.4</b>  |
|                                       | Mean        |             | <b>10.1</b> | <b>8.3</b> | <b>9.6</b> | <b>9.3</b>  |

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

| Sr. No.                               | Entries     | Code        | Almora    | Shimla    | Malan     | Mean      |
|---------------------------------------|-------------|-------------|-----------|-----------|-----------|-----------|
| <b>Irrigated Timely Sown</b>          |             |             |           |           |           |           |
| 1                                     | HS 507 (C)  | <b>1901</b> | 52        | 42        | 53        | <b>49</b> |
| 2                                     | HS 562 (C)  | <b>1902</b> | 67        | 44        | 60        | <b>57</b> |
| 3                                     | HPW 349 (C) | <b>1903</b> | 67        | 42        | 68        | <b>59</b> |
| 4                                     | VL 907 (C)  | <b>1905</b> | 48        | 31        | 47        | <b>42</b> |
| 5                                     | HS 668      | <b>1904</b> | 50        | 30        | 54        | <b>45</b> |
| 6                                     | VL 2036     | <b>1906</b> | 62        | 48        | 63        | <b>58</b> |
|                                       | Mean        |             | <b>58</b> | <b>39</b> | <b>57</b> | <b>51</b> |
| <b>Rainfed Timely Sown</b>            |             |             |           |           |           |           |
| 1                                     | HS 507 (C)  | <b>1901</b> | 53        | 50        | 50        | <b>51</b> |
| 2                                     | HS 562 (C)  | <b>1902</b> | 67        | 43        | 57        | <b>56</b> |
| 3                                     | HPW 349 (C) | <b>1903</b> | 67        | 47        | 61        | <b>58</b> |
| 4                                     | VL 907 (C)  | <b>1905</b> | 45        | 34        | 44        | <b>41</b> |
| 5                                     | HS 668      | <b>1904</b> | 48        | 40        | 47        | <b>45</b> |
| 6                                     | VL 2036     | <b>1906</b> | 63        | 51        | 63        | <b>59</b> |
|                                       | Mean        |             | <b>57</b> | <b>44</b> | <b>54</b> | <b>52</b> |
| <b>Restricted Irrigated Late Sown</b> |             |             |           |           |           |           |
| 1                                     | VL 892 (C)  | <b>1908</b> | 48        | 42        | 46        | <b>45</b> |
| 2                                     | HS 490 (C)  | <b>1910</b> | 40        | 31        | 36        | <b>36</b> |
| 3                                     | HS 681      | <b>1901</b> | 53        | 53        | 50        | <b>52</b> |
| 4                                     | VL 3022     | <b>1902</b> | 64        | 44        | 57        | <b>55</b> |
| 5                                     | HS 680      | <b>1903</b> | 63        | 48        | 67        | <b>60</b> |
| 6                                     | VL 3023     | <b>1904</b> | 47        | 31        | 46        | <b>41</b> |
| 7                                     | HPW 474     | <b>1905</b> | 63        | 53        | 67        | <b>61</b> |
| 8                                     | UP 3069     | <b>1906</b> | 70        | 58        | 70        | <b>66</b> |
| 9                                     | HPW 473     | <b>1907</b> | 55        | 46        | 47        | <b>49</b> |
| 10                                    | VL 3024     | <b>1909</b> | 57        | 45        | 50        | <b>51</b> |
| 11                                    | HS 679      | <b>1911</b> | 45        | 34        | 42        | <b>40</b> |
|                                       | Mean        |             | <b>55</b> | <b>44</b> | <b>52</b> | <b>50</b> |

**Table 5: Phenol test (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                                     | HS 507 (C)  | <b>1901</b> | 6.0        | 6.0        | 7.5        | <b>6.5</b> |
| 2                                     | HS 562 (C)  | <b>1902</b> | 7.5        | 5.0        | 8.5        | <b>7.0</b> |
| 3                                     | HPW 349 (C) | <b>1903</b> | 6.0        | 5.5        | 8.0        | <b>6.5</b> |
| 4                                     | VL 907 (C)  | <b>1905</b> | 7.0        | 6.0        | 7.5        | <b>6.8</b> |
| 5                                     | HS 668      | <b>1904</b> | 6.5        | 6.0        | 8.0        | <b>6.8</b> |
| 6                                     | VL 2036     | <b>1906</b> | 7.5        | 6.0        | 7.0        | <b>6.8</b> |
|                                       | Mean        |             | <b>6.8</b> | <b>5.8</b> | <b>7.8</b> | <b>6.8</b> |
| <b>Rainfed Timely Sown</b>            |             |             |            |            |            |            |
| 1                                     | HS 507 (C)  | <b>1901</b> | 6.5        | 6.0        | 7.0        | <b>6.5</b> |
| 2                                     | HS 562 (C)  | <b>1902</b> | 8.5        | 7.0        | 7.5        | <b>7.7</b> |
| 3                                     | HPW 349 (C) | <b>1903</b> | 7.0        | 6.0        | 7.5        | <b>6.8</b> |
| 4                                     | VL 907 (C)  | <b>1905</b> | 7.5        | 6.5        | 7.0        | <b>7.0</b> |
| 5                                     | HS 668      | <b>1904</b> | 8.0        | 7.0        | 6.5        | <b>7.2</b> |
| 6                                     | VL 2036     | <b>1906</b> | 8.0        | 6.0        | 8.0        | <b>7.3</b> |
|                                       | Mean        |             | <b>7.6</b> | <b>6.4</b> | <b>7.3</b> | <b>7.1</b> |
| <b>Restricted Irrigated Late Sown</b> |             |             |            |            |            |            |
| 1                                     | VL 892 (C)  | <b>1908</b> | 8.0        | 7.0        | 7.0        | <b>7.3</b> |
| 2                                     | HS 490 (C)  | <b>1910</b> | 6.5        | 7.0        | 7.5        | <b>7.0</b> |
| 3                                     | HS 681      | <b>1901</b> | 8.0        | 8.0        | 8.5        | <b>8.2</b> |
| 4                                     | VL 3022     | <b>1902</b> | 5.0        | 5.0        | 6.0        | <b>5.3</b> |
| 5                                     | HS 680      | <b>1903</b> | 7.5        | 8.0        | 8.5        | <b>8.0</b> |
| 6                                     | VL 3023     | <b>1904</b> | 6.5        | 6.0        | 8.0        | <b>6.8</b> |
| 7                                     | HPW 474     | <b>1905</b> | 7.0        | 6.0        | 8.5        | <b>7.2</b> |
| 8                                     | UP 3069     | <b>1906</b> | 7.0        | 6.0        | 7.5        | <b>6.8</b> |
| 9                                     | HPW 473     | <b>1907</b> | 6.5        | 5.5        | 6.5        | <b>6.2</b> |
| 10                                    | VL 3024     | <b>1909</b> | 7.0        | 7.5        | 7.5        | <b>7.3</b> |
| 11                                    | HS 679      | <b>1911</b> | 7.5        | 6.5        | 8.0        | <b>7.3</b> |
|                                       | Mean        |             | <b>7.0</b> | <b>6.6</b> | <b>7.6</b> | <b>7.0</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                                     | HS 507 (C)  | <b>1901</b> |        |        | 83        | 83        |
| 2                                     | HS 562 (C)  | <b>1902</b> |        |        | 77        | 77        |
| 3                                     | HPW 349 (C) | <b>1903</b> |        |        | 67        | 67        |
| 4                                     | VL 907 (C)  | <b>1905</b> |        |        | 67        | 67        |
| 5                                     | HS 668      | <b>1904</b> |        |        | 89        | 89        |
| 6                                     | VL 2036     | <b>1906</b> |        |        | 65        | 65        |
|                                       | Mean        |             |        |        | <b>75</b> | <b>75</b> |
| <b>Rainfed Timely Sown</b>            |             |             |        |        |           |           |
| 1                                     | HS 507 (C)  | <b>1901</b> |        |        | 84        | 84        |
| 2                                     | HS 562 (C)  | <b>1902</b> |        |        | 76        | 76        |
| 3                                     | HPW 349 (C) | <b>1903</b> |        |        | 71        | 71        |
| 4                                     | VL 907 (C)  | <b>1905</b> |        |        | 66        | 66        |
| 5                                     | HS 668      | <b>1904</b> |        |        | 75        | 75        |
| 6                                     | VL 2036     | <b>1906</b> |        |        | 71        | 71        |
|                                       | Mean        |             |        |        | <b>74</b> | <b>74</b> |
| <b>Restricted Irrigated Late Sown</b> |             |             |        |        |           |           |
| 1                                     | VL 892 (C)  | <b>1908</b> |        |        | 72        | 72        |
| 2                                     | HS 490 (C)  | <b>1910</b> |        |        | 14        | 14        |
| 3                                     | HS 681      | <b>1901</b> |        |        | 88        | 88        |
| 4                                     | VL 3022     | <b>1902</b> |        |        | 75        | 75        |
| 5                                     | HS 680      | <b>1903</b> |        |        | 71        | 71        |
| 6                                     | VL 3023     | <b>1904</b> |        |        | 59        | 59        |
| 7                                     | HPW 474     | <b>1905</b> |        |        | 73        | 73        |
| 8                                     | UP 3069     | <b>1906</b> |        |        | 69        | 69        |
| 9                                     | HPW 473     | <b>1907</b> |        |        | 52        | 52        |
| 10                                    | VL 3024     | <b>1909</b> |        |        | 66        | 66        |
| 11                                    | HS 679      | <b>1911</b> |        |        | 79        | 79        |
|                                       | <b>Mean</b> |             |        |        | <b>65</b> | <b>65</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                                     | HS 507 (C)  | <b>1901</b> | 32.5        | 30.4        | 34.1        | <b>32.3</b> |
| 2                                     | HS 562 (C)  | <b>1902</b> | 36.4        | 32.9        | 34.2        | <b>34.5</b> |
| 3                                     | HPW 349 (C) | <b>1903</b> | 31.9        | 30.2        | 30.4        | <b>30.8</b> |
| 4                                     | VL 907 (C)  | <b>1905</b> | 33.3        | 32.7        | 35.2        | <b>33.7</b> |
| 5                                     | HS 668      | <b>1904</b> | 35.4        | 36.4        | 32.8        | <b>34.9</b> |
| 6                                     | VL 2036     | <b>1906</b> | 34.8        | 34.5        | 29.9        | <b>33.1</b> |
|                                       | Mean        |             | <b>34.1</b> | <b>32.9</b> | <b>32.8</b> | <b>33.2</b> |
| <b>Rainfed Timely Sown</b>            |             |             |             |             |             |             |
| 1                                     | HS 507 (C)  | <b>1901</b> | <b>35.7</b> | 37.4        | 36.2        | <b>36.4</b> |
| 2                                     | HS 562 (C)  | <b>1902</b> | 36.4        | 29.0        | 33.1        | <b>32.8</b> |
| 3                                     | HPW 349 (C) | <b>1903</b> | 32.7        | 35.4        | 33.8        | <b>34.0</b> |
| 4                                     | VL 907 (C)  | <b>1905</b> | 32.1        | 30.3        | 29.3        | <b>30.6</b> |
| 5                                     | HS 668      | <b>1904</b> | 40.7        | 37.4        | 29.0        | <b>35.7</b> |
| 6                                     | VL 2036     | <b>1906</b> | 31.7        | 27.9        | 32.9        | <b>30.8</b> |
|                                       | Mean        |             | <b>34.9</b> | <b>32.9</b> | <b>32.4</b> | <b>33.4</b> |
| <b>Restricted Irrigated Late Sown</b> |             |             |             |             |             |             |
| 1                                     | VL 892 (C)  | <b>1908</b> | 38          | 36.0        | 30.3        | <b>34.8</b> |
| 2                                     | HS 490 (C)  | <b>1910</b> | 33.7        | 34.9        | 30.1        | <b>32.9</b> |
| 3                                     | HS 681      | <b>1901</b> | <b>38.7</b> | 39.4        | 37.4        | <b>38.5</b> |
| 4                                     | VL 3022     | <b>1902</b> | 35.6        | 33.5        | 30.6        | <b>33.2</b> |
| 5                                     | HS 680      | <b>1903</b> | 33.6        | 28.7        | 32.0        | <b>31.4</b> |
| 6                                     | VL 3023     | <b>1904</b> | 36.2        | 31.6        | 28.3        | <b>32.0</b> |
| 7                                     | HPW 474     | <b>1905</b> | 34.2        | 35.0        | 31.3        | <b>33.5</b> |
| 8                                     | UP 3069     | <b>1906</b> | 38.1        | 32.9        | 36.3        | <b>35.8</b> |
| 9                                     | HPW 473     | <b>1907</b> | 33.5        | 36.9        | 29.3        | <b>33.2</b> |
| 10                                    | VL 3024     | <b>1909</b> | 34.4        | 28.9        | 30.7        | <b>31.3</b> |
| 11                                    | HS 679      | <b>1911</b> | 37.6        | 32.3        | 30.5        | <b>33.5</b> |
|                                       | Mean        |             | <b>35.8</b> | <b>33.6</b> | <b>31.5</b> | <b>33.7</b> |

**Table 8: Grain Zinc 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                                     | HS 507 (C)  | <b>1901</b> | 42.3        | 26.9        | 23.5        | <b>30.9</b> |
| 2                                     | HS 562 (C)  | <b>1902</b> | 38.7        | 24.0        | 19.2        | <b>27.3</b> |
| 3                                     | HPW 349 (C) | <b>1903</b> | 39.9        | 29.9        | 21.4        | <b>30.4</b> |
| 4                                     | VL 907 (C)  | <b>1905</b> | 39.5        | 27.1        | 23.3        | <b>30.0</b> |
| 5                                     | HS 668      | <b>1904</b> | 47.8        | 41.9        | 28.3        | <b>39.3</b> |
| 6                                     | VL 2036     | <b>1906</b> | 31.0        | 25.1        | 20.1        | <b>25.4</b> |
|                                       | Mean        |             | <b>39.9</b> | <b>29.2</b> | <b>22.6</b> | <b>30.6</b> |
| <b>Rainfed Timely Sown</b>            |             |             |             |             |             |             |
| 1                                     | HS 507 (C)  | <b>1901</b> | 44.2        | 37.5        | 25.5        | <b>35.7</b> |
| 2                                     | HS 562 (C)  | <b>1902</b> | 38.1        | 25.9        | 20.1        | <b>28.0</b> |
| 3                                     | HPW 349 (C) | <b>1903</b> | 42.1        | 34.3        | 24.0        | <b>33.5</b> |
| 4                                     | VL 907 (C)  | <b>1905</b> | 45.1        | 23.0        | 21.0        | <b>29.7</b> |
| 5                                     | HS 668      | <b>1904</b> | 51.3        | 39.8        | 25.5        | <b>38.9</b> |
| 6                                     | VL 2036     | <b>1906</b> | 42.3        | 20.5        | 18.8        | <b>27.2</b> |
|                                       | Mean        |             | <b>43.9</b> | <b>30.7</b> | <b>22.5</b> | <b>32.3</b> |
| <b>Restricted Irrigated Late Sown</b> |             |             |             |             |             |             |
| 1                                     | VL 892 (C)  | <b>1908</b> | 38.4        | 36.5        | 23.0        | <b>32.6</b> |
| 2                                     | HS 490 (C)  | <b>1910</b> | 36.8        | 37.6        | 29.9        | <b>34.8</b> |
| 3                                     | HS 681      | <b>1901</b> | 40.6        | 38.1        | 28.5        | <b>35.7</b> |
| 4                                     | VL 3022     | <b>1902</b> | 32.7        | 29.2        | 25.0        | <b>29.0</b> |
| 5                                     | HS 680      | <b>1903</b> | 31.6        | 29.0        | 23.5        | <b>28.0</b> |
| 6                                     | VL 3023     | <b>1904</b> | 34.5        | 30.8        | 24.0        | <b>29.8</b> |
| 7                                     | HPW 474     | <b>1905</b> | 28.2        | 27.9        | 25.1        | <b>27.1</b> |
| 8                                     | UP 3069     | <b>1906</b> | 39.7        | 29.2        | 25.4        | <b>31.4</b> |
| 9                                     | HPW 473     | <b>1907</b> | 41.8        | 41.9        | 28.4        | <b>37.4</b> |
| 10                                    | VL 3024     | <b>1909</b> | 30.2        | 25.6        | 23.2        | <b>26.3</b> |
| 11                                    | HS 679      | <b>1911</b> | 37.3        | 29.8        | 22.5        | <b>29.9</b> |
|                                       | Mean        |             | <b>35.6</b> | <b>32.3</b> | <b>25.3</b> | <b>31.1</b> |

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

| S. No. | Entries               | Code | Karnal | Ludhiana | Hisar | Delhi | Pantnagar | Durgapura | Mean |
|--------|-----------------------|------|--------|----------|-------|-------|-----------|-----------|------|
|        | <b>IR-TS</b>          |      |        |          |       |       |           |           |      |
| 1      | DBW88 (C)             | 101  | 6.0    | 5.8      | 6.6   | 5.6   | 5.8       | 5.8       | 5.9  |
| 2      | DBW187(I) (C)         | 102  | 6.8    | 6.0      | 6.6   | 6.0   | 6.0       | 5.8       | 6.2  |
| 3      | HD2967 (C)            | 103  | 5.0    | 5.8      | 6.0   | 5.8   | 5.6       | 5.6       | 5.6  |
| 4      | WH1105 (C)            | 104  | 6.0    | 6.0      | 6.2   | 6.0   | 5.6       | 5.8       | 5.9  |
| 5      | DBW222(I) (C)         | 105  | 6.8    | 6.0      | 6.2   | 5.8   | 6.0       | 6.0       | 6.1  |
| 6      | HD3086 (C)            | 106  | 6.8    | 6.0      | 6.6   | 6.0   | 6.8       | 6.0       | 6.4  |
| 7      | PBW550 (C)            | 109  | 6.8    | 4.6      | 6.2   | 5.6   | 6.2       | 6.2       | 5.9  |
| 8      | PBW840 <sup>M</sup>   | 107  | 7.2    | 5.8      | 6.6   | 6.0   | 6.4       | 6.2       | 6.4  |
| 9      | PBW803                | 108  | 6.8    | 5.6      | 6.6   | 5.8   | 6.0       | 6.2       | 6.2  |
|        | Mean                  |      | 6.5    | 5.7      | 6.4   | 5.8   | 6.0       | 6.0       | 6.1  |
|        | <b>IR-LS</b>          |      |        |          |       |       |           |           |      |
| 1      | HD3298*               | 215  | 5.4    | 5.6      | 5.2   | 6.2   | 5.8       | 6.0       | 5.7  |
| 2      | HD3059 (C)            | 202  | 6.6    | 5.6      | 5.8   | 6.4   | 6.2       | 5.8       | 6.1  |
| 3      | DBW173 (C)            | 204  | 6.8    | 5.6      | 5.4   | 6.0   | 5.8       | 6.0       | 5.9  |
| 4      | WH1021 (C)            | 205  | 5.8    | 5.2      | 6.0   | 5.8   | 5.8       | 6.2       | 5.8  |
| 5      | WH1124 (C)            | 216  | 6.2    | 5.6      | 5.8   | 6.0   | 5.6       | 5.6       | 5.8  |
| 6      | PBW771(I) (C)         | 212  | 6.2    | 5.8      | 5.4   | 6.2   | 5.6       | 6.2       | 5.9  |
| 7      | HD3334                | 201  | 6.8    | 5.8      | 6.0   | 6.4   | 6.2       | 6.4       | 6.3  |
| 8      | HD3332                | 203  | 6.6    | 5.8      | 6.0   | 6.6   | 6.2       | 6.6       | 6.3  |
| 9      | PBW811                | 206  | 6.2    | 5.4      | 5.0   | 6.0   | 5.8       | 6.0       | 5.7  |
| 10     | DBW291                | 207  | 6.6    | 5.8      | 5.8   | 6.2   | 5.6       | 6.2       | 6.0  |
| 11     | WH1264                | 208  | 6.6    | 5.6      | 5.8   | 6.4   | 5.8       | 6.4       | 6.1  |
| 12     | PBW812                | 209  | 6.6    | 5.8      | 5.0   | 6.6   | 6.0       | 6.0       | 6.0  |
| 13     | JKW261                | 210  | 6.0    | 5.0      | 5.0   | 5.8   | 5.4       | 6.0       | 5.5  |
| 14     | DBW290                | 211  | 5.8    | 5.8      | 5.6   | 5.8   | 6.0       | 6.2       | 5.9  |
| 15     | PBW813                | 213  | 6.2    | 5.8      | 5.2   | 6.2   | 6.0       | 6.2       | 5.9  |
| 16     | HD3331 <sup>#WB</sup> | 214  | 6.0    | 5.6      | 5.2   | 6.0   | 5.4       | 5.6       | 5.6  |
| 17     | UP3033                | 217  | 6.2    | 5.6      | 5.2   | 6.2   | 5.8       | 5.6       | 5.8  |
|        | Mean                  |      | 6.3    | 5.6      | 5.5   | 6.2   | 5.8       | 6.1       | 5.9  |
|        | <b>RF-TS</b>          |      |        |          |       |       |           |           |      |
| 1      | HD3043 (C)            | 302  | 6.4    | 4.6      | 5.8   | 5.0   | 6.8       | --        | 5.7  |
| 2      | PBW644 (C)            | 303  | 7.0    | 5.6      | 6.6   | 5.2   | 7.0       | --        | 6.3  |
| 3      | WH1080 (C)            | 306  | 6.0    | 4.2      | 6.2   | 4.6   | 5.8       | --        | 5.4  |
| 4      | WH1142 (C)            | 308  | 5.0    | 4.4      | 5.6   | 4.8   | 5.8       | --        | 5.1  |
| 5      | NIAW3170(I) (C)       | 309  | 6.0    | 5.6      | 5.0   | 4.8   | 6.6       | --        | 5.6  |
| 6      | HI1628(I) (C)         | 305  | 6.4    | 5.6      | 6.2   | 4.6   | 5.8       | --        | 5.7  |
| 7      | DBW296                | 304  | 6.4    | 5.4      | 5.8   | 5.0   | 6.8       | --        | 5.9  |
| 8      | JAUW672               | 307  | 6.0    | 4.2      | 6.2   | 4.6   | 6.0       | --        | 5.4  |
| 9      | HUW838 <sup>#WB</sup> | 301  | 6.6    | 5.2      | 5.8   | 5.8   | 6.6       | --        | 6.0  |
|        | Mean                  |      | 6.2    | 5.0      | 5.9   | 4.9   | 6.4       | --        | 5.7  |

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

| S. No. | Entries               | Code | Karnal | Ludhiana | Hisar | Delhi | Pantnagar | Durgapura | Mean |
|--------|-----------------------|------|--------|----------|-------|-------|-----------|-----------|------|
|        | <b>IR-TS</b>          |      |        |          |       |       |           |           |      |
| 1      | DBW88 (C)             | 101  | 78.1   | 77.8     | 80.0  | 76.6  | 79.0      | 78.0      | 78.3 |
| 2      | DBW187(I) (C)         | 102  | 78.2   | 77.7     | 80.3  | 76.2  | 78.5      | 74.6      | 77.6 |
| 3      | HD2967 (C)            | 103  | 74.2   | 76.3     | 79.0  | 77.5  | 80.5      | 75.0      | 77.1 |
| 4      | WH1105 (C)            | 104  | 78.5   | 79.7     | 81.3  | 79.2  | 79.2      | 79.6      | 79.6 |
| 5      | DBW222(I) (C)         | 105  | 76.9   | 78.1     | 80.6  | 77.3  | 81.5      | 80.1      | 79.1 |
| 6      | HD3086 (C)            | 106  | 80.2   | 80.4     | 79.2  | 78.3  | 80.5      | 80.3      | 79.8 |
| 7      | PBW550 (C)            | 109  | 79.8   | 75.9     | 80.2  | 77.7  | 80.2      | 79.6      | 78.9 |
| 8      | PBW840 <sup>M</sup>   | 107  | 80.6   | 79.1     | 80.7  | 79.4  | 79.2      | 80.8      | 80.0 |
| 9      | PBW803                | 108  | 78.8   | 79.7     | 79.7  | 77.4  | 81.2      | 79.5      | 79.4 |
|        | Mean                  |      | 78.4   | 78.3     | 80.1  | 77.7  | 80.0      | 78.6      | 78.9 |
|        | <b>IR-LS</b>          |      |        |          |       |       |           |           |      |
| 1      | HD3298*               | 215  | 74.9   | 75.8     | 73.0  | 79.5  | 73.4      | 77.4      | 75.7 |
| 2      | HD3059 (C)            | 202  | 77.0   | 75.7     | 77.2  | 80.8  | 73.9      | 77.6      | 77.0 |
| 3      | DBW173 (C)            | 204  | 78.1   | 76.3     | 75.8  | 79.9  | 73.5      | 77.8      | 76.9 |
| 4      | WH1021 (C)            | 205  | 74.4   | 72.9     | 78.2  | 78.4  | 72.7      | 78.6      | 75.9 |
| 5      | WH1124 (C)            | 216  | 76.5   | 74.6     | 77.7  | 79.3  | 75.1      | 72.8      | 76.0 |
| 6      | PBW771(I) (C)         | 212  | 79.4   | 77.9     | 78.0  | 80.6  | 73.5      | 80.3      | 78.3 |
| 7      | HD3334                | 201  | 76.8   | 76.2     | 76.1  | 79.7  | 75.4      | 76.7      | 76.8 |
| 8      | HD3332                | 203  | 77.0   | 76.9     | 76.1  | 80.4  | 75.2      | 80.3      | 77.7 |
| 9      | PBW811                | 206  | 77.1   | 76.3     | 73.9  | 81.6  | 73.7      | 78.6      | 76.9 |
| 10     | DBW291                | 207  | 80.8   | 79.7     | 78.6  | 82.6  | 73.7      | 83.6      | 79.8 |
| 11     | WH1264                | 208  | 79.0   | 76.5     | 76.4  | 81.2  | 73.6      | 80.3      | 77.8 |
| 12     | PBW812                | 209  | 78.9   | 75.7     | 77.0  | 81.9  | 74.4      | 80.0      | 78.0 |
| 13     | JKW261                | 210  | 78.1   | 75.8     | 75.7  | 79.2  | 74.6      | 77.0      | 76.7 |
| 14     | DBW290                | 211  | 73.2   | 71.8     | 78.4  | 76.9  | 71.6      | 71.0      | 73.8 |
| 15     | PBW813                | 213  | 80.3   | 79.1     | 78.0  | 82.5  | 75.9      | 83.0      | 79.8 |
| 16     | HD3331 <sup>#WB</sup> | 214  | 77.0   | 75.2     | 78.0  | 80.8  | 74.2      | 78.5      | 77.3 |
| 17     | UP3033                | 217  | 79.3   | 76.8     | 77.6  | 79.6  | 73.8      | 79.3      | 77.7 |
|        | Mean                  |      | 77.5   | 76.1     | 76.8  | 80.3  | 74.0      | 78.4      | 77.2 |
|        | <b>RF-TS</b>          |      |        |          |       |       |           |           |      |
| 1      | HD3043 (C)            | 302  | 79.5   | 67.3     | 82.0  | 78.8  | 81.1      |           | 77.7 |
| 2      | PBW644 (C)            | 303  | 79.0   | 73.9     | 79.0  | 78.4  | 81.2      |           | 78.3 |
| 3      | WH1080 (C)            | 306  | 79.3   | 66.2     | 80.0  | 77.4  | 76.3      |           | 75.8 |
| 4      | WH1142 (C)            | 308  | 76.0   | 72.1     | 81.0  | 77.4  | 80.1      |           | 77.3 |
| 5      | NIAW3170(I) (C)       | 309  | 79.0   | 73.3     | 79.0  | 76.8  | 79.3      |           | 77.5 |
| 6      | HI1628(I) (C)         | 305  | 79.4   | 75.2     | 81.5  | 73.9  | 77.0      |           | 77.4 |
| 7      | DBW296                | 304  | 80.3   | 74.7     | 81.0  | 77.4  | 79.6      |           | 78.6 |
| 8      | JAUW672               | 307  | 79.0   | 67.1     | 79.5  | 75.4  | 77.5      |           | 75.7 |
| 9      | HUW838 <sup>#WB</sup> | 301  | 80.7   | 75.7     | 81.7  | 77.9  | 82.4      |           | 79.7 |
|        | Mean                  |      | 79.1   | 71.7     | 80.5  | 77.0  | 79.4      |           | 77.6 |

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

| S. No. | Entries               | Code | Karnal | Ludhiana | Hisar | Delhi | Pantnagar | Durgapura | Mean |
|--------|-----------------------|------|--------|----------|-------|-------|-----------|-----------|------|
|        | <b>IR-TS</b>          |      |        |          |       |       |           |           |      |
| 1      | DBW88 (C)             | 101  | 11.7   | 9.9      | 11.1  | 14.2  | 8.8       | 12.9      | 11.4 |
| 2      | DBW187(I) (C)         | 102  | 12.4   | 10.5     | 10.3  | 14.4  | 8.1       | 13.9      | 11.6 |
| 3      | HD2967 (C)            | 103  | 11.2   | 11.7     | 10.9  | 14.6  | 9.9       | 13.9      | 12.0 |
| 4      | WH1105 (C)            | 104  | 11.7   | 9.6      | 10.4  | 13.9  | 8.9       | 13.8      | 11.4 |
| 5      | DBW222(I) (C)         | 105  | 11.7   | 8.9      | 10.2  | 13.8  | 9.7       | 12.2      | 11.1 |
| 6      | HD3086 (C)            | 106  | 10.6   | 9.4      | 12.5  | 13.6  | 8.9       | 11.4      | 11.1 |
| 7      | PBW550 (C)            | 109  | 11.2   | 10.5     | 10.9  | 14.3  | 9.8       | 12.2      | 11.5 |
| 8      | PBW840 <sup>M</sup>   | 107  | 11.3   | 10.1     | 9.4   | 14.7  | 10.1      | 12.7      | 11.4 |
| 9      | PBW803                | 108  | 11.5   | 9.6      | 10.4  | 13.2  | 9.0       | 12.8      | 11.1 |
|        | Mean                  |      | 11.5   | 10.0     | 10.7  | 14.1  | 9.2       | 12.9      | 11.4 |
|        | <b>IR-LS</b>          |      |        |          |       |       |           |           |      |
| 1      | HD3298*               | 215  | 12.0   | 11.4     | 11.8  | 10.8  | 10.9      | 12.9      | 11.6 |
| 2      | HD3059 (C)            | 202  | 13.0   | 12.0     | 11.8  | 12.3  | 11.3      | 13.8      | 12.4 |
| 3      | DBW173 (C)            | 204  | 12.4   | 12.2     | 13.3  | 11.9  | 12.3      | 13.0      | 12.5 |
| 4      | WH1021 (C)            | 205  | 12.9   | 12.5     | 11.3  | 12.7  | 11.8      | 14.0      | 12.5 |
| 5      | WH1124 (C)            | 216  | 11.9   | 11.6     | 11.0  | 11.8  | 10.7      | 14.8      | 11.9 |
| 6      | PBW771(I) (C)         | 212  | 12.3   | 12.1     | 12.4  | 12.9  | 11.6      | 13.1      | 12.4 |
| 7      | HD3334                | 201  | 11.6   | 11.5     | 11.6  | 11.8  | 11.0      | 12.7      | 11.7 |
| 8      | HD3332                | 203  | 12.3   | 10.9     | 12.5  | 12.0  | 11.9      | 13.7      | 12.2 |
| 9      | PBW811                | 206  | 11.4   | 11.8     | 11.3  | 11.4  | 10.0      | 14.3      | 11.7 |
| 10     | DBW291                | 207  | 13.0   | 12.7     | 13.0  | 13.0  | 10.8      | 13.1      | 12.6 |
| 11     | WH1264                | 208  | 12.5   | 11.4     | 11.6  | 12.5  | 11.8      | 13.9      | 12.3 |
| 12     | PBW812                | 209  | 11.6   | 11.3     | 11.3  | 11.7  | 11.1      | 13.3      | 11.7 |
| 13     | JKW261                | 210  | 11.5   | 9.7      | 11.4  | 10.3  | 11.1      | 12.4      | 11.1 |
| 14     | DBW290                | 211  | 12.0   | 11.2     | 11.0  | 11.4  | 11.0      | 13.9      | 11.7 |
| 15     | PBW813                | 213  | 12.0   | 12.8     | 12.9  | 13.5  | 12.4      | 13.2      | 12.8 |
| 16     | HD3331 <sup>#WB</sup> | 214  | 12.0   | 11.8     | 10.7  | 10.7  | 9.9       | 12.4      | 11.3 |
| 17     | UP3033                | 217  | 12.0   | 11.9     | 13.2  | 11.6  | 11.3      | 14.7      | 12.5 |
|        | Mean                  |      | 12.1   | 11.7     | 11.9  | 11.9  | 11.3      | 13.5      | 12.1 |
|        | <b>RF-TS</b>          |      |        |          |       |       |           |           |      |
| 1      | HD3043 (C)            | 302  | 12.9   | 12.2     | 8.5   | 13.4  | 10.3      |           | 11.5 |
| 2      | PBW644 (C)            | 303  | 11.6   | 11.6     | 9.1   | 12.9  | 10.0      |           | 11.0 |
| 3      | WH1080 (C)            | 306  | 11.8   | 12.8     | 9.0   | 12.7  | 11.9      |           | 11.7 |
| 4      | WH1142 (C)            | 308  | 12.1   | 12.3     | 8.5   | 12.5  | 10.0      |           | 11.1 |
| 5      | NIAW3170(I) (C)       | 309  | 12.2   | 12.5     | 10.2  | 12.6  | 11.2      |           | 11.7 |
| 6      | HI1628(I) (C)         | 305  | 11.5   | 11.7     | 9.0   | 12.9  | 11.3      |           | 11.3 |
| 7      | DBW296                | 304  | 11.8   | 13.1     | 9.3   | 12.8  | 12.1      |           | 11.8 |
| 8      | JAUW672               | 307  | 11.1   | 12.9     | 9.2   | 12.1  | 10.5      |           | 11.2 |
| 9      | HUW838 <sup>#WB</sup> | 301  | 11.6   | 12.6     | 9.4   | 13.0  | 10.4      |           | 11.4 |
|        |                       |      | 11.8   | 12.4     | 9.1   | 12.8  | 10.9      |           | 11.4 |

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

| S. No. | Entries               | Code | Karnal | Ludhiana | Hisar | Delhi | Pantnagar | Durgapura | Mean |
|--------|-----------------------|------|--------|----------|-------|-------|-----------|-----------|------|
|        | <b>IR-TS</b>          |      |        |          |       |       |           |           |      |
| 1      | DBW88 (C)             | 101  | 64     | 61       | 60    | 71    | 59        | 64        | 63   |
| 2      | DBW187(I) (C)         | 102  | 67     | 64       | 59    | 69    | 58        | 66        | 64   |
| 3      | HD2967 (C)            | 103  | 62     | 65       | 64    | 65    | 63        | 60        | 63   |
| 4      | WH1105 (C)            | 104  | 68     | 62       | 60    | 71    | 63        | 67        | 65   |
| 5      | DBW222(I) (C)         | 105  | 60     | 56       | 61    | 61    | 54        | 60        | 58   |
| 6      | HD3086 (C)            | 106  | 62     | 59       | 59    | 60    | 58        | 62        | 60   |
| 7      | PBW550 (C)            | 109  | 62     | 55       | 50    | 67    | 60        | 70        | 61   |
| 8      | PBW840 <sup>M</sup>   | 107  | 57     | 53       | 54    | 63    | 53        | 71        | 59   |
| 9      | PBW803                | 108  | 60     | 59       | 49    | 66    | 55        | 67        | 59   |
|        | Mean                  |      | 62     | 59       | 57    | 66    | 58        | 65        | 61   |
|        | <b>IR-LS</b>          |      |        |          |       |       |           |           |      |
| 1      | HD3298*               | 215  | 49     | 52       | 54    | 60    | 56        | 67        | 56   |
| 2      | HD3059 (C)            | 202  | 72     | 70       | 64    | 71    | 73        | 72        | 70   |
| 3      | DBW173 (C)            | 204  | 60     | 58       | 55    | 69    | 73        | 69        | 64   |
| 4      | WH1021 (C)            | 205  | 67     | 67       | 57    | 72    | 67        | 73        | 67   |
| 5      | WH1124 (C)            | 216  | 45     | 47       | 45    | 50    | 48        | 55        | 48   |
| 6      | PBW771(I) (C)         | 212  | 62     | 62       | 55    | 60    | 62        | 71        | 62   |
| 7      | HD3334                | 201  | 70     | 60       | 61    | 67    | 62        | 72        | 65   |
| 8      | HD3332                | 203  | 49     | 51       | 50    | 56    | 67        | 55        | 55   |
| 9      | PBW811                | 206  | 55     | 61       | 52    | 60    | 53        | 71        | 59   |
| 10     | DBW291                | 207  | 62     | 55       | 50    | 56    | 67        | 70        | 60   |
| 11     | WH1264                | 208  | 60     | 64       | 57    | 61    | 58        | 69        | 62   |
| 12     | PBW812                | 209  | 46     | 42       | 40    | 47    | 45        | 48        | 44   |
| 13     | JKW261                | 210  | 56     | 63       | 49    | 63    | 74        | 71        | 63   |
| 14     | DBW290                | 211  | 68     | 64       | 55    | 53    | 57        | 74        | 62   |
| 15     | PBW813                | 213  | 60     | 58       | 48    | 59    | 57        | 69        | 59   |
| 16     | HD3331 <sup>#WB</sup> | 214  | 60     | 64       | 56    | 64    | 64        | 70        | 63   |
| 17     | UP3033                | 217  | 57     | 55       | 59    | 63    | 60        | 71        | 61   |
|        | Mean                  |      | 59     | 58       | 53    | 61    | 61        | 68        | 60   |
|        | <b>RF-TS</b>          |      |        |          |       |       |           |           |      |
| 1      | HD3043 (C)            | 302  | 63     | 69       | 57    | 62    | 59        |           | 62   |
| 2      | PBW644 (C)            | 303  | 57     | 57       | 43    | 55    | 48        |           | 52   |
| 3      | WH1080 (C)            | 306  | 51     | 57       | 49    | 48    | 42        |           | 50   |
| 4      | WH1142 (C)            | 308  | 57     | 70       | 53    | 62    | 54        |           | 59   |
| 5      | NIAW3170(I) (C)       | 309  | 58     | 66       | 57    | 60    | 55        |           | 59   |
| 6      | HI1628(I) (C)         | 305  | 71     | 72       | 59    | 67    | 71        |           | 68   |
| 7      | DBW296                | 304  | 55     | 64       | 55    | 48    | 55        |           | 56   |
| 8      | JAUW672               | 307  | 56     | 60       | 48    | 53    | 51        |           | 54   |
| 9      | HUW838 <sup>#WB</sup> | 301  | 53     | 60       | 53    | 50    | 52        |           | 53   |
|        |                       |      | 58     | 64       | 53    | 56    | 54        |           | 57   |

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

| S. No. | Entries               | Code | Karnal     | Ludhiana   | Hisar      | Delhi      | Pantnagar  | Durgapura  | Mean       |
|--------|-----------------------|------|------------|------------|------------|------------|------------|------------|------------|
|        | <b>IR-TS</b>          |      |            |            |            |            |            |            |            |
| 1      | DBW88 (C)             | 101  | 6.5        | 6.5        | 8.0        | 7.0        | 6.5        | 7.5        | 7.0        |
| 2      | DBW187(I) (C)         | 102  | 7.0        | 7.0        | 7.5        | 6.5        | 6.5        | 7.0        | 6.9        |
| 3      | HD2967 (C)            | 103  | 5.0        | 6.0        | 6.0        | 6.0        | 6.0        | 5.5        | 5.8        |
| 4      | WH1105 (C)            | 104  | 7.0        | 6.0        | 8.0        | 6.5        | 6.0        | 7.5        | 6.8        |
| 5      | DBW222(I) (C)         | 105  | 6.5        | 6.0        | 7.5        | 6.0        | 6.5        | 7.0        | 6.6        |
| 6      | HD3086 (C)            | 106  | 6.5        | 6.5        | 5.5        | 6.5        | 6.5        | 6.5        | 6.3        |
| 7      | PBW550 (C)            | 109  | 8.5        | 6.0        | 7.5        | 6.0        | 7.0        | 7.5        | 7.1        |
| 8      | PBW840 <sup>M</sup>   | 107  | 8.0        | 5.5        | 8.5        | 6.0        | 6.5        | 8.0        | 7.1        |
| 9      | PBW803                | 108  | 8.5        | 7.0        | 7.5        | 6.5        | 6.5        | 7.5        | 7.3        |
|        |                       |      |            | <b>6.3</b> | <b>7.3</b> | <b>6.3</b> | <b>6.4</b> | <b>7.1</b> | <b>6.7</b> |
|        | <b>IR-LS</b>          |      |            |            |            |            |            |            |            |
| 1      | HD3298*               | 215  | 4.5        | 4.0        | 5.0        | 5.0        | 5.5        | 5.0        | 4.8        |
| 2      | HD3059 (C)            | 202  | 6.5        | 8.0        | 8.0        | 7.0        | 6.5        | 7.0        | 7.2        |
| 3      | DBW173 (C)            | 204  | 6.0        | 5.5        | 6.0        | 7.0        | 6.0        | 5.5        | 6.0        |
| 4      | WH1021 (C)            | 205  | 8.0        | 6.0        | 8.5        | 7.5        | 8.0        | 7.0        | 7.5        |
| 5      | WH1124 (C)            | 216  | 6.5        | 8.0        | 6.0        | 8.0        | 8.0        | 6.0        | 7.1        |
| 6      | PBW771(I) (C)         | 212  | 6.0        | 7.0        | 5.5        | 7.5        | 6.5        | 6.5        | 6.5        |
| 7      | HD3334                | 201  | 6.5        | 7.5        | 6.0        | 6.5        | 6.0        | 5.5        | 6.3        |
| 8      | HD3332                | 203  | 6.5        | 7.0        | 7.5        | 7.0        | 7.0        | 7.0        | 7.0        |
| 9      | PBW811                | 206  | 6.0        | 7.5        | 8.0        | 7.0        | 6.5        | 7.5        | 7.1        |
| 10     | DBW291                | 207  | 7.5        | 7.5        | 7.5        | 7.5        | 6.5        | 6.5        | 7.2        |
| 11     | WH1264                | 208  | 4.0        | 3.5        | 3.5        | 3.0        | 5.0        | 4.0        | 3.8        |
| 12     | PBW812                | 209  | 4.5        | 6.0        | 7.5        | 6.5        | 7.0        | 7.0        | 6.4        |
| 13     | JKW261                | 210  | 5.0        | 7.0        | 7.5        | 6.0        | 6.5        | 6.0        | 6.3        |
| 14     | DBW290                | 211  | 5.5        | 7.5        | 7.0        | 6.5        | 6.5        | 5.5        | 6.4        |
| 15     | PBW813                | 213  | 5.0        | 6.0        | 6.5        | 6.0        | 6.5        | 6.0        | 6.0        |
| 16     | HD3331 <sup>#WB</sup> | 214  | 6.0        | 7.5        | 7.0        | 7.0        | 7.0        | 6.5        | 6.8        |
| 17     | UP3033                | 217  | 6.0        | 7.0        | 7.5        | 6.0        | 5.5        |            | 6.4        |
|        |                       |      | <b>5.9</b> | <b>6.6</b> | <b>6.7</b> | <b>6.5</b> | <b>6.5</b> | <b>6.2</b> | <b>6.4</b> |
|        | <b>RF-TS</b>          |      |            |            |            |            |            |            |            |
| 1      | HD3043 (C)            | 302  | 6.0        | 7.5        | 7.0        | 6.5        | 6.0        |            | 6.6        |
| 2      | PBW644 (C)            | 303  | 5.5        | 7.5        | 6.0        | 7.0        | 6.5        |            | 6.5        |
| 3      | WH1080 (C)            | 306  | 4.5        | 7.0        | 5.5        | 7.0        | 6.0        |            | 6.0        |
| 4      | WH1142 (C)            | 308  | 4.0        | 6.0        | 5.0        | 8.0        | 5.5        |            | 5.7        |
| 5      | NIAW3170(I) (C)       | 309  | 6.5        | 8.0        | 7.0        | 8.0        | 6.5        |            | 7.2        |
| 6      | HI1628(I) (C)         | 305  | 6.0        | 7.5        | 7.0        | 7.5        | 7.0        |            | 7.0        |
| 7      | DBW296                | 304  | 5.5        | 8.0        | 6.0        | 8.0        | 6.0        |            | 6.7        |
| 8      | JAUW672               | 307  | 5.0        | 8.0        | 6.0        | 6.0        | 6.0        |            | 6.2        |
| 9      | HUW838 <sup>#WB</sup> | 301  | 5.5        | 7.5        | 5.5        | 7.5        | 6.0        |            | 6.4        |
|        |                       |      | <b>5.4</b> | <b>7.4</b> | <b>6.1</b> | <b>7.3</b> | <b>6.2</b> |            | <b>6.5</b> |

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

| S. No. | Entries               | Code | Karnal | Ludhiana | Hisar | Delhi | Pantnagar | Durgapura | Mean |
|--------|-----------------------|------|--------|----------|-------|-------|-----------|-----------|------|
|        | <b>IR-TS</b>          |      |        |          |       |       |           |           |      |
| 1      | DBW88 (C)             | 101  |        |          |       | 82    |           |           | 82   |
| 2      | DBW187(I) (C)         | 102  |        |          |       | 71    |           |           | 71   |
| 3      | HD2967 (C)            | 103  |        |          |       | 75    |           |           | 75   |
| 4      | WH1105 (C)            | 104  |        |          |       | 73    |           |           | 73   |
| 5      | DBW222(I) (C)         | 105  |        |          |       | 76    |           |           | 76   |
| 6      | HD3086 (C)            | 106  |        |          |       | 75    |           |           | 75   |
| 7      | PBW550 (C)            | 109  |        |          |       | 79    |           |           | 79   |
| 8      | PBW840 <sup>M</sup>   | 107  |        |          |       | 90    |           |           | 90   |
| 9      | PBW803                | 108  |        |          |       | 79    |           |           | 79   |
|        |                       |      |        |          |       | 78    |           |           | 78   |
|        | <b>IR-LS</b>          |      |        |          |       |       |           |           |      |
| 1      | HD3298*               | 215  |        |          |       | 79    |           |           | 79   |
| 2      | HD3059 (C)            | 202  |        |          |       | 88    |           |           | 88   |
| 3      | DBW173 (C)            | 204  |        |          |       | 86    |           |           | 86   |
| 4      | WH1021 (C)            | 205  |        |          |       | 89    |           |           | 89   |
| 5      | WH1124 (C)            | 216  |        |          |       | 88    |           |           | 88   |
| 6      | PBW771(I) (C)         | 212  |        |          |       | 85    |           |           | 85   |
| 7      | HD3334                | 201  |        |          |       | 82    |           |           | 82   |
| 8      | HD3332                | 203  |        |          |       | 74    |           |           | 74   |
| 9      | PBW811                | 206  |        |          |       | 71    |           |           | 71   |
| 10     | DBW291                | 207  |        |          |       | 78    |           |           | 78   |
| 11     | WH1264                | 208  |        |          |       | 82    |           |           | 82   |
| 12     | PBW812                | 209  |        |          |       | 93    |           |           | 93   |
| 13     | JKW261                | 210  |        |          |       | 83    |           |           | 83   |
| 14     | DBW290                | 211  |        |          |       | 67    |           |           | 67   |
| 15     | PBW813                | 213  |        |          |       | 78    |           |           | 78   |
| 16     | HD3331 <sup>#WB</sup> | 214  |        |          |       | 80    |           |           | 80   |
| 17     | UP3033                | 217  |        |          |       | 91    |           |           | 91   |
|        |                       |      |        |          |       | 82    |           |           | 82   |
|        | <b>RF-TS</b>          |      |        |          |       |       |           |           |      |
| 1      | HD3043 (C)            | 302  |        |          |       | 81    |           |           | 81   |
| 2      | PBW644 (C)            | 303  |        |          |       | 71    |           |           | 71   |
| 3      | WH1080 (C)            | 306  |        |          |       | 81    |           |           | 81   |
| 4      | WH1142 (C)            | 308  |        |          |       | 82    |           |           | 82   |
| 5      | NIAW3170(I) (C)       | 309  |        |          |       | 26    |           |           | 26   |
| 6      | HI1628(I) (C)         | 305  |        |          |       | 72    |           |           | 72   |
| 7      | DBW296                | 304  |        |          |       | 36    |           |           | 36   |
| 8      | JAUW672               | 307  |        |          |       | 73    |           |           | 73   |
| 9      | HUW838 <sup>#WB</sup> | 301  |        |          |       | 76    |           |           | 76   |
|        |                       |      |        |          |       | 66    |           |           | 66   |

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

| S. No. | Entries               | Code | Karnal      | Ludhiana    | Hisar       | Delhi       | Pantnagar   | Durgapura   | Mean        |
|--------|-----------------------|------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|        | <b>IR-TS</b>          |      |             |             |             |             |             |             |             |
| 1      | DBW88 (C)             | 101  | 39.4        | 34.8        | 33.0        | 40.6        | 52.7        | 34.4        | 39.2        |
| 2      | DBW187(I) (C)         | 102  | 43.3        | 34.8        | 30.3        | 45.7        | 51.8        | 36.2        | 40.4        |
| 3      | HD2967 (C)            | 103  | 43.7        | 39.6        | 32.4        | 43.2        | 40.5        | 38.0        | 39.6        |
| 4      | WH1105 (C)            | 104  | 38.7        | 43.3        | 34.4        | 48.2        | 43.9        | 37.1        | 40.9        |
| 5      | DBW222(I) (C)         | 105  | 39.5        | 33.4        | 37.5        | 39.2        | 42.4        | 32.4        | 37.4        |
| 6      | HD3086 (C)            | 106  | 37.0        | 39.5        | 40.6        | 43.2        | 41.7        | 35.6        | 39.6        |
| 7      | PBW550 (C)            | 109  | 37.7        | 32.5        | 36.5        | 40.9        | 40.9        | 35.5        | 37.3        |
| 8      | PBW840 <sup>M</sup>   | 107  | 42.5        | 40.2        | 40.1        | 42.3        | 51.2        | 34.8        | 41.9        |
| 9      | PBW803                | 108  | 41.5        | 37.8        | 40.9        | 49.8        | 43.1        | 35.7        | 41.5        |
|        |                       |      | <b>40.4</b> | <b>37.3</b> | <b>36.2</b> | <b>43.7</b> | <b>45.4</b> | <b>35.5</b> | <b>39.7</b> |
|        | <b>IR-LS</b>          |      |             |             |             |             |             |             |             |
| 1      | HD3298*               | 215  | 39.1        | 37.7        | 37.3        | 36.4        | 46.6        | 38.8        | 39.3        |
| 2      | HD3059 (C)            | 202  | 33.0        | 37.7        | 31.7        | 36.1        | 46.7        | 35.4        | 36.8        |
| 3      | DBW173 (C)            | 204  | 33.7        | 39.6        | 31.5        | 36.8        | 45.0        | 37.6        | 37.4        |
| 4      | WH1021 (C)            | 205  | 34.6        | 40.3        | 29.4        | 38.3        | 52.4        | 37.0        | 38.7        |
| 5      | WH1124 (C)            | 216  | 38.5        | 35.3        | 31.2        | 37.6        | 54.2        | 37.9        | 39.1        |
| 6      | PBW771(I) (C)         | 212  | 40.2        | 38.8        | 34.9        | 37.6        | 46.3        | 38.2        | 39.3        |
| 7      | HD3334                | 201  | 35.6        | 37.5        | 33.7        | 40.3        | 42.7        | 35.5        | 37.6        |
| 8      | HD3332                | 203  | 34.3        | 40.2        | 32.5        | 37.7        | 38.7        | 37.8        | 36.9        |
| 9      | PBW811                | 206  | 32.3        | 34.3        | 36.5        | 35.0        | 54.1        | 36.2        | 38.1        |
| 10     | DBW291                | 207  | 34.2        | 40.2        | 33.3        | 37.3        | 55.7        | 38.2        | 39.8        |
| 11     | WH1264                | 208  | 34.1        | 34.4        | 29.6        | 36.5        | 46.2        | 33.8        | 35.8        |
| 12     | PBW812                | 209  | 32.2        | 37.1        | 33.6        | 37.1        | 49.5        | 39.2        | 38.1        |
| 13     | JKW261                | 210  | 33.6        | 34.3        | 30.3        | 33.4        | 42.0        | 36.3        | 35.0        |
| 14     | DBW290                | 211  | 36.0        | 32.2        | 26.7        | 35.9        | 45.0        | 38.6        | 35.7        |
| 15     | PBW813                | 213  | 40.4        | 39.6        | 34.3        | 40.6        | 50.1        | 36.0        | 40.2        |
| 16     | HD3331 <sup>#WB</sup> | 214  | 37.1        | 35.6        | 29.9        | 36.8        | 50.9        | 36.3        | 37.8        |
| 17     | UP3033                | 217  | 36.0        | 34.8        | 36.4        | 33.6        | 58.3        | 37.9        | 39.5        |
|        |                       |      | <b>35.6</b> | <b>37.0</b> | <b>32.5</b> | <b>36.9</b> | <b>48.5</b> | <b>37.1</b> | <b>37.9</b> |
|        | <b>RF-TS</b>          |      |             |             |             |             |             |             |             |
| 1      | HD3043 (C)            | 302  | 38.2        | 51.6        | 28.3        | 35.8        | 34.9        |             | 37.8        |
| 2      | PBW644 (C)            | 303  | 40.0        | 35.5        | 31.7        | 40.3        | 38.7        |             | 37.2        |
| 3      | WH1080 (C)            | 306  | 34.7        | 52.6        | 30.1        | 39.7        | 41.7        |             | 39.8        |
| 4      | WH1142 (C)            | 308  | 38.9        | 42.9        | 28.4        | 41.8        | 40.8        |             | 38.6        |
| 5      | NIAW3170(I) (C)       | 309  | 34.5        | 43.5        | 32.8        | 39.3        | 36.1        |             | 37.2        |
| 6      | HI1628(I) (C)         | 305  | 33.3        | 43.0        | 29.7        | 39.7        | 37.8        |             | 36.7        |
| 7      | DBW296                | 304  | 41.6        | 51.0        | 30.5        | 39.9        | 36.3        |             | 39.9        |
| 8      | JAUW672               | 307  | 32.2        | 53.0        | 26.7        | 37.4        | 34.8        |             | 36.8        |
| 9      | HUW838 <sup>#WB</sup> | 301  | 33.8        | 42.8        | 29.0        | 37.6        | 37.0        |             | 36.0        |
|        |                       |      | <b>36.4</b> | <b>46.2</b> | <b>29.7</b> | <b>39.1</b> | <b>37.6</b> |             | <b>37.8</b> |

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

| S. No. | Entries               | Code | Karnal      | Ludhiana    | Hisar       | Delhi       | Pantnagar   | Durgapura   | Mean        |
|--------|-----------------------|------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|        | <b>IR-TS</b>          |      |             |             |             |             |             |             |             |
| 1      | DBW88 (C)             | 101  | 29.7        | 33.6        | 34.4        | 47.4        | 30.2        | 38.4        | 35.6        |
| 2      | DBW187(I) (C)         | 102  | 29.9        | 38.8        | 30.4        | 42.1        | 28.9        | 34.6        | 34.1        |
| 3      | HD2967 (C)            | 103  | 37.8        | 39.9        | 34.8        | 56.1        | 30.5        | 49.9        | 41.5        |
| 4      | WH1105 (C)            | 104  | 32.4        | 39.9        | 37.5        | 54.2        | 32.3        | 40.8        | 39.5        |
| 5      | DBW222(I) (C)         | 105  | 29.7        | 25.8        | 39.3        | 43.4        | 30.5        | 38.0        | 34.5        |
| 6      | HD3086 (C)            | 106  | 30.5        | 31.0        | 41.1        | 47.7        | 29.0        | 36.3        | 35.9        |
| 7      | PBW550 (C)            | 109  | 32.4        | 36.6        | 38.1        | 53.4        | 33.4        | 48.5        | 40.4        |
| 8      | PBW840 <sup>M</sup>   | 107  | 39.5        | 37.5        | 41.1        | 52.4        | 37.4        | 46.4        | 42.4        |
| 9      | PBW803                | 108  | 34.8        | 32.9        | 40.2        | 45.3        | 32.6        | 38.0        | 37.3        |
|        |                       |      | <b>33.0</b> | <b>35.1</b> | <b>37.4</b> | <b>49.1</b> | <b>31.6</b> | <b>41.2</b> | <b>37.9</b> |
|        | <b>IR-LS</b>          |      |             |             |             |             |             |             |             |
| 1      | HD3298*               | 215  | 27.6        | 35.2        | 49.6        | 41.9        | 30.6        | 31.0        | 36.0        |
| 2      | HD3059 (C)            | 202  | 26.3        | 30.7        | 45.5        | 41.2        | 33.8        | 28.4        | 34.3        |
| 3      | DBW173 (C)            | 204  | 25.5        | 35.8        | 41.9        | 37.2        | 24.9        | 29.3        | 32.4        |
| 4      | WH1021 (C)            | 205  | 28.4        | 37.5        | 45.5        | 50.2        | 33.7        | 32.7        | 38.0        |
| 5      | WH1124 (C)            | 216  | 26.9        | 36.7        | 45.0        | 44.3        | 35.5        | 30.5        | 36.5        |
| 6      | PBW771(I) (C)         | 212  | 35.2        | 39.0        | 53.2        | 49.7        | 40.3        | 31.7        | 41.5        |
| 7      | HD3334                | 201  | 27.4        | 36.1        | 51.7        | 51.1        | 30.0        | 25.8        | 37.0        |
| 8      | HD3332                | 203  | 31.4        | 36.2        | 52.3        | 48.6        | 32.8        | 33.5        | 39.1        |
| 9      | PBW811                | 206  | 26.0        | 33.3        | 49.7        | 44.6        | 27.9        | 34.2        | 36.0        |
| 10     | DBW291                | 207  | 28.9        | 32.7        | 53.4        | 46.4        | 29.9        | 28.9        | 36.7        |
| 11     | WH1264                | 208  | 25.0        | 32.0        | 46.4        | 37.8        | 27.1        | 27.3        | 32.6        |
| 12     | PBW812                | 209  | 25.0        | 30.0        | 49.7        | 43.0        | 32.0        | 26.3        | 34.3        |
| 13     | JKW261                | 210  | 25.6        | 34.3        | 48.3        | 42.1        | 28.8        | 30.2        | 34.9        |
| 14     | DBW290                | 211  | 28.8        | 29.9        | 35.0        | 42.9        | 25.3        | 33.9        | 32.6        |
| 15     | PBW813                | 213  | 32.8        | 46.2        | 51.8        | 49.3        | 40.9        | 27.2        | 41.4        |
| 16     | HD3331 <sup>#WB</sup> | 214  | 26.9        | 32.2        | 48.2        | 47.5        | 33.6        | 31.5        | 36.7        |
| 17     | UP3033                | 217  | 26.6        | 30.4        | 52.3        | 43.1        | 26.7        | 32.6        | 35.3        |
|        |                       |      | <b>27.9</b> | <b>34.6</b> | <b>48.2</b> | <b>44.8</b> | <b>31.4</b> | <b>30.3</b> | <b>36.2</b> |
|        | <b>RF-TS</b>          |      |             |             |             |             |             |             |             |
| 1      | HD3043 (C)            | 302  | 42.6        | 27.8        | 39.0        | 44.5        | 31.6        |             | 37.1        |
| 2      | PBW644 (C)            | 303  | 35.8        | 24.7        | 35.2        | 46.8        | 30.8        |             | 34.7        |
| 3      | WH1080 (C)            | 306  | 31.3        | 26.3        | 28.7        | 42.8        | 28.5        |             | 31.5        |
| 4      | WH1142 (C)            | 308  | 33.1        | 26.5        | 32.4        | 44.8        | 30.3        |             | 33.4        |
| 5      | NIAW3170(I) (C)       | 309  | 32.1        | 30.5        | 40.0        | 45.9        | 29.5        |             | 35.6        |
| 6      | HI1628(I) (C)         | 305  | 33.8        | 31.8        | 33.2        | 45.3        | 27.2        |             | 34.3        |
| 7      | DBW296                | 304  | 34.3        | 23.2        | 33.8        | 45.7        | 29.1        |             | 33.2        |
| 8      | JAUW672               | 307  | 31.6        | 27.3        | 29.3        | 41.5        | 26.0        |             | 31.1        |
| 9      | HUW838 <sup>#WB</sup> | 301  | 29.5        | 24.2        | 33.3        | 42.6        | 33.6        |             | 32.6        |
|        |                       |      | <b>33.8</b> | <b>26.9</b> | <b>33.9</b> | <b>44.4</b> | <b>29.6</b> |             | <b>33.7</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     | Varanasi   | Mean       |
|-------------|---------------|------------|------------|------------|------------|------------|------------|
| <b>ITS</b>  |               |            |            |            |            |            |            |
| 1           | DBW187 (C)    | <b>102</b> | 5.2        | 6.2        | 5.2        | 6.0        | <b>5.7</b> |
| 2           | K1006 (C)     | <b>103</b> | 5.4        | 6.0        | 5.4        | 5.8        | <b>5.7</b> |
| 3           | DBW39 (C)     | <b>104</b> | 5.2        | 6.0        | 5.2        | 6.2        | <b>5.7</b> |
| 4           | HD2733 (C)    | <b>106</b> | 5.6        | 6.2        | 5.2        | 6.2        | <b>5.8</b> |
| 5           | HD3249(I) (C) | <b>105</b> | 5.6        | 6.0        | 5.4        | 6.4        | <b>5.9</b> |
| 6           | PBW804        | <b>101</b> | 5.8        | 5.8        | 5.4        | 6.0        | <b>5.8</b> |
| <b>Mean</b> |               |            | <b>5.5</b> | <b>6.0</b> | <b>5.3</b> | <b>6.1</b> | <b>5.7</b> |
| <b>RITS</b> |               |            |            |            |            |            |            |
| 1           | HD3293*       | <b>303</b> | 6.4        | 5.6        | 5.2        | 6.0        | <b>5.8</b> |
| 2           | HD3171 (C)    | <b>301</b> | 6.2        | 4.8        | 5.4        | 5.6        | <b>5.5</b> |
| 3           | HD2888 (C)    | <b>302</b> | 6.4        | 5.0        | 5.2        | 5.8        | <b>5.6</b> |
| 4           | K1317 (C)     | <b>304</b> | 6.8        | 5.8        | 5.4        | 6.4        | <b>6.1</b> |
| 5           | HI1612 (C)    | <b>305</b> | 6.6        | 6.0        | 5.2        | 6.0        | <b>6.0</b> |
| 6           | DBW252(I) (C) | <b>306</b> | 6.8        | 6.0        | 5.0        | 6.0        | <b>6.0</b> |
| <b>Mean</b> |               |            | <b>6.5</b> | <b>5.5</b> | <b>5.2</b> | <b>6.0</b> | <b>5.8</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      | Varanasi    | Mean        |
|-------------|---------------|------------|-------------|-------------|-------------|-------------|-------------|
| <b>ITS</b>  |               |            |             |             |             |             |             |
| 1           | DBW187 (C)    | <b>102</b> | 75.5        | 75.0        | 66.8        | 79.9        | <b>74.3</b> |
| 2           | K1006 (C)     | <b>103</b> | 76.5        | 76.0        | 72.0        | 80.9        | <b>76.4</b> |
| 3           | DBW39 (C)     | <b>104</b> | 76.0        | 74.5        | 70.0        | 79.0        | <b>74.9</b> |
| 4           | HD2733 (C)    | <b>106</b> | 76.3        | 75.5        | 70.6        | 79.5        | <b>75.5</b> |
| 5           | HD3249(I) (C) | <b>105</b> | 76.5        | 74.6        | 69.7        | 79.9        | <b>75.2</b> |
| 6           | PBW804        | <b>101</b> | 77.5        | 73.7        | 71.0        | 78.0        | <b>75.1</b> |
| <b>Mean</b> |               |            | <b>76.4</b> | <b>74.9</b> | <b>70.0</b> | <b>79.5</b> | <b>75.2</b> |
| <b>RITS</b> |               |            |             |             |             |             |             |
| 1           | HD3293*       | <b>303</b> | 80.6        | 73.4        | 66.5        | 76.2        | <b>74.2</b> |
| 2           | HD3171 (C)    | <b>301</b> | 82.2        | 71.7        | 66.7        | 70.5        | <b>72.8</b> |
| 3           | HD2888 (C)    | <b>302</b> | 81.9        | 73.1        | 69.7        | 79.7        | <b>76.1</b> |
| 4           | K1317 (C)     | <b>304</b> | 83.4        | 76.0        | 67.0        | 80.6        | <b>76.8</b> |
| 5           | HI1612 (C)    | <b>305</b> | 82.3        | 75.6        | 68.0        | 76.1        | <b>75.5</b> |
| 6           | DBW252(I) (C) | <b>306</b> | 82.5        | 74.8        | 69.3        | 77.4        | <b>76.0</b> |
| <b>Mean</b> |               |            | <b>82.2</b> | <b>74.1</b> | <b>67.9</b> | <b>76.8</b> | <b>75.2</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      | Varanasi    | Mean        |
|-------------|---------------|------|-------------|-------------|-------------|-------------|-------------|
| <b>ITS</b>  |               |      |             |             |             |             |             |
| 1           | DBW187 (C)    | 102  | 12.1        | 12.8        | 14.2        | 9.1         | 12.1        |
| 2           | K1006 (C)     | 103  | 11.9        | 12.7        | 10.7        | 8.7         | 11.0        |
| 3           | DBW39 (C)     | 104  | 11.8        | 12.8        | 12.1        | 9.4         | 11.5        |
| 4           | HD2733 (C)    | 106  | 13.1        | 12.9        | 12.5        | 9.4         | 12.0        |
| 5           | HD3249(I) (C) | 105  | 11.3        | 12.9        | 13.0        | 9.7         | 11.7        |
| 6           | PBW804        | 101  | 12.2        | 13.7        | 13.6        | 10.8        | 12.6        |
| <b>Mean</b> |               |      | <b>12.1</b> | <b>13.0</b> | <b>12.7</b> | <b>9.5</b>  | <b>11.8</b> |
| <b>RITS</b> |               |      |             |             |             |             |             |
| 1           | HD3293*       | 303  | 10.1        | 12.1        | 11.7        | 11.1        | 11.3        |
| 2           | HD3171 (C)    | 301  | 9.3         | 13.2        | 13.2        | 10.9        | 11.7        |
| 3           | HD2888 (C)    | 302  | 12.4        | 14.0        | 11.5        | 12.9        | 12.7        |
| 4           | K1317 (C)     | 304  | 11.2        | 12.6        | 13.3        | 12.2        | 12.3        |
| 5           | HI1612 (C)    | 305  | 10.3        | 12.0        | 14.2        | 12.2        | 12.2        |
| 6           | DBW252(I) (C) | 306  | 11.4        | 12.4        | 14.3        | 12.4        | 12.6        |
| <b>Mean</b> |               |      | <b>10.8</b> | <b>12.7</b> | <b>13.0</b> | <b>12.0</b> | <b>12.1</b> |

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

| Sr. No.     | Entries       | Code | Kanpur    | Pusa      | Sabour    | Varanasi  | Mean      |
|-------------|---------------|------|-----------|-----------|-----------|-----------|-----------|
| <b>ITS</b>  |               |      |           |           |           |           |           |
| 1           | DBW187 (C)    | 102  | 72        | 71        | 54        | 59        | 64        |
| 2           | K1006 (C)     | 103  | 41        | 48        | 70        | 38        | 49        |
| 3           | DBW39 (C)     | 104  | 55        | 64        | 64        | 50        | 59        |
| 4           | HD2733 (C)    | 106  | 57        | 63        | 67        | 48        | 59        |
| 5           | HD3249(I) (C) | 105  | 72        | 72        | 71        | 60        | 69        |
| 6           | PBW804        | 101  | 66        | 72        | 71        | 60        | 67        |
| <b>Mean</b> |               |      | <b>61</b> | <b>65</b> | <b>66</b> | <b>52</b> | <b>61</b> |
| <b>RITS</b> |               |      |           |           |           |           |           |
| 1           | HD3293*       | 303  | 48        | 71        | 72        | 57        | 62        |
| 2           | HD3171 (C)    | 301  | 58        | 73        | 63        | 65        | 65        |
| 3           | HD2888 (C)    | 302  | 48        | 71        | 57        | 54        | 57        |
| 4           | K1317 (C)     | 304  | 55        | 75        | 70        | 63        | 66        |
| 5           | HI1612 (C)    | 305  | 63        | 73        | 73        | 74        | 71        |
| 6           | DBW252(I) (C) | 306  | 47        | 60        | 51        | 61        | 55        |
| <b>Mean</b> |               |      | <b>53</b> | <b>70</b> | <b>64</b> | <b>62</b> | <b>63</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     | Varanasi   | Mean       |
|-------------|---------------|------------|------------|------------|------------|------------|------------|
| <b>ITS</b>  |               |            |            |            |            |            |            |
| 1           | DBW187 (C)    | <b>102</b> | 6.5        | 7.5        | 8.5        | 7.0        | <b>7.4</b> |
| 2           | K1006 (C)     | <b>103</b> | 6.0        | 6.5        | 8.0        | 6.5        | <b>6.8</b> |
| 3           | DBW39 (C)     | <b>104</b> | 4.0        | 4.0        | 6.0        | 4.5        | <b>4.6</b> |
| 4           | HD2733 (C)    | <b>106</b> | 6.5        | 6.5        | 7.5        | 6.5        | <b>6.8</b> |
| 5           | HD3249(I) (C) | <b>105</b> | 7.0        | 7.0        | 8.5        | 8.0        | <b>7.6</b> |
| 6           | PBW804        | <b>101</b> | 6.5        | 7.0        | 7.0        | 6.5        | <b>6.8</b> |
| <b>Mean</b> |               |            | <b>6.1</b> | <b>6.4</b> | <b>7.6</b> | <b>6.5</b> | <b>6.6</b> |
| <b>RITS</b> |               |            |            |            |            |            |            |
| 1           | HD3293*       | <b>303</b> | 6.5        | 6.5        | 7.5        | 8.0        | <b>7.1</b> |
| 2           | HD3171 (C)    | <b>301</b> | 6.5        | 6.0        | 6.5        | 7.5        | <b>6.6</b> |
| 3           | HD2888 (C)    | <b>302</b> | 4.5        | 4.0        | 5.0        | 4.0        | <b>4.4</b> |
| 4           | K1317 (C)     | <b>304</b> | 3.5        | 3.5        | 5.0        | 5.0        | <b>4.3</b> |
| 5           | HI1612 (C)    | <b>305</b> | 6.5        | 6.5        | 8.5        | 8.0        | <b>7.4</b> |
| 6           | DBW252(I) (C) | <b>306</b> | 4.0        | 4.0        | 5.5        | 5.5        | <b>4.8</b> |
| <b>Mean</b> |               |            | <b>5.3</b> | <b>5.1</b> | <b>6.3</b> | <b>6.3</b> | <b>5.8</b> |

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

| Sr. No.     | Entries       | Code       | Kanpur | Pusa      | Sabour | Varanasi | Mean      |
|-------------|---------------|------------|--------|-----------|--------|----------|-----------|
| <b>ITS</b>  |               |            |        |           |        |          |           |
| 1           | DBW187 (C)    | <b>102</b> |        | 63        |        |          | 63        |
| 2           | K1006 (C)     | <b>103</b> |        | 72        |        |          | 72        |
| 3           | DBW39 (C)     | <b>104</b> |        | 74        |        |          | 74        |
| 4           | HD2733 (C)    | <b>106</b> |        | 70        |        |          | 70        |
| 5           | HD3249(I) (C) | <b>105</b> |        | 68        |        |          | 68        |
| 6           | PBW804        | <b>101</b> |        | 30        |        |          | 30        |
| <b>Mean</b> |               |            |        | <b>63</b> |        |          | <b>63</b> |
| <b>RITS</b> |               |            |        |           |        |          |           |
| 1           | HD3293*       | <b>303</b> |        | 63        |        |          | 63        |
| 2           | HD3171 (C)    | <b>301</b> |        | 75        |        |          | 75        |
| 3           | HD2888 (C)    | <b>302</b> |        | 84        |        |          | 84        |
| 4           | K1317 (C)     | <b>304</b> |        | 70        |        |          | 70        |
| 5           | HI1612 (C)    | <b>305</b> |        | 76        |        |          | 76        |
| 6           | DBW252(I) (C) | <b>306</b> |        | 78        |        |          | 78        |
| <b>Mean</b> |               |            |        | <b>74</b> |        |          | <b>74</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* | Varanasi    | Mean        |
|-------------|---------------|------------|-------------|-------------|---------|-------------|-------------|
| <b>ITS</b>  |               |            |             |             |         |             |             |
| 1           | DBW187 (C)    | <b>102</b> | 45.3        | 43.6        | --      | 30.4        | <b>39.8</b> |
| 2           | K1006 (C)     | <b>103</b> | 49.4        | 37.6        | --      | 36.7        | <b>41.2</b> |
| 3           | DBW39 (C)     | <b>104</b> | 35.9        | 38.5        | --      | 32.8        | <b>35.7</b> |
| 4           | HD2733 (C)    | <b>106</b> | 42.0        | 33.7        |         | 33.1        | <b>36.3</b> |
| 5           | HD3249(I) (C) | <b>105</b> | 48.6        | 40.3        |         | 32.3        | <b>40.4</b> |
| 6           | PBW804        | <b>101</b> | 41.8        | 36.5        |         | 34.3        | <b>37.5</b> |
| <b>Mean</b> |               |            | <b>43.8</b> | <b>38.4</b> |         | <b>33.3</b> | <b>38.5</b> |
| <b>RITS</b> |               |            |             |             |         |             |             |
| 1           | HD3293*       | <b>303</b> | 35.7        | 36.5        |         | 32.4        | <b>34.9</b> |
| 2           | HD3171 (C)    | <b>301</b> | 34.3        | 40.8        |         | 44.4        | <b>39.8</b> |
| 3           | HD2888 (C)    | <b>302</b> | 42.2        | 41.5        |         | 39.3        | <b>41.0</b> |
| 4           | K1317 (C)     | <b>304</b> | 37.1        | 36.8        |         | 35.3        | <b>36.4</b> |
| 5           | HI1612 (C)    | <b>305</b> | 37.9        | 36.7        |         | 42.7        | <b>39.1</b> |
| 6           | DBW252(I) (C) | <b>306</b> | 37.8        | 40.7        |         | 40.9        | <b>39.8</b> |
| <b>Mean</b> |               |            | <b>37.5</b> | <b>38.8</b> |         | <b>39.2</b> | <b>38.5</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* | Varanasi    | Mean        |
|-------------|---------------|------------|-------------|-------------|---------|-------------|-------------|
| <b>ITS</b>  |               |            |             |             |         |             |             |
| 1           | DBW187 (C)    | <b>102</b> | 28.3        | 40.1        | ---     | 28.6        | <b>32.3</b> |
| 2           | K1006 (C)     | <b>103</b> | 44.2        | 48.5        | --      | 33.0        | <b>41.9</b> |
| 3           | DBW39 (C)     | <b>104</b> | 33.9        | 46.9        |         | 29.7        | <b>36.8</b> |
| 4           | HD2733 (C)    | <b>106</b> | 31.2        | 44.2        |         | 30.8        | <b>35.4</b> |
| 5           | HD3249(I) (C) | <b>105</b> | 27.2        | 37.4        |         | 27.3        | <b>30.6</b> |
| 6           | PBW804        | <b>101</b> | 33.4        | 50.1        |         | 32.7        | <b>38.7</b> |
| <b>Mean</b> |               |            | <b>33.0</b> | <b>44.5</b> |         | <b>30.4</b> | <b>36.0</b> |
| <b>RITS</b> |               |            |             |             |         |             |             |
| 1           | HD3293*       | <b>303</b> | 33.5        | 46.4        |         | 33.2        | <b>37.7</b> |
| 2           | HD3171 (C)    | <b>301</b> | 29.9        | 47.2        |         | 33.8        | <b>37.0</b> |
| 3           | HD2888 (C)    | <b>302</b> | 41.6        | 49.3        |         | 40.8        | <b>43.9</b> |
| 4           | K1317 (C)     | <b>304</b> | 32.5        | 44.8        |         | 34.7        | <b>37.3</b> |
| 5           | HI1612 (C)    | <b>305</b> | 34.3        | 45.8        |         | 33.9        | <b>38.0</b> |
| 6           | DBW252(I) (C) | <b>306</b> | 45.1        | 43.6        |         | 42.0        | <b>43.6</b> |
| <b>Mean</b> |               |            | <b>36.2</b> | <b>46.2</b> |         | <b>36.4</b> | <b>39.6</b> |

\*could not be analysed for Fe and Zn content because all samples had soil content. Very poor quality samples were received from Sabour centre.

**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)            | 109  | 6.2        | 6.8        | 7.0        | 4.6        | 6.2        |
| 2                                       | HI1544 (C)           | 110  | 6.6        | 7.2        | 6.6        | 6.4        | 6.7        |
| 3                                       | TAW155               | 101  | 6.0        | 6.8        | 6.8        | 6.0        | 6.4        |
| 4                                       | HI1636               | 102  | 6.4        | 7.6        | 6.6        | 6.0        | 6.7        |
| 5                                       | MP1361               | 103  | 6.4        | 7.4        | 7.0        | 5.8        | 6.7        |
| 6                                       | MACS6747             | 104  | 6.4        | 7.2        | 6.8        | 6.0        | 6.6        |
| 7                                       | HD3377 <sup>B</sup>  | 105  | 6.6        | 6.8        | 6.2        | 6.2        | 6.5        |
| 8                                       | HI1637               | 106  | 6.2        | 7.4        | 6.6        | 5.8        | 6.5        |
| 9                                       | RAJ4541 <sup>B</sup> | 107  | 6.8        | 7.6        | 7.4        | 6.0        | 7.0        |
| 10                                      | GW513                | 108  | 6.6        | 7.6        | 6.8        | 6.0        | 6.8        |
|   |                      |      | 6.4        | 7.3        | 6.8        | 6.0        | 6.6        |
| <b>Irrigated Late Sown</b>              |                      |      |            |            |            |            |            |
| <i>T. aestivum</i>                      |                      |      |            |            |            |            |            |
| 1                                       | CG1029*              | 205  | 6.2        | 7.4        | 6.8        | 5.4        | 6.5        |
| 2                                       | HI1634 <sup>Q*</sup> | 201  | 6.8        | 7.4        | 7.0        | 6.6        | 7.0        |
| 3                                       | HD2932 (C)           | 202  | 6.6        | 7.4        | 6.8        | 5.8        | 6.7        |
| 4                                       | MP3336 (C)           | 203  | 6.2        | 7.2        | 7.0        | 5.6        | 6.5        |
| 5                                       | HD2864 (C)           | 204  | 6.0        | 7.4        | 6.6        | 5.2        | 6.3        |
|   |                      |      | 6.4        | 7.4        | 6.8        | 5.7        | 6.6        |
| <b>Restricted Irrigated Timely Sown</b> |                      |      |            |            |            |            |            |
| <i>T. durum</i>                         |                      |      |            |            |            |            |            |
| 1                                       | HI8627(d) (C)        | 302  | 6.6        | 6.6        | 6.8        | 6.6        | 6.7        |
| 2                                       | UAS466(d)(I) (C)     | 303  | 6.8        | 6.6        | 6.6        | 5.8        | 6.5        |
| 3                                       | DDW47(d)(I) (C)      | 308  | 6.8        | 6.8        | 6.8        | 6.0        | 6.6        |
| 6                                       | HI 8823(d)           | 307  | 7.0        | 7.4        | 7.2        | 6.4        | 7.0        |
| 7                                       | MPO1357(d)           | 301  | 6.8        | 6.8        | 6.8        | 6.6        | 6.8        |
| 8                                       | UAS472(d)            | 304  | 6.8        | 6.8        | 6.8        | 6.0        | 6.6        |
|   |                      |      | 6.8        | 6.8        | 6.8        | 6.2        | 6.7        |
| <i>T. aestivum</i>                      |                      |      |            |            |            |            |            |
| 4                                       | DBW110 (C)           | 305  | 7.0        | 7.0        | 7.0        | 6.2        | 6.8        |
| 5                                       | MP3288 (C)           | 306  | 6.8        | 7.0        | 6.8        | 6.2        | 6.7        |
| <b>Mean</b>                             |                      |      | <b>6.9</b> | <b>7.0</b> | <b>6.9</b> | <b>6.2</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)            | 109  | 79.9        | 81.0        | 80.3        | 74.8        | 79.0        |
| 2                                       | HI1544 (C)           | 110  | 83.3        | 82.8        | 80.8        | 82.3        | 82.3        |
| 3                                       | TAW155               | 101  | 75.5        | 81.7        | 82.4        | 79.0        | 79.7        |
| 4                                       | HI1636               | 102  | 81.3        | 81.2        | 81.2        | 79.7        | 80.9        |
| 5                                       | MP1361               | 103  | 80.3        | 80.9        | 82.1        | 79.0        | 80.6        |
| 6                                       | MACS6747             | 104  | 82.6        | 82.7        | 83.7        | 81.0        | 82.5        |
| 7                                       | HD3377 <sup>B</sup>  | 105  | 81.9        | 82.0        | 80.0        | 80.6        | 81.1        |
| 8                                       | HI1637               | 106  | 82.6        | 83.4        | 81.4        | 80.0        | 81.9        |
| 9                                       | RAJ4541 <sup>B</sup> | 107  | 85.8        | 85.2        | 80.5        | 85.3        | 84.2        |
| 10                                      | GW513                | 108  | 82.8        | 83.2        | 79.6        | 82.0        | 81.9        |
|   |                      |      | <b>81.8</b> | <b>82.6</b> | <b>81.3</b> | <b>81.0</b> | 81.7        |
| <b>Irrigated Late Sown</b>              |                      |      |             |             |             |             |             |
| <i>T. aestivum</i>                      |                      |      |             |             |             |             |             |
| 1                                       | CG1029*              | 205  | 81.9        | 82.4        | 82.4        | 82.8        | 82.4        |
| 2                                       | HI1634 <sup>Q*</sup> | 201  | 82.6        | 82.4        | 82.9        | 83.4        | 82.8        |
| 3                                       | HD2932 (C)           | 202  | 80.5        | 80.3        | 80.5        | 81.4        | 80.7        |
| 4                                       | MP3336 (C)           | 203  | 81.0        | 83.0        | 82.5        | 83.6        | 82.5        |
| 5                                       | HD2864 (C)           | 204  | 81.9        | 83.6        | 81.9        | 83.2        | 82.7        |
|   |                      |      | <b>81.6</b> | <b>82.3</b> | <b>82.0</b> | <b>82.9</b> | 82.2        |
| <b>Restricted Irrigated Timely Sown</b> |                      |      |             |             |             |             |             |
| <i>T. durum</i>                         |                      |      |             |             |             |             |             |
| 1                                       | HI8627(d) (C)        | 302  | 78.7        | 79.9        | 82.6        | 81.7        | 80.7        |
| 2                                       | UAS466(d)(I) (C)     | 303  | 80.9        | 79.3        | 81.3        | 80.8        | 80.6        |
| 3                                       | DDW47(d)(I) (C)      | 308  | 80.1        | 78.9        | 81.5        | 80.7        | 80.3        |
| 6                                       | HI 8823(d)           | 307  | 82.8        | 82.5        | 84.5        | 85.0        | 83.7        |
| 7                                       | MPO1357(d)           | 301  | 79.3        | 80.8        | 82.5        | 81.6        | 81.1        |
| 8                                       | UAS472(d)            | 304  | 81.0        | 79.5        | 83.2        | 83.0        | 81.7        |
|   |                      |      | <b>80.5</b> | <b>80.2</b> | <b>82.6</b> | <b>82.1</b> | 81.3        |
| <i>T. aestivum</i>                      |                      |      |             |             |             |             |             |
| 4                                       | DBW110 (C)           | 305  | 78.9        | 79.0        | 80.3        | 80.0        | 79.6        |
| 5                                       | MP3288 (C)           | 306  | 80.8        | 80.9        | 81.9        | 81.5        | 81.3        |
| <b>Mean</b>                             |                      |      | <b>79.9</b> | <b>80.0</b> | <b>81.1</b> | <b>80.8</b> | <b>80.4</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)            | 109  | 9.4         | 10.7        | 11.0        | 8.5         | 9.9         |
| 2                                       | HI1544 (C)           | 110  | 10.6        | 11.7        | 11.0        | 9.2         | 10.6        |
| 3                                       | TAW155               | 101  | 10.6        | 12.4        | 10.9        | 9.9         | 11.0        |
| 4                                       | HI1636               | 102  | 10.9        | 12.5        | 11.2        | 9.9         | 11.1        |
| 5                                       | MP1361               | 103  | 10.9        | 10.9        | 11.2        | 8.0         | 10.2        |
| 6                                       | MACS6747             | 104  | 11.2        | 13.0        | 12.1        | 9.2         | 11.4        |
| 7                                       | HD3377 <sup>B</sup>  | 105  | 12.9        | 13.4        | 10.1        | 10.1        | 11.6        |
| 8                                       | HI1637               | 106  | 11.2        | 12.5        | 11.8        | 8.1         | 10.9        |
| 9                                       | RAJ4541 <sup>B</sup> | 107  | 11.1        | 13.1        | 11.9        | 9.3         | 11.4        |
| 10                                      | GW513                | 108  | 9.9         | 11.5        | 10.3        | 9.3         | 10.2        |
|   |                      |      | 10.9        | 12.2        | 11.1        | 9.3         | 10.9        |
| <b>Irrigated Late Sown</b>              |                      |      |             |             |             |             |             |
| <i>T. aestivum</i>                      |                      |      |             |             |             |             |             |
| 1                                       | CG1029*              | 205  | 10.6        | 12.6        | 10.9        | 8.4         | 10.6        |
| 2                                       | HI1634 <sup>Q*</sup> | 201  | 10.8        | 13.0        | 11.8        | 8.5         | 11.0        |
| 3                                       | HD2932 (C)           | 202  | 12.0        | 13.3        | 12.5        | 9.7         | 11.9        |
| 4                                       | MP3336 (C)           | 203  | 13.1        | 13.6        | 12.2        | 8.4         | 11.8        |
| 5                                       | HD2864 (C)           | 204  | 10.3        | 13.2        | 11.2        | 10.0        | 11.2        |
|   |                      |      | 11.4        | 13.1        | 11.7        | 9.0         | 11.3        |
| <b>Restricted Irrigated Timely Sown</b> |                      |      |             |             |             |             |             |
| <i>T. durum</i>                         |                      |      |             |             |             |             |             |
| 1                                       | HI8627(d) (C)        | 302  | 14.4        | 14.7        | 10.7        | 10.8        | 12.7        |
| 2                                       | UAS466(d)(l) (C)     | 303  | 12.5        | 13.4        | 11.2        | 9.5         | 11.6        |
| 3                                       | DDW47(d)(l) (C)      | 308  | 13.2        | 13.8        | 12.1        | 10.2        | 12.3        |
| 6                                       | HI 8823(d)           | 307  | 12.9        | 13.8        | 10.7        | 9.9         | 11.8        |
| 7                                       | MPO1357(d)           | 301  | 14.4        | 14.0        | 10.9        | 10.2        | 12.4        |
| 8                                       | UAS472(d)            | 304  | 11.6        | 12.9        | 9.4         | 8.5         | 10.6        |
|   |                      |      | 13.2        | 13.8        | 10.8        | 9.9         | 11.9        |
| <i>T. aestivum</i>                      |                      |      |             |             |             |             |             |
| 4                                       | DBW110 (C)           | 305  | 11.8        | 13.4        | 11.0        | 10.0        | 11.6        |
| 5                                       | MP3288 (C)           | 306  | 13.9        | 13.3        | 12.0        | 10.8        | 12.5        |
| <b>Mean</b>                             |                      |      | <b>12.8</b> | <b>13.4</b> | <b>11.5</b> | <b>10.4</b> | <b>12.0</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)            | 109  | 43        | 41        | 47        | 44        | 44        |
| 2                                       | HI1544 (C)           | 110  | 46        | 43        | 71        | 44        | 51        |
| 3                                       | TAW155               | 101  | 57        | 74        | 47        | 67        | 61        |
| 4                                       | HI1636               | 102  | 47        | 57        | 43        | 48        | 49        |
| 5                                       | MP1361               | 103  | 43        | 48        | 48        | 51        | 48        |
| 6                                       | MACS6747             | 104  | 50        | 50        | 49        | 55        | 51        |
| 7                                       | HD3377 <sup>B</sup>  | 105  | 61        | 64        | 47        | 62        | 59        |
| 8                                       | HI1637               | 106  | 47        | 48        | 72        | 46        | 53        |
| 9                                       | RAJ4541 <sup>B</sup> | 107  | 47        | 43        | 56        | 47        | 48        |
| 10                                      | GW513                | 108  | 41        | 43        | 49        | 49        | 46        |
|   |                      |      | 49        | 52        | 54        | 52        | 52        |
| <b>Irrigated Late Sown</b>              |                      |      |           |           |           |           |           |
| <i>T. aestivum</i>                      |                      |      |           |           |           |           |           |
| 1                                       | CG1029*              | 205  | 45        | 57        | 45        | 40        | 47        |
| 2                                       | HI1634 <sup>Q*</sup> | 201  | 51        | 57        | 50        | 46        | 51        |
| 3                                       | HD2932 (C)           | 202  | 60        | 64        | 65        | 54        | 61        |
| 4                                       | MP3336 (C)           | 203  | 48        | 48        | 51        | 41        | 47        |
| 5                                       | HD2864 (C)           | 204  | 47        | 57        | 47        | 42        | 48        |
|   |                      |      | 50        | 57        | 52        | 44        | 51        |
| <b>Restricted Irrigated Timely Sown</b> |                      |      |           |           |           |           |           |
| <i>T. durum</i>                         |                      |      |           |           |           |           |           |
| 1                                       | HI8627(d) (C)        | 302  | 48        | 39        | 31        | 29        | 37        |
| 2                                       | UAS466(d)(I) (C)     | 303  | 50        | 48        | 42        | 39        | 45        |
| 3                                       | DDW47(d)(I) (C)      | 308  | 48        | 53        | 46        | 39        | 46        |
| 6                                       | HI 8823(d)           | 307  | 47        | 48        | 39        | 41        | 44        |
| 7                                       | MPO1357(d)           | 301  | 39        | 41        | 35        | 29        | 36        |
| 8                                       | UAS472(d)            | 304  | 36        | 39        | 35        | 29        | 35        |
|   |                      |      | 45        | 44        | 38        | 34        | 40        |
| <i>T. aestivum</i>                      |                      |      |           |           |           |           |           |
| 4                                       | DBW110 (C)           | 305  | 62        | 74        | 62        | 60        | 64        |
| 5                                       | MP3288 (C)           | 306  | 69        | 67        | 63        | 57        | 64        |
| <b>Mean</b>                             |                      |      | <b>65</b> | <b>71</b> | <b>63</b> | <b>59</b> | <b>64</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)            | 109  | 6.5        | 7.0        | 6.5        | 7.0        | 6.8        |
| 2                                       | HI1544 (C)           | 110  | 6.5        | 6.5        | 8.0        | 7.0        | 7.0        |
| 3                                       | TAW155               | 101  | 8.0        | 8.0        | 6.0        | 8.5        | 7.6        |
| 4                                       | HI1636               | 102  | 5.0        | 7.0        | 6.0        | 5.5        | 5.9        |
| 5                                       | MP1361               | 103  | 6.0        | 6.5        | 4.5        | 7.5        | 6.1        |
| 6                                       | MACS6747             | 104  | 6.0        | 6.0        | 5.0        | 6.5        | 5.9        |
| 7                                       | HD3377 <sup>B</sup>  | 105  | 8.0        | 7.0        | 6.5        | 7.5        | 7.3        |
| 8                                       | HI1637               | 106  | 6.5        | 7.0        | 7.5        | 7.5        | 7.1        |
| 9                                       | RAJ4541 <sup>B</sup> | 107  | 4.0        | 5.5        | 7.0        | 5.0        | 5.4        |
| 10                                      | GW513                | 108  | 4.0        | 5.0        | 7.5        | 4.5        | 5.3        |
|   |                      |      | 6.0        | 6.5        | 6.4        | 6.6        | 6.4        |
| <b>Irrigated Late Sown</b>              |                      |      |            |            |            |            |            |
| <i>T. aestivum</i>                      |                      |      |            |            |            |            |            |
| 1                                       | CG1029*              | 205  | 7.5        | 8.5        | 7.5        | 7.0        | 7.6        |
| 2                                       | HI1634 <sup>Q*</sup> | 201  | 7.0        | 7.5        | 7.0        | 7.0        | 7.1        |
| 3                                       | HD2932 (C)           | 202  | 4.0        | 5.0        | 6.0        | 3.0        | 4.5        |
| 4                                       | MP3336 (C)           | 203  | 3.5        | 5.0        | 6.5        | 4.0        | 4.8        |
| 5                                       | HD2864 (C)           | 204  | 4.0        | 4.5        | 5.5        | 3.0        | 4.3        |
|   |                      |      | 5.2        | 6.1        | 6.5        | 4.8        | 5.7        |
| <b>Restricted Irrigated Timely Sown</b> |                      |      |            |            |            |            |            |
| <i>T. durum</i>                         |                      |      |            |            |            |            |            |
| 1                                       | HI8627(d) (C)        | 302  | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| 2                                       | UAS466(d)(I) (C)     | 303  | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| 3                                       | DDW47(d)(I) (C)      | 308  | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| 6                                       | HI 8823(d)           | 307  | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| 7                                       | MPO1357(d)           | 301  | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| 8                                       | UAS472(d)            | 304  | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
|   |                      |      | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| <i>T. aestivum</i>                      |                      |      |            |            |            |            |            |
| 4                                       | DBW110 (C)           | 305  | 7.5        | 7.5        | 8.5        | 8.0        | 7.9        |
| 5                                       | MP3288 (C)           | 306  | 8.0        | 8.0        | 8.5        | 8.0        | 8.1        |
| <b>Mean</b>                             |                      |      | <b>7.8</b> | <b>7.8</b> | <b>8.5</b> | <b>8.0</b> | <b>8.0</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)            | 109  |         |          |         |        |      |
| 2                                       | HI1544 (C)           | 110  |         |          |         |        |      |
| 3                                       | TAW155               | 101  |         |          |         |        |      |
| 4                                       | HI1636               | 102  |         |          |         |        |      |
| 5                                       | MP1361               | 103  |         |          |         |        |      |
| 6                                       | MACS6747             | 104  |         |          |         |        |      |
| 7                                       | HD3377 <sup>B</sup>  | 105  |         |          |         |        |      |
| 8                                       | HI1637               | 106  |         |          |         |        |      |
| 9                                       | RAJ4541 <sup>B</sup> | 107  |         |          |         |        |      |
| 10                                      | GW513                | 108  |         |          |         |        |      |
|   |                      |      |         |          |         |        |      |
| <b>Irrigated Late Sown</b>              |                      |      |         |          |         |        |      |
| <i>T. aestivum</i>                      |                      |      |         |          |         |        |      |
| 1                                       | CG1029*              | 205  |         |          |         |        |      |
| 2                                       | HI1634 <sup>Q*</sup> | 201  |         |          |         |        |      |
| 3                                       | HD2932 (C)           | 202  |         |          |         |        |      |
| 4                                       | MP3336 (C)           | 203  |         |          |         |        |      |
| 5                                       | HD2864 (C)           | 204  |         |          |         |        |      |
|   |                      |      |         |          |         |        |      |
| <b>Restricted Irrigated Timely Sown</b> |                      |      |         |          |         |        |      |
| <i>T. durum</i>                         |                      |      |         |          |         |        |      |
| 1                                       | HI8627(d) (C)        | 302  | 5.45    | 5.43     | 5.77    | 5.84   | 5.62 |
| 2                                       | UAS466(d)(I) (C)     | 303  | 6.68    | 6.94     | 6.52    | 6.84   | 6.75 |
| 3                                       | DDW47(d)(I) (C)      | 308  | 6.84    | 6.78     | 7.91    | 7.46   | 7.25 |
| 6                                       | HI 8823(d)           | 307  | 5.45    | 5.14     | 5.35    | 5.03   | 5.24 |
| 7                                       | MPO1357(d)           | 301  | 5.56    | 6.24     | 5.29    | 7.02   | 6.03 |
| 8                                       | UAS472(d)            | 304  | 5.74    | 6.16     | 6.55    | 6.13   | 6.14 |
|   |                      |      | 5.95    | 6.11     | 6.23    | 6.39   | 6.17 |
| <i>T. aestivum</i>                      |                      |      |         |          |         |        |      |
| 4                                       | DBW110 (C)           | 305  |         |          |         |        |      |
| 5                                       | MP3288 (C)           | 306  |         |          |         |        |      |
| <b>Mean</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 (C)            | 109  |         |          |         | 87        | 87        |
| 2                                       | HI1544 (C)           | 110  |         |          |         | 77        | 77        |
| 3                                       | TAW155               | 101  |         |          |         | 71        | 71        |
| 4                                       | HI1636               | 102  |         |          |         | 65        | 65        |
| 5                                       | MP1361               | 103  |         |          |         | 51        | 51        |
| 6                                       | MACS6747             | 104  |         |          |         | 61        | 61        |
| 7                                       | HD3377 <sup>B</sup>  | 105  |         |          |         | 81        | 81        |
| 8                                       | HI1637               | 106  |         |          |         | 53        | 53        |
| 9                                       | RAJ4541 <sup>B</sup> | 107  |         |          |         | 77        | 77        |
| 10                                      | GW513                | 108  |         |          |         | 65        | 65        |
|   |                      |      |         |          |         | <b>69</b> | <b>69</b> |
| <b>Irrigated Late Sown</b>              |                      |      |         |          |         |           |           |
| <i>T. aestivum</i>                      |                      |      |         |          |         |           |           |
| 1                                       | CG1029*              | 205  |         |          |         | 59        | 59        |
| 2                                       | HI1634 <sup>Q*</sup> | 201  |         |          |         | 85        | 85        |
| 3                                       | HD2932 (C)           | 202  |         |          |         | 74        | 74        |
| 4                                       | MP3336 (C)           | 203  |         |          |         | 69        | 69        |
| 5                                       | HD2864 (C)           | 204  |         |          |         | 73        | 73        |
|   |                      |      |         |          |         | <b>72</b> | <b>72</b> |
| <b>Restricted Irrigated Timely Sown</b> |                      |      |         |          |         |           |           |
| <i>T. durum</i>                         |                      |      |         |          |         |           |           |
| 1                                       | HI8627(d) (C)        | 302  |         |          |         | 94        | 94        |
| 2                                       | UAS466(d)(l) (C)     | 303  |         |          |         | 81        | 81        |
| 3                                       | DDW47(d)(l) (C)      | 308  |         |          |         | 94        | 94        |
| 6                                       | HI 8823(d)           | 307  |         |          |         | 92        | 92        |
| 7                                       | MPO1357(d)           | 301  |         |          |         | 94        | 94        |
| 8                                       | UAS472(d)            | 304  |         |          |         | 80        | 80        |
|   |                      |      |         |          |         | 94        | 94        |
| <i>T. aestivum</i>                      |                      |      |         |          |         |           |           |
| 4                                       | DBW110 (C)           | 305  |         |          |         | 75        | 75        |
| 5                                       | MP3288 (C)           | 306  |         |          |         | 85        | 85        |
| <b>Mean</b>                             |                      |      |         |          |         | <b>80</b> | <b>80</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)            | 109  | 33.5        | 34.7         | 36.1         | 35.1         | 34.9        |
| 2                                       | HI1544 (C)           | 110  | 37.1        | 44.8         | 37.0         | 40.4         | 39.8        |
| 3                                       | TAW155               | 101  | 36.8        | 43.9         | 37.3         | 39.0         | 39.3        |
| 4                                       | HI1636               | 102  | 32.9        | 36.2         | 35.9         | 39.6         | 36.2        |
| 5                                       | MP1361               | 103  | 32.2        | 38.4         | 37.8         | 35.9         | 36.1        |
| 6                                       | MACS6747             | 104  | 38.1        | 40.1         | 40.1         | 39.0         | 39.3        |
| 7                                       | HD3377 <sup>B</sup>  | 105  | 38.6        | 45.3         | 35.6         | 40.3         | 40.0        |
| 8                                       | HI1637               | 106  | 34.5        | 43.8         | 40.9         | 35.7         | 38.7        |
| 9                                       | RAJ4541 <sup>B</sup> | 107  | 36.1        | 47.3         | 36.9         | 39.6         | 40.0        |
| 10                                      | GW513                | 108  | 31.0        | 44.6         | 32.7         | 39.1         | 36.9        |
|   |                      |      | <b>35.3</b> | <b>42.7</b>  | <b>37.1</b>  | <b>38.7</b>  | <b>38.5</b> |
| <b>Irrigated Late Sown</b>              |                      |      |             |              |              |              |             |
| <i>T. aestivum</i>                      |                      |      |             |              |              |              |             |
| 1                                       | CG1029*              | 205  | 37.4        | 35.2         | 35.2         | 35.9         | 35.9        |
| 2                                       | HI1634 <sup>Q*</sup> | 201  | 34.9        | 37.7         | 39.5         | 33.3         | 36.4        |
| 3                                       | HD2932 (C)           | 202  | 39.5        | 35.2         | 33.8         | 35.0         | 35.9        |
| 4                                       | MP3336 (C)           | 203  | 39.9        | 37.0         | 40.3         | 36.8         | 38.5        |
| 5                                       | HD2864 (C)           | 204  | 39.8        | 40.1         | 37.1         | 37.6         | 38.7        |
|   |                      |      | <b>38.3</b> | <b>37.04</b> | <b>37.18</b> | <b>35.72</b> | <b>37.1</b> |
| <b>Restricted Irrigated Timely Sown</b> |                      |      |             |              |              |              |             |
| <i>T. durum</i>                         |                      |      |             |              |              |              |             |
| 1                                       | HI8627(d) (C)        | 302  | 40.2        | 40.6         | 35.3         | 39.8         | 39.0        |
| 2                                       | UAS466(d)(l) (C)     | 303  | 34.9        | 40.0         | 36.7         | 41.5         | 38.3        |
| 3                                       | DDW47(d)(l) (C)      | 308  | 34.4        | 37.6         | 42.0         | 44.3         | 39.6        |
| 6                                       | HI 8823(d)           | 307  | 38.5        | 36.9         | 41.1         | 39.6         | 39.0        |
| 7                                       | MPO1357(d)           | 301  | 39.6        | 38.5         | 37.6         | 40.2         | 39.0        |
| 8                                       | UAS472(d)            | 304  | 34.3        | 36.7         | 35.1         | 36.6         | 35.7        |
|   |                      |      | <b>37.0</b> | <b>38.4</b>  | <b>38.0</b>  | <b>40.3</b>  | <b>38.4</b> |
| <i>T. aestivum</i>                      |                      |      |             |              |              |              |             |
| 4                                       | DBW110 (C)           | 305  | 38.9        | 36.0         | 33.7         | 41.8         | 37.6        |
| 5                                       | MP3288 (C)           | 306  | 41.3        | 36.5         | 38.3         | 41.1         | 39.3        |
|   | <b>Mean</b>          |      | <b>40.1</b> | <b>36.3</b>  | <b>36.0</b>  | <b>41.5</b>  | <b>38.5</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)            | 109  | 47.3        | 44.0        | 41.0        | 39.6        | 43.0        |
| 2                                       | HI1544 (C)           | 110  | 44.9        | 43.7        | 37.7        | 36.5        | 40.7        |
| 3                                       | TAW155               | 101  | 37.7        | 48.5        | 36.6        | 32.8        | 38.9        |
| 4                                       | HI1636               | 102  | 41.5        | 44.8        | 47.6        | 37.1        | 42.8        |
| 5                                       | MP1361               | 103  | 35.8        | 43.2        | 41.9        | 33.4        | 38.6        |
| 6                                       | MACS6747             | 104  | 42.4        | 38.5        | 49.0        | 32.1        | 40.5        |
| 7                                       | HD3377 <sup>B</sup>  | 105  | 43.5        | 43.9        | 33.6        | 37.4        | 39.6        |
| 8                                       | HI1637               | 106  | 42.6        | 45.5        | 44.2        | 35.2        | 41.9        |
| 9                                       | RAJ4541 <sup>B</sup> | 107  | 48.3        | 48.7        | 44.3        | 40.2        | 45.4        |
| 10                                      | GW513                | 108  | 37.6        | 43.0        | 34.6        | 38.0        | 38.3        |
|   |                      |      | 41.6        | 44.4        | 41.1        | 35.9        | 40.7        |
| <b>Irrigated Late Sown</b>              |                      |      |             |             |             |             |             |
| <i>T. aestivum</i>                      |                      |      |             |             |             |             |             |
| 1                                       | CG1029*              | 205  | 34.0        | 35.2        | 36.7        | 31.9        | 34.5        |
| 2                                       | HI1634 <sup>Q*</sup> | 201  | 36.4        | 38.5        | 40.3        | 31.1        | 36.6        |
| 3                                       | HD2932 (C)           | 202  | 40.6        | 34.1        | 35.6        | 33.8        | 36.0        |
| 4                                       | MP3336 (C)           | 203  | 45.5        | 36.1        | 41.7        | 34.3        | 39.4        |
| 5                                       | HD2864 (C)           | 204  | 32.6        | 35.7        | 37.6        | 36.0        | 35.5        |
|   |                      |      | 37.8        | 35.9        | 38.4        | 33.4        | 36.4        |
| <b>Restricted Irrigated Timely Sown</b> |                      |      |             |             |             |             |             |
| <i>T. durum</i>                         |                      |      |             |             |             |             |             |
| 1                                       | HI8627(d) (C)        | 302  | 302         | 39.9        | 43.8        | 27.8        | 37.8        |
| 2                                       | UAS466(d)(l) (C)     | 303  | 303         | 30.5        | 44.4        | 26.7        | 36.4        |
| 3                                       | DDW47(d)(l) (C)      | 308  | 308         | 34.0        | 47.4        | 22.7        | 38.1        |
| 6                                       | HI 8823(d)           | 307  | 307         | 38.9        | 45.8        | 28.9        | 39.2        |
| 7                                       | MPO1357(d)           | 301  | 301         | 34.1        | 43.9        | 26.0        | 36.7        |
| 8                                       | UAS472(d)            | 304  | 304         | 31.0        | 42.7        | 28.9        | 31.6        |
|   |                      |      |             | 34.7        | 44.7        | 26.8        | 36.6        |
| <i>T. aestivum</i>                      |                      |      |             |             |             |             |             |
| 4                                       | DBW110 (C)           | 305  | 28.3        | 46.9        | 19.4        | 32.6        | 31.8        |
| 5                                       | MP3288 (C)           | 306  | 30.6        | 40.6        | 25.8        | 31.5        | 32.1        |
| <b>Mean</b>                             |                      |      | <b>29.5</b> | <b>43.8</b> | <b>22.6</b> | <b>32.1</b> | <b>32.0</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>            |                      |      |         |          |         |        |      |
| <i>T. aestivum</i>                      |                      |      |         |          |         |        |      |
| 1                                       | GW322 (C)            | 109  |         |          |         |        |      |
| 2                                       | HI1544 (C)           | 110  |         |          |         |        |      |
| 3                                       | TAW155               | 101  |         |          |         |        |      |
| 4                                       | HI1636               | 102  |         |          |         |        |      |
| 5                                       | MP1361               | 103  |         |          |         |        |      |
| 6                                       | MACS6747             | 104  |         |          |         |        |      |
| 7                                       | HD3377 <sup>B</sup>  | 105  |         |          |         |        |      |
| 8                                       | HI1637               | 106  |         |          |         |        |      |
| 9                                       | RAJ4541 <sup>B</sup> | 107  |         |          |         |        |      |
| 10                                      | GW513                | 108  |         |          |         |        |      |
| <b>Irrigated Late Sown</b>              |                      |      |         |          |         |        |      |
| <i>T. aestivum</i>                      |                      |      |         |          |         |        |      |
| 1                                       | CG1029*              | 205  |         |          |         |        |      |
| 2                                       | HI1634 <sup>Q*</sup> | 201  |         |          |         |        |      |
| 3                                       | HD2932 (C)           | 202  |         |          |         |        |      |
| 4                                       | MP3336 (C)           | 203  |         |          |         |        |      |
| 5                                       | HD2864 (C)           | 204  |         |          |         |        |      |
| <b>Restricted Irrigated Timely Sown</b> |                      |      |         |          |         |        |      |
| <i>T. durum</i>                         |                      |      |         |          |         |        |      |
| 1                                       | HI8627(d) (C)        | 302  | 0       | 0        | 20      | 10     | 8    |
| 2                                       | UAS466(d)(l) (C)     | 303  | 0       | 0        | 20      | 60     | 20   |
| 3                                       | DDW47(d)(l) (C)      | 308  | 0       | 0        | 10      | 40     | 13   |
| 6                                       | HI 8823(d)           | 307  | 0       | 20       | 30      | 50     | 25   |
| 7                                       | MPO1357(d)           | 301  | 0       | 0        | 20      | 30     | 13   |
| 8                                       | UAS472(d)            | 304  | 0       | 50       | 40      | 70     | 40   |
|   |                      |      | 0       | 12       | 23      | 43     | 20   |
| <i>T. aestivum</i>                      |                      |      |         |          |         |        |      |
| 4                                       | DBW110 (C)           | 305  | 0       | 0        | 0       | 20     | 5    |
| 5                                       | MP3288 (C)           | 306  | 0       | 0        | 10      | 0      | 3    |
| <b>Mean</b>                             |                      |      |         |          | 0       | 0      | 5    |

**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. durum</i>                         |                          |            |            |            |            |            |
| 1                                       | DDW48(d) <sup>Q*</sup>   | <b>102</b> | 6.2        | 6.6        | 7.0        | <b>6.6</b> |
| 2                                       | DDW49(d) <sup>Q*</sup>   | <b>107</b> | 6.6        | 6.4        | 7.4        | <b>6.8</b> |
| 3                                       | UAS428(d) (C)            | <b>106</b> | 6.2        | 6.6        | 7.0        | <b>6.6</b> |
| 4                                       | MACS3949(d) (C)          | <b>104</b> | 6.2        | 7.0        | 7.4        | <b>6.9</b> |
| 5                                       | HI8818(d)                | <b>105</b> | 6.2        | 6.8        | 7.2        | <b>6.7</b> |
| 6                                       | WHD964(d)                | <b>101</b> | 5.8        | 5.8        | 6.0        | <b>5.9</b> |
|   |                          |            | <b>6.2</b> | <b>6.5</b> | <b>7.0</b> | <b>6.6</b> |
| <i>T. aestivum</i>                      |                          |            |            |            |            |            |
| 1                                       | MACS6222 (C)             | <b>103</b> | 6.4        | 6.2        | 6.2        | <b>6.3</b> |
| 2                                       | GW322 (C)                | <b>108</b> | 5.8        | 5.6        | 6.6        | <b>6.0</b> |
|   |                          |            | <b>6.1</b> | <b>5.9</b> | <b>6.4</b> | <b>6.1</b> |
| <b>Irrigated Late Sown</b>              |                          |            |            |            |            |            |
| <i>T. aestivum</i>                      |                          |            |            |            |            |            |
| 1                                       | HI1633*                  | <b>210</b> | 5.8        | 6.0        | 6.2        | <b>6.0</b> |
| 2                                       | HD3090 (C)               | <b>203</b> | 5.8        | 5.4        | 6.2        | <b>5.8</b> |
| 3                                       | HD2932 (C)               | <b>207</b> | 5.8        | 5.8        | 6.0        | <b>5.9</b> |
| 4                                       | RAJ4083 (C)              | <b>204</b> | 5.8        | 6.0        | 6.6        | <b>6.1</b> |
| 5                                       | GW519                    | <b>201</b> | 5.8        | 6.2        | 6.2        | <b>6.1</b> |
| 6                                       | HI1641                   | <b>208</b> | 5.6        | 6.4        | 6.6        | <b>6.2</b> |
| 7                                       | HI1642                   | <b>209</b> | 6.2        | 6.2        | 7.0        | <b>6.5</b> |
| 8                                       | HI1646                   | <b>202</b> | 5.6        | 5.8        | 5.8        | <b>5.7</b> |
| 9                                       | MACS6749                 | <b>206</b> | 5.6        | 5.8        | 5.8        | <b>5.7</b> |
| 10                                      | MACS6752                 | <b>211</b> | 5.4        | 6.0        | 6.2        | <b>5.9</b> |
| 11                                      | UAS3008                  | <b>205</b> | 5.8        | 6.0        | 5.8        | <b>5.9</b> |
|   |                          |            | <b>5.7</b> | <b>6.0</b> | <b>6.2</b> | <b>6.0</b> |
| <b>Restricted Irrigated Timely Sown</b> |                          |            |            |            |            |            |
| <i>T. aestivum</i>                      |                          |            |            |            |            |            |
| 1                                       | HI 1605 (C)              | <b>303</b> | 6.2        | 6.2        | 6.2        | <b>6.2</b> |
| 2                                       | NIAW3170(I) (C)          | <b>310</b> | 5.2        | 6.0        | 5.8        | <b>5.7</b> |
| 3                                       | MP 1358                  | <b>305</b> | 6.2        | 6.2        | 6.2        | <b>6.2</b> |
|   |                          |            | <b>5.9</b> | <b>6.1</b> | <b>6.1</b> | <b>6.0</b> |
| <i>T. durum</i>                         |                          |            |            |            |            |            |
| 1                                       | NIDW 1149(d)*            | <b>301</b> | 6.4        | 6.4        | 7.6        | <b>6.8</b> |
| 2                                       | UAS446(d) (C)            | <b>302</b> | 6.0        | 6.2        | 6.8        | <b>6.3</b> |
| 3                                       | AKDW 2997-16(d) (C)      | <b>306</b> | 6.0        | 6.8        | 6.2        | <b>6.3</b> |
| 4                                       | HI8805(d)(I) (C)         | <b>307</b> | 6.4        | 7.4        | 7.6        | <b>7.1</b> |
| 5                                       | MACS 4087(d)             | <b>304</b> | 6.4        | 7.0        | 8.0        | <b>7.1</b> |
| 6                                       | UAS 472(d)               | <b>308</b> | 6.0        | 6.0        | 7.0        | <b>6.3</b> |
| 7                                       | MPO 1357(d) <sup>Q</sup> | <b>309</b> | 6.4        | 6.2        | 7.4        | <b>6.7</b> |
|   |                          |            | <b>6.1</b> | <b>6.4</b> | <b>6.9</b> | <b>6.5</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. durum</i>                         |                          |            |             |             |             |             |
| 1                                       | DDW48(d) <sup>Q*</sup>   | <b>102</b> | 82.3        | 79.9        | 83.3        | <b>81.8</b> |
| 2                                       | DDW49(d) <sup>Q*</sup>   | <b>107</b> | 83.5        | 79.5        | 84.3        | <b>82.4</b> |
| 3                                       | UAS428(d) (C)            | <b>106</b> | 82.1        | 80.6        | 83.4        | <b>82.0</b> |
| 4                                       | MACS3949(d) (C)          | <b>104</b> | 83.4        | 81.9        | 83.9        | <b>83.1</b> |
| 5                                       | HI8818(d)                | <b>105</b> | 82.5        | 81.6        | 83.6        | <b>82.6</b> |
| 6                                       | WHD964(d)                | <b>101</b> | 82.6        | 80.6        | 83.7        | <b>82.3</b> |
|   |                          |            | <b>82.7</b> | <b>80.7</b> | <b>83.7</b> | <b>82.4</b> |
| <i>T. aestivum</i>                      |                          |            |             |             |             |             |
| 1                                       | MACS6222 (C)             | <b>103</b> | 81.8        | 79.6        | 82.2        | <b>81.2</b> |
| 2                                       | GW322 (C)                | <b>108</b> | 79.4        | 73.7        | 79.8        | <b>77.6</b> |
|   |                          |            | <b>80.6</b> | <b>76.7</b> | <b>81.0</b> | <b>79.4</b> |
| <b>Irrigated Late Sown</b>              |                          |            |             |             |             |             |
| <i>T. aestivum</i>                      |                          |            |             |             |             |             |
| 1                                       | HI1633*                  | <b>210</b> | 79.4        | 78.5        | 82.6        | <b>80.2</b> |
| 2                                       | HD3090 (C)               | <b>203</b> | 77.9        | 75.5        | 79.6        | <b>77.7</b> |
| 3                                       | HD2932 (C)               | <b>207</b> | 77.8        | 75.8        | 79.2        | <b>77.6</b> |
| 4                                       | RAJ4083 (C)              | <b>204</b> | 79.6        | 78.4        | 81.8        | <b>79.9</b> |
| 5                                       | GW519                    | <b>201</b> | 77.6        | 77.3        | 80.0        | <b>78.3</b> |
| 6                                       | HI1641                   | <b>208</b> | 80.3        | 80.5        | 82.5        | <b>81.1</b> |
| 7                                       | HI1642                   | <b>209</b> | 80.4        | 78.9        | 82.0        | <b>80.4</b> |
| 8                                       | HI1646                   | <b>202</b> | 77.2        | 75.8        | 77.3        | <b>76.8</b> |
| 9                                       | MACS6749                 | <b>206</b> | 78.1        | 78.2        | 80.5        | <b>78.9</b> |
| 10                                      | MACS6752                 | <b>211</b> | 80.9        | 80.1        | 83.6        | <b>81.5</b> |
| 11                                      | UAS3008                  | <b>205</b> | 77.6        | 77.0        | 79.5        | <b>78.0</b> |
|   |                          |            | <b>78.8</b> | <b>77.8</b> | <b>80.8</b> | <b>79.1</b> |
| <b>Restricted Irrigated Timely Sown</b> |                          |            |             |             |             |             |
| <i>T. aestivum</i>                      |                          |            |             |             |             |             |
| 1                                       | HI 1605 (C)              | <b>303</b> | 80.6        | 79.9        | 81.6        | <b>80.7</b> |
| 2                                       | NIAW3170(I) (C)          | <b>310</b> | 76.7        | 77.0        | 78.6        | <b>77.4</b> |
| 3                                       | MP 1358                  | <b>305</b> | 81.5        | 77.5        | 80.3        | <b>79.8</b> |
|   |                          |            | <b>79.6</b> | <b>78.1</b> | <b>80.2</b> | <b>79.3</b> |
| <i>T. durum</i>                         |                          |            |             |             |             |             |
| 1                                       | NIDW 1149(d)*            | <b>301</b> | 78.7        | 77.3        | 78.0        | <b>78.0</b> |
| 2                                       | UAS446(d) (C)            | <b>302</b> | 80.3        | 80.6        | 82.2        | <b>81.0</b> |
| 3                                       | AKDW 2997-16(d) (C)      | <b>306</b> | 81.5        | 79.5        | 78.6        | <b>79.9</b> |
| 4                                       | HI8805(d)(I) (C)         | <b>307</b> | 81.3        | 80.7        | 82.3        | <b>81.4</b> |
| 5                                       | MACS 4087(d)             | <b>304</b> | 81.1        | 81.4        | 82.0        | <b>81.5</b> |
| 6                                       | UAS 472(d)               | <b>308</b> | 81.8        | 80.3        | 82.4        | <b>81.5</b> |
| 7                                       | MPO 1357(d) <sup>Q</sup> | <b>309</b> | 82.1        | 80.9        | 82.1        | <b>81.7</b> |
|   |                          |            | <b>81.0</b> | <b>80.1</b> | <b>81.1</b> | <b>80.7</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. durum</i>                         |                          |            |             |             |             |             |
| 1                                       | DDW48(d) <sup>Q*</sup>   | <b>102</b> | 11.0        | 14.2        | 11.3        | <b>12.2</b> |
| 2                                       | DDW49(d) <sup>Q*</sup>   | <b>107</b> | 11.1        | 13.5        | 11.1        | <b>11.9</b> |
| 3                                       | UAS428(d) (C)            | <b>106</b> | 11.6        | 13.7        | 11.4        | <b>12.3</b> |
| 4                                       | MACS3949(d) (C)          | <b>104</b> | 11.6        | 13.1        | 11.0        | <b>11.9</b> |
| 5                                       | HI8818(d)                | <b>105</b> | 12.0        | 13.2        | 11.7        | <b>12.3</b> |
| 6                                       | WHD964(d)                | <b>101</b> | 10.4        | 12.8        | 10.3        | <b>11.1</b> |
|   |                          |            | <b>11.3</b> | <b>13.4</b> | <b>11.1</b> | <b>11.9</b> |
| <i>T. aestivum</i>                      |                          |            |             |             |             |             |
| 1                                       | MACS6222 (C)             | <b>103</b> | 12.1        | 14.3        | 12.2        | <b>12.9</b> |
| 2                                       | GW322 (C)                | <b>108</b> | 10.4        | 12.5        | 11.0        | <b>11.3</b> |
|   |                          |            | <b>11.3</b> | <b>13.4</b> | <b>11.6</b> | <b>12.1</b> |
| <b>Irrigated Late Sown</b>              |                          |            |             |             |             |             |
| <i>T. aestivum</i>                      |                          |            |             |             |             |             |
| 1                                       | HI1633*                  | <b>210</b> | 12.1        | 14.4        | 12.2        | <b>12.9</b> |
| 2                                       | HD3090 (C)               | <b>203</b> | 11.9        | 14.4        | 12.5        | <b>12.9</b> |
| 3                                       | HD2932 (C)               | <b>207</b> | 11.7        | 13.9        | 10.8        | <b>12.1</b> |
| 4                                       | RAJ4083 (C)              | <b>204</b> | 12.5        | 13.0        | 12.5        | <b>12.7</b> |
| 5                                       | GW519                    | <b>201</b> | 10.6        | 14.3        | 12.8        | <b>12.6</b> |
| 6                                       | HI1641                   | <b>208</b> | 10.8        | 14.5        | 13.5        | <b>12.9</b> |
| 7                                       | HI1642                   | <b>209</b> | 11.8        | 15.6        | 12.7        | <b>13.4</b> |
| 8                                       | HI1646                   | <b>202</b> | 11.3        | 14.4        | 11.2        | <b>12.3</b> |
| 9                                       | MACS6749                 | <b>206</b> | 11.5        | 13.8        | 12.4        | <b>12.5</b> |
| 10                                      | MACS6752                 | <b>211</b> | 12.6        | 15.1        | 12.9        | <b>13.5</b> |
| 11                                      | UAS3008                  | <b>205</b> | 10.4        | 13.2        | 11.0        | <b>11.5</b> |
|   |                          |            | <b>11.6</b> | <b>14.2</b> | <b>12.2</b> | <b>12.7</b> |
| <b>Restricted Irrigated Timely Sown</b> |                          |            |             |             |             |             |
| <i>T. aestivum</i>                      |                          |            |             |             |             |             |
| 1                                       | HI 1605 (C)              | <b>303</b> | 11.5        | 13.2        | 10.5        | <b>11.7</b> |
| 2                                       | NIAW3170(I) (C)          | <b>310</b> | 12.2        | 12.5        | 10.1        | <b>11.6</b> |
| 3                                       | MP 1358                  | <b>305</b> | 12.4        | 13.4        | 9.8         | <b>11.9</b> |
|   |                          |            | <b>12.0</b> | <b>13.0</b> | <b>10.1</b> | <b>11.7</b> |
| <i>T. durum</i>                         |                          |            |             |             |             |             |
| 1                                       | NIDW 1149(d)*            | <b>301</b> | 11.0        | 11.7        | 10.8        | <b>11.2</b> |
| 2                                       | UAS446(d) (C)            | <b>302</b> | 12.3        | 13.8        | 11.1        | <b>12.4</b> |
| 3                                       | AKDW 2997-16(d) (C)      | <b>306</b> | 11.3        | 11.9        | 12.1        | <b>11.8</b> |
| 4                                       | HI8805(d)(I) (C)         | <b>307</b> | 10.8        | 13.0        | 12.1        | <b>12.0</b> |
| 5                                       | MACS 4087(d)             | <b>304</b> | 11.3        | 12.4        | 11.5        | <b>11.7</b> |
| 6                                       | UAS 472(d)               | <b>308</b> | 10.7        | 10.7        | 11.1        | <b>10.8</b> |
| 7                                       | MPO 1357(d) <sup>Q</sup> | <b>309</b> | 12.3        | 12.3        | 11.7        | <b>12.1</b> |
|   |                          |            | <b>11.6</b> | <b>12.5</b> | <b>11.1</b> | <b>11.7</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. durum</i>                         |                          |            |           |           |           |           |
| 1                                       | DDW48(d) <sup>Q*</sup>   | <b>102</b> | 39        | 50        | 41        | <b>43</b> |
| 2                                       | DDW49(d) <sup>Q*</sup>   | <b>107</b> | 43        | 54        | 50        | <b>49</b> |
| 3                                       | UAS428(d) (C)            | <b>106</b> | 40        | 50        | 44        | <b>45</b> |
| 4                                       | MACS3949(d) (C)          | <b>104</b> | 43        | 54        | 45        | <b>47</b> |
| 5                                       | HI8818(d)                | <b>105</b> | 35        | 46        | 34        | <b>39</b> |
| 6                                       | WHD964(d)                | <b>101</b> | 36        | 46        | 31        | <b>37</b> |
|   |                          |            | <b>39</b> | <b>50</b> | <b>41</b> | <b>43</b> |
| <i>T. aestivum</i>                      |                          |            |           |           |           |           |
| 1                                       | MACS6222 (C)             | <b>103</b> | 51        | 47        | 47        | <b>48</b> |
| 2                                       | GW322 (C)                | <b>108</b> | 43        | 52        | 48        | <b>48</b> |
|   |                          |            | <b>47</b> | <b>50</b> | <b>47</b> | <b>48</b> |
| <b>Irrigated Late Sown</b>              |                          |            |           |           |           |           |
| <i>T. aestivum</i>                      |                          |            |           |           |           |           |
| 1                                       | HI1633*                  | <b>210</b> | 51        | 61        | 53        | <b>55</b> |
| 2                                       | HD3090 (C)               | <b>203</b> | 54        | 55        | 54        | <b>54</b> |
| 3                                       | HD2932 (C)               | <b>207</b> | 57        | 61        | 55        | <b>58</b> |
| 4                                       | RAJ4083 (C)              | <b>204</b> | 60        | 64        | 61        | <b>62</b> |
| 5                                       | GW519                    | <b>201</b> | 49        | 48        | 56        | <b>51</b> |
| 6                                       | HI1641                   | <b>208</b> | 50        | 53        | 57        | <b>53</b> |
| 7                                       | HI1642                   | <b>209</b> | 57        | 62        | 65        | <b>62</b> |
| 8                                       | HI1646                   | <b>202</b> | 61        | 69        | 62        | <b>64</b> |
| 9                                       | MACS6749                 | <b>206</b> | 47        | 48        | 51        | <b>48</b> |
| 10                                      | MACS6752                 | <b>211</b> | 48        | 56        | 51        | <b>52</b> |
| 11                                      | UAS3008                  | <b>205</b> | 48        | 57        | 55        | <b>54</b> |
|   |                          |            | <b>53</b> | <b>58</b> | <b>56</b> | <b>56</b> |
| <b>Restricted Irrigated Timely Sown</b> |                          |            |           |           |           |           |
| <i>T. aestivum</i>                      |                          |            |           |           |           |           |
| 1                                       | HI 1605 (C)              | <b>303</b> | 68        | 69        | 66        | <b>68</b> |
| 2                                       | NIAW3170(I) (C)          | <b>310</b> | 60        | 70        | 54        | <b>61</b> |
| 3                                       | MP 1358                  | <b>305</b> | 64        | 67        | 63        | <b>65</b> |
|   |                          |            | <b>64</b> | <b>69</b> | <b>61</b> | <b>65</b> |
| <i>T. durum</i>                         |                          |            |           |           |           |           |
| 1                                       | NIDW 1149(d)*            | <b>301</b> | 41        | 35        | 39        | <b>38</b> |
| 2                                       | UAS446(d) (C)            | <b>302</b> | 56        | 59        | 54        | <b>56</b> |
| 3                                       | AKDW 2997-16(d) (C)      | <b>306</b> | 34        | 53        | 49        | <b>45</b> |
| 4                                       | HI8805(d)(I) (C)         | <b>307</b> | 53        | 51        | 50        | <b>52</b> |
| 5                                       | MACS 4087(d)             | <b>304</b> | 37        | 39        | 41        | <b>39</b> |
| 6                                       | UAS 472(d)               | <b>308</b> | 36        | 32        | 32        | <b>34</b> |
| 7                                       | MPO 1357(d) <sup>Q</sup> | <b>309</b> | 34        | 38        | 39        | <b>37</b> |
|   |                          |            | <b>48</b> | <b>51</b> | <b>49</b> | <b>49</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. durum</i>                         |                          |            |            |            |            |            |
| 1                                       | DDW48(d) <sup>Q*</sup>   | <b>102</b> | 0.0        | 0.0        | 0.0        | <b>0.0</b> |
| 2                                       | DDW49(d) <sup>Q*</sup>   | <b>107</b> | 0.0        | 0.0        | 0.0        | <b>0.0</b> |
| 3                                       | UAS428(d) (C)            | <b>106</b> | 0.0        | 0.0        | 0.0        | <b>0.0</b> |
| 4                                       | MACS3949(d) (C)          | <b>104</b> | 0.0        | 0.0        | 0.0        | <b>0.0</b> |
| 5                                       | HI8818(d)                | <b>105</b> | 0.0        | 0.0        | 0.0        | <b>0.0</b> |
| 6                                       | WHD964(d)                | <b>101</b> | 0.0        | 0.0        | 0.0        | <b>0.0</b> |
|   |                          |            | 0.0        | 0.0        | 0.0        | <b>0.0</b> |
| <i>T. aestivum</i>                      |                          |            |            |            |            |            |
| 1                                       | MACS6222 (C)             | <b>103</b> | 8.0        | 8.5        | 8.5        | <b>8.3</b> |
| 2                                       | GW322 (C)                | <b>108</b> | 8.0        | 8.5        | 8.0        | <b>8.2</b> |
|   |                          |            | <b>8.0</b> | <b>8.5</b> | <b>8.3</b> | <b>8.3</b> |
| <b>Irrigated Late Sown</b>              |                          |            |            |            |            |            |
| <i>T. aestivum</i>                      |                          |            |            |            |            |            |
| 1                                       | HI1633*                  | <b>210</b> | 7.5        | 7.5        | 6.0        | <b>7.0</b> |
| 2                                       | HD3090 (C)               | <b>203</b> | 8.0        | 8.0        | 6.0        | <b>7.3</b> |
| 3                                       | HD2932 (C)               | <b>207</b> | 5.5        | 6.0        | 5.0        | <b>5.5</b> |
| 4                                       | RAJ4083 (C)              | <b>204</b> | 8.0        | 7.5        | 6.0        | <b>7.2</b> |
| 5                                       | GW519                    | <b>201</b> | 6.5        | 6.5        | 5.0        | <b>6.0</b> |
| 6                                       | HI1641                   | <b>208</b> | 7.5        | 7.5        | 6.0        | <b>7.0</b> |
| 7                                       | HI1642                   | <b>209</b> | 8.0        | 8.0        | 6.5        | <b>7.5</b> |
| 8                                       | HI1646                   | <b>202</b> | 7.5        | 7.5        | 5.5        | <b>6.8</b> |
| 9                                       | MACS6749                 | <b>206</b> | 6.0        | 6.0        | 4.5        | <b>5.5</b> |
| 10                                      | MACS6752                 | <b>211</b> | 7.5        | 7.5        | 5.5        | <b>6.8</b> |
| 11                                      | UAS3008                  | <b>205</b> | 8.0        | 8.0        | 6.5        | <b>7.5</b> |
|   |                          |            | <b>7.3</b> | <b>7.3</b> | <b>5.7</b> | <b>6.7</b> |
| <b>Restricted Irrigated Timely Sown</b> |                          |            |            |            |            |            |
| <i>T. aestivum</i>                      |                          |            |            |            |            |            |
| 1                                       | HI 1605 (C)              | <b>303</b> | 6.5        | 5.5        | 6          | <b>6.0</b> |
| 2                                       | NIAW3170(I) (C)          | <b>310</b> | 8.5        | 7.5        | 7.5        | <b>7.8</b> |
| 3                                       | MP 1358                  | <b>305</b> | 6.0        | 7.0        | 6.5        | <b>6.5</b> |
|   |                          |            | <b>7.0</b> | <b>6.7</b> | <b>6.7</b> | <b>6.8</b> |
| <i>T. durum</i>                         |                          |            |            |            |            |            |
| 1                                       | NIDW 1149(d)*            | <b>301</b> | 0.0        | 0.0        | 0.0        | <b>0.0</b> |
| 2                                       | UAS446(d) (C)            | <b>302</b> | 0.0        | 0.0        | 0.0        | <b>0.0</b> |
| 3                                       | AKDW 2997-16(d) (C)      | <b>306</b> | 0.0        | 0.0        | 0.0        | <b>0.0</b> |
| 4                                       | HI8805(d)(I) (C)         | <b>307</b> | 0.0        | 0.0        | 0.0        | <b>0.0</b> |
| 5                                       | MACS 4087(d)             | <b>304</b> | <b>6.5</b> | <b>8.0</b> | <b>7.5</b> | <b>7.3</b> |
| 6                                       | UAS 472(d)               | <b>308</b> | 0.0        | 0.0        | 0.0        | <b>0.0</b> |
| 7                                       | MPO 1357(d) <sup>Q</sup> | <b>309</b> | 0.0        | 0.0        | 0.0        | <b>0.0</b> |
|   |                          |            | 0.0        | 0.0        | 0.0        | <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. durum</i>                         |                          |            |             |             |             |             |
| 1                                       | DDW48(d) <sup>Q*</sup>   | <b>102</b> | 6.26        | 5.58        | 5.84        | <b>5.90</b> |
| 2                                       | DDW49(d) <sup>Q*</sup>   | <b>107</b> | 5.45        | 5.84        | 4.72        | <b>5.34</b> |
| 3                                       | UAS428(d) (C)            | <b>106</b> | 4.85        | 4.64        | 4.35        | <b>4.61</b> |
| 4                                       | MACS3949(d) (C)          | <b>104</b> | 5.61        | 5.27        | 4.61        | <b>5.16</b> |
| 5                                       | HI8818(d)                | <b>105</b> | 6.37        | 5.43        | 4.48        | <b>5.43</b> |
| 6                                       | WHD964(d)                | <b>101</b> | 8.80        | 8.75        | 7.12        | <b>8.22</b> |
|   |                          |            | <b>6.22</b> | <b>5.92</b> | <b>5.19</b> | <b>5.78</b> |
| <i>T. aestivum</i>                      |                          |            |             |             |             |             |
| 1                                       | MACS6222 (C)             | <b>103</b> | 3.20        | 2.23        | 2.34        | 2.59        |
| 2                                       | GW322 (C)                | <b>108</b> | 1.92        | 2.03        | 1.58        | 1.84        |
|   |                          |            | <b>2.56</b> | <b>2.13</b> | <b>1.96</b> | <b>2.22</b> |
| <b>Irrigated Late Sown</b>              |                          |            |             |             |             |             |
| <i>T. aestivum</i>                      |                          |            |             |             |             |             |
| 1                                       | HI1633*                  | <b>210</b> |             |             |             |             |
| 2                                       | HD3090 (C)               | <b>203</b> |             |             |             |             |
| 3                                       | HD2932 (C)               | <b>207</b> |             |             |             |             |
| 4                                       | RAJ4083 (C)              | <b>204</b> |             |             |             |             |
| 5                                       | GW519                    | <b>201</b> |             |             |             |             |
| 6                                       | HI1641                   | <b>208</b> |             |             |             |             |
| 7                                       | HI1642                   | <b>209</b> |             |             |             |             |
| 8                                       | HI1646                   | <b>202</b> |             |             |             |             |
| 9                                       | MACS6749                 | <b>206</b> |             |             |             |             |
| 10                                      | MACS6752                 | <b>211</b> |             |             |             |             |
| 11                                      | UAS3008                  | <b>205</b> |             |             |             |             |
|   |                          |            |             |             |             |             |
| <b>Restricted Irrigated Timely Sown</b> |                          |            |             |             |             |             |
| <i>T. aestivum</i>                      |                          |            |             |             |             |             |
| 1                                       | HI 1605 (C)              | <b>303</b> | 1.89        | 1.42        | 1.24        | <b>1.52</b> |
| 2                                       | NIAW3170(I) (C)          | <b>310</b> | 2.34        | 1.53        | 1.66        | <b>1.84</b> |
| 3                                       | MP 1358                  | <b>305</b> | 2.10        | 1.95        | 1.74        | <b>1.93</b> |
|   |                          |            | <b>2.11</b> | <b>1.63</b> | <b>1.55</b> | <b>1.76</b> |
| <i>T. durum</i>                         |                          |            |             |             |             |             |
| 1                                       | NIDW 1149(d)*            | <b>301</b> | 4.14        | 4.04        | 3.78        | <b>3.99</b> |
| 2                                       | UAS446(d) (C)            | <b>302</b> | 5.35        | 4.33        | 4.59        | <b>4.75</b> |
| 3                                       | AKDW 2997-16(d) (C)      | <b>306</b> | 3.36        | 3.54        | 3.02        | <b>3.31</b> |
| 4                                       | HI8805(d)(I) (C)         | <b>307</b> | 5.09        | 4.80        | 3.80        | <b>4.56</b> |
| 5                                       | MACS 4087(d)             | <b>304</b> | 3.05        | 2.84        | 2.89        | <b>2.92</b> |
| 6                                       | UAS 472(d)               | <b>308</b> | 5.90        | 5.14        | 4.88        | <b>5.30</b> |
| 7                                       | MPO 1357(d) <sup>Q</sup> | <b>309</b> | 5.56        | 5.19        | 4.17        | <b>4.97</b> |
|   |                          |            | <b>4.63</b> | <b>4.27</b> | <b>3.87</b> | <b>4.26</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. durum</i>                         |                          |            |           |         |        |           |
| 1                                       | DDW48(d) <sup>Q*</sup>   | <b>102</b> | 101       |         |        | 101       |
| 2                                       | DDW49(d) <sup>Q*</sup>   | <b>107</b> | 105       |         |        | 105       |
| 3                                       | UAS428(d) (C)            | <b>106</b> | 102       |         |        | 102       |
| 4                                       | MACS3949(d) (C)          | <b>104</b> | 92        |         |        | 92        |
| 5                                       | HI8818(d)                | <b>105</b> | 99        |         |        | 99        |
| 6                                       | WHD964(d)                | <b>101</b> | 91        |         |        | 91        |
|   |                          |            | <b>98</b> |         |        | <b>98</b> |
| <i>T. aestivum</i>                      |                          |            |           |         |        |           |
| 1                                       | MACS6222 (C)             | <b>103</b> | 87        |         |        | 87        |
| 2                                       | GW322 (C)                | <b>108</b> | 79        |         |        | 79        |
|   |                          |            | <b>83</b> |         |        | <b>83</b> |
| <b>Irrigated Late Sown</b>              |                          |            |           |         |        |           |
| <i>T. aestivum</i>                      |                          |            |           |         |        |           |
| 1                                       | HI1633*                  | <b>210</b> | 69        |         |        | 69        |
| 2                                       | HD3090 (C)               | <b>203</b> | 69        |         |        | 69        |
| 3                                       | HD2932 (C)               | <b>207</b> | 63        |         |        | 63        |
| 4                                       | RAJ4083 (C)              | <b>204</b> | 71        |         |        | 71        |
| 5                                       | GW519                    | <b>201</b> | 51        |         |        | 51        |
| 6                                       | HI1641                   | <b>208</b> | 69        |         |        | 69        |
| 7                                       | HI1642                   | <b>209</b> | 68        |         |        | 68        |
| 8                                       | HI1646                   | <b>202</b> | 63        |         |        | 63        |
| 9                                       | MACS6749                 | <b>206</b> | 74        |         |        | 74        |
| 10                                      | MACS6752                 | <b>211</b> | 72        |         |        | 72        |
| 11                                      | UAS3008                  | <b>205</b> | 54        |         |        | 54        |
|   |                          |            | <b>66</b> |         |        | <b>66</b> |
| <b>Restricted Irrigated Timely Sown</b> |                          |            |           |         |        |           |
| <i>T. aestivum</i>                      |                          |            |           |         |        |           |
| 1                                       | HI 1605 (C)              | <b>303</b> | 94        |         |        | 94        |
| 2                                       | NIAW3170(I) (C)          | <b>310</b> | 33        |         |        | 33        |
| 3                                       | MP 1358                  | <b>305</b> | 76        |         |        | 76        |
|   |                          |            | <b>67</b> |         |        | <b>67</b> |
| <i>T. durum</i>                         |                          |            |           |         |        |           |
| 1                                       | NIDW 1149(d)*            | <b>301</b> | 91        |         |        | 91        |
| 2                                       | UAS446(d) (C)            | <b>302</b> | 95        |         |        | 95        |
| 3                                       | AKDW 2997-16(d) (C)      | <b>306</b> | 88        |         |        | 88        |
| 4                                       | HI8805(d)(I) (C)         | <b>307</b> | 96        |         |        | 96        |
| 5                                       | MACS 4087(d)             | <b>304</b> | 97        |         |        | 97        |
| 6                                       | UAS 472(d)               | <b>308</b> | 91        |         |        | 91        |
| 7                                       | MPO 1357(d) <sup>Q</sup> | <b>309</b> | 95        |         |        | 95        |
|   |                          |            | <b>93</b> |         |        | <b>93</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. durum</i>                         |                          |            |             |             |             |             |
| 1                                       | DDW48(d) <sup>Q*</sup>   | <b>102</b> | 37.2        | 41.7        | 38.0        | <b>39.0</b> |
| 2                                       | DDW49(d) <sup>Q*</sup>   | <b>107</b> | 32.1        | 43.6        | 37.1        | <b>37.6</b> |
| 3                                       | UAS428(d) (C)            | <b>106</b> | 39.4        | 38.1        | 35.1        | <b>37.5</b> |
| 4                                       | MACS3949(d) (C)          | <b>104</b> | 37.1        | 42.1        | 35.7        | <b>38.3</b> |
| 5                                       | HI8818(d)                | <b>105</b> | 39.7        | 41.7        | 37.9        | <b>39.8</b> |
| 6                                       | WHD964(d)                | <b>101</b> | 34.1        | 41.5        | 37.0        | <b>37.5</b> |
|   |                          |            | <b>36.6</b> | <b>41.5</b> | <b>36.8</b> | <b>38.3</b> |
| <i>T. aestivum</i>                      |                          |            |             |             |             |             |
| 1                                       | MACS6222 (C)             | <b>103</b> | 36.9        | 43.6        | 41.3        | <b>40.6</b> |
| 2                                       | GW322 (C)                | <b>108</b> | 36.1        | 37.0        | 35.9        | <b>36.3</b> |
|   |                          |            | <b>36.5</b> | <b>40.3</b> | <b>38.6</b> | <b>38.5</b> |
| <b>Irrigated Late Sown</b>              |                          |            |             |             |             |             |
| <i>T. aestivum</i>                      |                          |            |             |             |             |             |
| 1                                       | HI1633*                  | <b>210</b> | 38.3        | 43.7        | 40.5        | <b>40.8</b> |
| 2                                       | HD3090 (C)               | <b>203</b> | 33.5        | 42.6        | 39.9        | <b>38.7</b> |
| 3                                       | HD2932 (C)               | <b>207</b> | 40.0        | 37.4        | 31.1        | <b>36.2</b> |
| 4                                       | RAJ4083 (C)              | <b>204</b> | 36.6        | 39.7        | 43.4        | <b>39.9</b> |
| 5                                       | GW519                    | <b>201</b> | 36.2        | 43.9        | 39.2        | <b>39.8</b> |
| 6                                       | HI1641                   | <b>208</b> | 42.6        | 40.3        | 45.1        | <b>42.7</b> |
| 7                                       | HI1642                   | <b>209</b> | 39.3        | 44.7        | 44.4        | <b>42.8</b> |
| 8                                       | HI1646                   | <b>202</b> | 36.1        | 40.6        | 34.3        | <b>37.0</b> |
| 9                                       | MACS6749                 | <b>206</b> | 36.6        | 39.5        | 42.2        | <b>39.4</b> |
| 10                                      | MACS6752                 | <b>211</b> | 36.3        | 47.1        | 40.0        | <b>41.1</b> |
| 11                                      | UAS3008                  | <b>205</b> | 34.0        | 37.9        | 43.2        | <b>38.4</b> |
|   |                          |            | <b>37.2</b> | <b>41.6</b> | <b>40.3</b> | <b>39.7</b> |
| <b>Restricted Irrigated Timely Sown</b> |                          |            |             |             |             |             |
| <i>T. aestivum</i>                      |                          |            |             |             |             |             |
| 1                                       | HI 1605 (C)              | <b>303</b> | 40.4        | 42.4        | 45.7        | <b>42.8</b> |
| 2                                       | NIAW3170(I) (C)          | <b>310</b> | 38.7        | 39.1        | 37.6        | <b>38.5</b> |
| 3                                       | MP 1358                  | <b>305</b> | 44.1        | 42.6        | 41.2        | <b>42.6</b> |
|   |                          |            | <b>41.1</b> | <b>41.4</b> | <b>41.5</b> | <b>41.3</b> |
| <i>T. durum</i>                         |                          |            |             |             |             |             |
| 1                                       | NIDW 1149(d)*            | <b>301</b> | 37.4        | 41.0        | 36.7        | <b>38.4</b> |
| 2                                       | UAS446(d) (C)            | <b>302</b> | 37.7        | 37.7        | 36.0        | <b>37.1</b> |
| 3                                       | AKDW 2997-16(d) (C)      | <b>306</b> | 39.3        | 41.3        | 40.4        | <b>40.3</b> |
| 4                                       | HI8805(d)(I) (C)         | <b>307</b> | 38.0        | 39.3        | 39.2        | <b>38.8</b> |
| 5                                       | MACS 4087(d)             | <b>304</b> | 39.8        | 40.2        | 42.4        | <b>40.8</b> |
| 6                                       | UAS 472(d)               | <b>308</b> | 40.3        | 36.1        | 37.9        | <b>38.1</b> |
| 7                                       | MPO 1357(d) <sup>Q</sup> | <b>309</b> | 42.6        | 37.2        | 40.5        | <b>40.1</b> |
|   |                          |            | <b>39.8</b> | <b>39.7</b> | <b>39.8</b> | <b>39.8</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. durum</i>                         |                          |            |              |              |             |              |
| 1                                       | DDW48(d) <sup>Q*</sup>   | <b>102</b> | 40.1         | 38.0         | 40.4        | <b>39.5</b>  |
| 2                                       | DDW49(d) <sup>Q*</sup>   | <b>107</b> | 40.7         | 39.8         | 44.2        | <b>41.6</b>  |
| 3                                       | UAS428(d) (C)            | <b>106</b> | 39.0         | 41.0         | 44.5        | <b>41.5</b>  |
| 4                                       | MACS3949(d) (C)          | <b>104</b> | 37.3         | 38.4         | 41.9        | <b>39.2</b>  |
| 5                                       | HI8818(d)                | <b>105</b> | 36.8         | 36.7         | 44.9        | <b>39.5</b>  |
| 6                                       | WHD964(d)                | <b>101</b> | 37.5         | 37.6         | 41.2        | <b>38.8</b>  |
|   |                          |            | <b>38.6</b>  | <b>38.6</b>  | <b>42.9</b> | <b>40.0</b>  |
| <i>T. aestivum</i>                      |                          |            |              |              |             |              |
| 1                                       | MACS6222 (C)             | <b>103</b> | 34.9         | 39.7         | 45.7        | <b>40.1</b>  |
| 2                                       | GW322 (C)                | <b>108</b> | 34.2         | 33.8         | 44.2        | <b>37.4</b>  |
|   |                          |            | <b>34.6</b>  | <b>36.8</b>  | <b>45.0</b> | <b>38.8</b>  |
| <b>Irrigated Late Sown</b>              |                          |            |              |              |             |              |
| <i>T. aestivum</i>                      |                          |            |              |              |             |              |
| 1                                       | HI1633*                  | <b>210</b> | 44.1         | 45.6         | 38.8        | <b>42.8</b>  |
| 2                                       | HD3090 (C)               | <b>203</b> | 39.1         | 44.9         | 38.6        | <b>40.9</b>  |
| 3                                       | HD2932 (C)               | <b>207</b> | 41.0         | 39.7         | 33.8        | <b>38.2</b>  |
| 4                                       | RAJ4083 (C)              | <b>204</b> | 40.1         | 43.4         | 34.5        | <b>39.3</b>  |
| 5                                       | GW519                    | <b>201</b> | 37.0         | 44.7         | 35.5        | <b>39.1</b>  |
| 6                                       | HI1641                   | <b>208</b> | 44.0         | 43.7         | 38.2        | <b>42.0</b>  |
| 7                                       | HI1642                   | <b>209</b> | 44.8         | 45.1         | 36.2        | <b>42.0</b>  |
| 8                                       | HI1646                   | <b>202</b> | 41.8         | 42.1         | 32.6        | <b>38.8</b>  |
| 9                                       | MACS6749                 | <b>206</b> | 40.7         | 38.5         | 33.1        | <b>37.4</b>  |
| 10                                      | MACS6752                 | <b>211</b> | 40.8         | 44.3         | 35.6        | <b>40.2</b>  |
| 11                                      | UAS3008                  | <b>205</b> | 38.8         | 39.0         | 35.6        | <b>37.8</b>  |
|   |                          |            | <b>41.1</b>  | <b>42.8</b>  | <b>35.7</b> | <b>39.9</b>  |
| <b>Restricted Irrigated Timely Sown</b> |                          |            |              |              |             |              |
| <i>T. aestivum</i>                      |                          |            |              |              |             |              |
| 1                                       | HI 1605 (C)              | <b>303</b> | 35.1         | 38.0         | 38.9        | <b>37.3</b>  |
| 2                                       | NIAW3170(I) (C)          | <b>310</b> | 35.1         | 38.4         | 30.4        | <b>34.6</b>  |
| 3                                       | MP 1358                  | <b>305</b> | 38.7         | 33.9         | 33.9        | <b>35.5</b>  |
|   |                          |            | 36.3         | 36.8         | 34.4        | 35.8         |
| <i>T. durum</i>                         |                          |            |              |              |             |              |
| 1                                       | NIDW 1149(d)*            | <b>301</b> | 36.6         | 45.9         | 30.3        | <b>37.6</b>  |
| 2                                       | UAS446(d) (C)            | <b>302</b> | 38.9         | 46.7         | 33.5        | <b>39.7</b>  |
| 3                                       | AKDW 2997-16(d) (C)      | <b>306</b> | 36.1         | 42.0         | 36.7        | <b>38.3</b>  |
| 4                                       | HI8805(d)(I) (C)         | <b>307</b> | 39.8         | 44.2         | 37.2        | <b>40.4</b>  |
| 5                                       | MACS 4087(d)             | <b>304</b> | 38.6         | 46.1         | 38.8        | <b>41.2</b>  |
| 6                                       | UAS 472(d)               | <b>308</b> | 38.6         | 45.1         | 34.3        | <b>39.3</b>  |
| 7                                       | MPO 1357(d) <sup>Q</sup> | <b>309</b> | 40.1         | 46.0         | 35.0        | <b>40.4</b>  |
|   |                          |            | <b>37.76</b> | <b>42.63</b> | <b>34.9</b> | <b>38.43</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>            |                          |            |           |           |           |           |
| <i>T. durum</i>                         |                          |            |           |           |           |           |
| 1                                       | DDW48(d) <sup>Q*</sup>   | <b>102</b> | 40        | 10        | 0         | <b>17</b> |
| 2                                       | DDW49(d) <sup>Q*</sup>   | <b>107</b> | 0         | 10        | 30        | <b>13</b> |
| 3                                       | UAS428(d) (C)            | <b>106</b> | 20        | 20        | 50        | <b>30</b> |
| 4                                       | MACS3949(d) (C)          | <b>104</b> | 10        | 20        | 20        | <b>17</b> |
| 5                                       | HI8818(d)                | <b>105</b> | 0         | 10        | 20        | <b>10</b> |
| 6                                       | WHD964(d)                | <b>101</b> | 70        | 50        | 80        | <b>67</b> |
|   |                          |            | <b>23</b> | <b>20</b> | <b>33</b> | <b>26</b> |
| <i>T. aestivum</i>                      |                          |            |           |           |           |           |
| 1                                       | MACS6222 (C)             | <b>103</b> |           |           |           |           |
| 2                                       | GW322 (C)                | <b>108</b> |           |           |           |           |
|   |                          |            |           |           |           |           |
| <b>Irrigated Late Sown</b>              |                          |            |           |           |           |           |
| <i>T. aestivum</i>                      |                          |            |           |           |           |           |
| 1                                       | HI1633*                  | <b>210</b> |           |           |           |           |
| 2                                       | HD3090 (C)               | <b>203</b> |           |           |           |           |
| 3                                       | HD2932 (C)               | <b>207</b> |           |           |           |           |
| 4                                       | RAJ4083 (C)              | <b>204</b> |           |           |           |           |
| 5                                       | GW519                    | <b>201</b> |           |           |           |           |
| 6                                       | HI1641                   | <b>208</b> |           |           |           |           |
| 7                                       | HI1642                   | <b>209</b> |           |           |           |           |
| 8                                       | HI1646                   | <b>202</b> |           |           |           |           |
| 9                                       | MACS6749                 | <b>206</b> |           |           |           |           |
| 10                                      | MACS6752                 | <b>211</b> |           |           |           |           |
| 11                                      | UAS3008                  | <b>205</b> |           |           |           |           |
|   |                          |            |           |           |           |           |
| <b>Restricted Irrigated Timely Sown</b> |                          |            |           |           |           |           |
| <i>T. aestivum</i>                      |                          |            |           |           |           |           |
| 1                                       | HI 1605 (C)              | <b>303</b> |           |           |           |           |
| 2                                       | NIAW3170(I) (C)          | <b>310</b> |           |           |           |           |
| 3                                       | MP 1358                  | <b>305</b> |           |           |           |           |
|   |                          |            |           |           |           |           |
| <i>T. durum</i>                         |                          |            |           |           |           |           |
| 1                                       | NIDW 1149(d)*            | <b>301</b> | 60        | 60        | 50        | <b>57</b> |
| 2                                       | UAS446(d) (C)            | <b>302</b> | 0         | 10        | 20        | <b>10</b> |
| 3                                       | AKDW 2997-16(d) (C)      | <b>306</b> | 70        | 60        | 10        | <b>47</b> |
| 4                                       | HI8805(d)(I) (C)         | <b>307</b> | 40        | 20        | 20        | <b>27</b> |
| 5                                       | MACS 4087(d)             | <b>304</b> | 20        | 30        | 20        | <b>23</b> |
| 6                                       | UAS 472(d)               | <b>308</b> | 50        | 70        | 60        | <b>60</b> |
| 7                                       | MPO 1357(d) <sup>Q</sup> | <b>309</b> | 0         | 40        | 0         | <b>13</b> |
|   |                          |            | <b>34</b> | <b>41</b> | <b>26</b> | <b>34</b> |

**HMW glutenin subunit profiles of AVTs**

NHZ

| Sr. No.                               | Entries     | Code        | GLu-D1 | Glu-A1 | Glu-B1 | Score |
|---------------------------------------|-------------|-------------|--------|--------|--------|-------|
| <b>Irrigated Timely Sown</b>          |             |             |        |        |        |       |
| 1                                     | HS 507 (C)  | <b>1901</b> | 5+10   | 1      | 7      | 8     |
| 2                                     | HS 562 (C)  | <b>1902</b> | 5+10   | 1      | 17+18  | 10    |
| 3                                     | HPW 349 (C) | <b>1903</b> | 5+10   | 1      | 7      | 8     |
| 4                                     | VL 907 (C)  | <b>1905</b> | 5+10   | 1      | 17+18  | 10    |
| 5                                     | HS 668      | <b>1904</b> | 5+10   | N      | 7+8    | 8     |
| 6                                     | VL 2036     | <b>1906</b> | 2+12   | 2*     | 20     | 6     |
| <b>Rainfed Timely Sown</b>            |             |             |        |        |        |       |
| 1                                     | HS 507 (C)  | <b>1901</b> | 5+10   | 1      | 7      | 8     |
| 2                                     | HS 562 (C)  | <b>1902</b> | 5+10   | 1      | 17+18  | 10    |
| 3                                     | HPW 349 (C) | <b>1903</b> | 5+10   | 1      | 7      | 8     |
| 4                                     | VL 907 (C)  | <b>1905</b> | 5+10   | 1      | 17+18  | 10    |
| 5                                     | HS 668      | <b>1904</b> | 5+10   | N      | 7+8    | 8     |
| 6                                     | VL 2036     | <b>1906</b> | 2+12   | 2*     | 20     | 6     |
| <b>Restricted Irrigated Late Sown</b> |             |             |        |        |        |       |
| 1                                     | VL 892 (C)  | <b>1908</b> | 2+12   | 2*     | 7      | 6     |
| 2                                     | HS 490 (C)  | <b>1910</b> | 2+12   | 2*     | 7      | 6     |
| 3                                     | HS 681      | <b>1901</b> | 2+12   | N      | 13+16  | 6     |
| 4                                     | VL 3022     | <b>1902</b> | 2+12   | N      | 7+8    | 6     |
| 5                                     | HS 680      | <b>1903</b> | 2+12   | N      | 7+8    | 6     |
| 6                                     | VL 3023     | <b>1904</b> | 5+10   | N      | 7+8    | 6     |
| 7                                     | HPW 474     | <b>1905</b> | 5+10   | 2*     | 13+16  | 10    |
| 8                                     | UP 3069     | <b>1906</b> | 5+10   | 2*     | 7+8    | 10    |
| 9                                     | HPW 473     | <b>1907</b> | 5+10   | 2*     | 13+16  | 10    |
| 10                                    | VL 3024     | <b>1909</b> | 5+10   | N      | 7+8    | 8     |
| 11                                    | HS 679      | <b>1911</b> | 5+10   | 2*     | 7+8    | 10    |

**NWPZ**

| S. No.                                  | Entries               | Code | GLu-D1 | Glu-A1 | Glu-B1 | Score |
|---|-----------------------|------|--------|--------|--------|-------|
| <b>Irrigated Timely sown</b>            |                       |      |        |        |        |       |
| 1                                       | DBW88 (C)             | 101  | 5+10   | 2*     | 17+18  | 10    |
| 2                                       | DBW187(I) (C)         | 102  | 5+10   | 2*     | 17+18  | 10    |
| 3                                       | HD2967 (C)            | 103  | 5+10   | 2*     | 17+18  | 10    |
| 4                                       | WH1105 (C)            | 104  | 5+10   | 2*     | 7      | 8     |
| 5                                       | DBW222(I) (C)         | 105  | 5+10   | 2*     | 17+18  | 10    |
| 6                                       | HD3086 (C)            | 106  | 5+10   | 1      | 17+18  | 10    |
| 7                                       | PBW550 (C)            | 109  | 5+10   | 2*     | 7+9    | 9     |
| 8                                       | PBW840 <sup>M</sup>   | 107  | 2+12   | 2*     | 7+9    | 7     |
| 9                                       | PBW803                | 108  | 5+10   | 2*     | -      | 7     |
| <b>Irrigated Late Sown</b>              |                       |      |        |        |        |       |
| 1                                       | HD3298*               | 215  | 5+10   | 2*     | 7+8    | 10    |
| 2                                       | HD3059 (C)            | 202  | 5+10   | 2*     | 17+18  | 10    |
| 3                                       | DBW173 (C)            | 204  | 5+10   | 2*     | 17+18  | 10    |
| 4                                       | WH1021 (C)            | 205  | 2+12   | 2*     | 7+8    | 8     |
| 5                                       | WH1124 (C)            | 216  | 5+10   | 1      | 17+18  | 10    |
| 6                                       | PBW771(I) (C)         | 212  | 5+10   | N      | 7+9    | 7     |
| 7                                       | HD3334                | 201  |        |        |        |       |
| 8                                       | HD3332                | 203  | 5+10   | N      | 7      | 6     |
| 9                                       | PBW811                | 206  | 5+10   | N      | 7      | 6     |
| 10                                      | DBW291                | 207  | 5+10   | N      | 7      | 6     |
| 11                                      | WH1264                | 208  | 2+12   | 2*     | 17+18  | 8     |
| 12                                      | PBW812                | 209  | 5+10   | 2*     | 17+18  | 10    |
| 13                                      | JKW261                | 210  | 5+10   | N      | 7      | 6     |
| 14                                      | DBW290                | 211  | 5+10   | N      | 17+18  | 8     |
| 15                                      | PBW813                | 213  | 5+10   | N      | 7      | 6     |
| 16                                      | HD3331 <sup>#WB</sup> | 214  | 5+10   | N      | 7      | 6     |
| 17                                      | UP3033                | 217  | 5+10   | 2*     | 7      | 8     |
| <b>Restricted Irrigated Timely Sown</b> |                       |      |        |        |        |       |
| 1                                       | HD3043 (C)            | 302  | 5+10   | 2*     | 7      | 8     |
| 2                                       | PBW644 (C)            | 303  | 2+12   | 1      | 7+8    | 8     |
| 3                                       | WH1080 (C)            | 306  | 5+10   | 1      | 7      | 8     |
| 4                                       | WH1142 (C)            | 308  | 5+10   | 1      | 7      | 8     |
| 5                                       | NIAW3170(I) (C)       | 309  | 2+12   | N      | 17+18  | 6     |
| 6                                       | HI1628(I) (C)         | 305  | 5+10   | 2*     | 7      | 8     |
| 7                                       | DBW296                | 304  | 5+10   | 2*     | 13+16  | 10    |
| 8                                       | JAUW672               | 307  | 5+10   | N      | 17+18  | 8     |
| 9                                       | HUW838 <sup>#WB</sup> | 301  | 5+10   | N      | 7      | 6     |

**NEPZ**

| Sr. No.     | Entries       | Code       | GLu-D1 | Glu-A1 | Glu-B1 | Score |
|-------------|---------------|------------|--------|--------|--------|-------|
| <b>ITS</b>  |               |            |        |        |        |       |
| 1           | DBW187 (C)    | <b>102</b> | 5+10   | 2*     | 17+18  | 10    |
| 2           | K1006 (C)     | <b>103</b> | 2+12   | 2*     | 17+18  | 8     |
| 3           | DBW39 (C)     | <b>104</b> | 5+10   | 2*     | 7+9    | 9     |
| 4           | HD2733 (C)    | <b>106</b> | 5+10   | 2*     | 7+9    | 9     |
| 5           | HD3249(I) (C) | <b>105</b> | 5+10   | N      | 17+18  | 8     |
| 6           | PBW804        | <b>101</b> | 2+12   | 2*     | 13+16  | 8     |
| <b>RITS</b> |               |            |        |        |        |       |
| 1           | HD3293*       | <b>303</b> | 5+10   | 2*     | 7      | 8     |
| 2           | HD3171 (C)    | <b>301</b> | 5+10   | 2*     | 7      | 8     |
| 3           | HD2888 (C)    | <b>302</b> | 2+12   | N      | 20     | 4     |
| 4           | K1317 (C)     | <b>304</b> | 2+12   | N      | 7      | 4     |
| 5           | HI1612 (C)    | <b>305</b> | 5+10   | 2*     | 7      | 8     |
| 6           | DBW252(I) (C) | <b>306</b> | 5+10   | N      | 7      | 6     |

**CZ**

| Sr. No.                      | Entries              | Code       | GLu-D1 | Glu-A1 | Glu-B1 | Score |
|------------------------------|----------------------|------------|--------|--------|--------|-------|
| <b>Irrigated Timely Sown</b> |                      |            |        |        |        |       |
| <i>T. aestivum</i>           |                      |            |        |        |        |       |
| 1                            | GW322 (C)            | <b>109</b> | 2+12   | 2*     | 7+8    | 8     |
| 2                            | HI1544 (C)           | <b>110</b> | 2+12   | N      | 7+8    | 6     |
| 3                            | TAW155               | <b>101</b> | 5+10   | N      | 7+9    | 7     |
| 4                            | HI1636               | <b>102</b> | 2+12   | N      | 7+8    | 6     |
| 5                            | MP1361               | <b>103</b> | 2+12   | N      | 17+18  | 6     |
| 6                            | MACS6747             | <b>104</b> | 5+10   | 2*     | 7+8    | 10    |
| 7                            | HD3377 <sup>B</sup>  | <b>105</b> | 5+10   | N      | 17+18  | 8     |
| 8                            | HI1637               | <b>106</b> | 5+10   | 2*     | 7+8    | 10    |
| 9                            | RAJ4541 <sup>B</sup> | <b>107</b> | 5+10   | 2*     | 7+8    | 10    |
| 10                           | GW513                | <b>108</b> | 5+10   | N      | 17+18  | 8     |
| <b>Irrigated Late Sown</b>   |                      |            |        |        |        |       |
| <i>T. aestivum</i>           |                      |            |        |        |        |       |
| 1                            | CG1029*              | <b>205</b> | 2+12   | 2*     | 7+8    | 8     |
| 2                            | HI1634 <sup>Q*</sup> | <b>201</b> | 5+10   | 2*     | 7      | 8     |
| 3                            | HD2932 (C)           | <b>202</b> | 2+12   | 2*     | 17+18  | 8     |
| 4                            | MP3336 (C)           | <b>203</b> | 2+12   | 2*     | 7+8    | 8     |
| 5                            | HD2864 (C)           | <b>204</b> | 2+12   | 1      | 7+8    | 8     |

**PZ**

| Sr. No.                                 | Entries         | Code       | GLu-D1 | Glu-A1 | Glu-B1 | Score |
|---|-----------------|------------|--------|--------|--------|-------|
| <b><i>T. aestivum</i></b>               |                 |            |        |        |        |       |
| 1                                       | MACS6222 (C)    | <b>103</b> | 2+12   | 2*     | 7+9    | 7     |
| 2                                       | GW322 (C)       | <b>108</b> | 2+12   | 2*     | 7+8    | 8     |
| <b>Irrigated Late Sown</b>              |                 |            |        |        |        |       |
| <b><i>T. aestivum</i></b>               |                 |            |        |        |        |       |
| 1                                       | HI1633*         | <b>210</b> | 5+10   | 2*     | 7      | 8     |
| 2                                       | HD3090 (C)      | <b>203</b> | 5+10   | 1      | 7      | 8     |
| 3                                       | HD2932 (C)      | <b>207</b> | 2+12   | 2*     | 17+18  | 8     |
| 4                                       | RAJ4083 (C)     | <b>204</b> | 5+10   | 1      | 7+8    | 10    |
| 5                                       | GW519           | <b>201</b> | 5+10   | 2*     | 7+8    | 10    |
| 6                                       | HI1641          | <b>208</b> | 5+10   | N      | 7+8    | 8     |
| 7                                       | HI1642          | <b>209</b> | 5+10   | N      | 7+8    | 8     |
| 8                                       | HI1646          | <b>202</b> | 5+10   | 2*     | 17+18  | 10    |
| 9                                       | MACS6749        | <b>206</b> | 5+10   | N      | 17+18  | 8     |
| 10                                      | MACS6752        | <b>211</b> | 5+10   | N      | 7+8    | 8     |
| 11                                      | UAS3008         | <b>205</b> | 5+10   | N      | 7+8    | 8     |
| <b>Restricted Irrigated Timely Sown</b> |                 |            |        |        |        |       |
| <b><i>T. aestivum</i></b>               |                 |            |        |        |        |       |
| 1                                       | HI 1605 (C)     | <b>303</b> | 5+10   | 2*     | 7      | 8     |
| 2                                       | NIAW3170(I) (C) | <b>310</b> | 2+12   | N      | 17+18  | 6     |
| 3                                       | MP 1358         | <b>305</b> | 5+10   | 2*     | 7+8    | 10    |

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

| Sr. No.                   | Entries    | Code               | GLu-D1 | Glu-A1 | Glu-B1 | Score |
|---------------------------|------------|--------------------|--------|--------|--------|-------|
| <b><i>T. aestivum</i></b> |            |                    |        |        |        |       |
| 1                         | HD3378     | <b>SPL-HYPT-9</b>  | 5+10   | N      | 7      | 6     |
| 2                         | DBW187*    | <b>SPL-HYPT-6</b>  | 5+10   | 2*     | 17+18  | 10    |
| 3                         | DBW303*    | <b>SPL-HYPT-4</b>  | 5+10   | 2*     | 7      | 8     |
| 4                         | DBW327     | <b>SPL-HYPT-1</b>  | 5+10   | N      | 7+9    | 7     |
| 5                         | DBW328     | <b>SPL-HYPT-13</b> | 5+10   | N      | 17+18  | 8     |
| 6                         | DBW329     | <b>SPL-HYPT-7</b>  | 5+10   | N      | 7+9    | 7     |
| 7                         | DBW330     | <b>SPL-HYPT-12</b> | 5+10   | N      | 17+18  | 8     |
| 8                         | DBW331     | <b>SPL-HYPT-14</b> | 5+10   | 2*     | 17+18  | 10    |
| 9                         | DBW332     | <b>SPL-HYPT-3</b>  | 5+10   | N      | 7+9    | 7     |
| 10                        | DBW333     | <b>SPL-HYPT-11</b> | 5+10   | N      | 7      | 6     |
| 11                        | WH1270*    | <b>SPL-HYPT-10</b> | 5+10   | 2*     | 7      | 8     |
| 12                        | WH1252     | <b>SPL-HYPT-8</b>  | 5+10   | N      | 7      | 6     |
| 13                        | HD3086 (C) | <b>SPL-HYPT-2</b>  | 5+10   | 1      | 17+18  | 10    |
| 14                        | HD2967 (C) | <b>SPL-HYPT-5</b>  | 5+10   | 2*     | 17+18  | 10    |

# **SECTION B**

## **SPECIAL TRIALS, IVT and QCWBN**

- i. HYPT and CI-HYT**
- ii. Dicocum**
- iii. IVT (NHZ)**
- iv. QCWBN**

## **SPECIAL TRIALS**

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

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

### **Dicoccum Trial (Tables 9-12)**

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

## HYPT Trial

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

| Sr. No. | Entry      | Trial Code | Ludhiana | Hisar | Karnal | Pantnagar | Delhi | Mean       |
|---------|------------|------------|----------|-------|--------|-----------|-------|------------|
| 1       | DBW303*    | 4          | 6.2      | 6.0   | 6.6    | 6.0       | 5.4   | <b>6.0</b> |
| 2       | DBW187*    | 6          | 6.0      | 6.0   | 6.2    | 6.2       | 5.6   | <b>6.0</b> |
| 3       | WH1270*    | 10         | 5.8      | 5.8   | 6.4    | 6.4       | 6.0   | <b>6.1</b> |
| 4       | HD2967 (C) | 5          | 6.0      | 5.8   | 5.6    | 6.0       | 5.8   | <b>5.8</b> |
| 5       | HD3086 (C) | 2          | 6.4      | 6.6   | 6.6    | 6.8       | 5.8   | <b>6.4</b> |
| 6       | DBW327     | 1          | 6.6      | 6.4   | 6.8    | 7.2       | 6     | <b>6.6</b> |
| 7       | DBW332     | 3          | 5.8      | 6.0   | 6.6    | 6.6       | 5.4   | <b>6.1</b> |
| 8       | DBW329     | 7          | 6.0      | 5.6   | 6.4    | 6.0       | 5.4   | <b>5.9</b> |
| 9       | WH1252     | 8          | 6.2      | 5.2   | 6.6    | 6.2       | 6.0   | <b>6.0</b> |
| 10      | HD3378     | 9          | 6.0      | 5.6   | 6.2    | 6.2       | 5.8   | <b>6.0</b> |
| 11      | DBW333     | 11         | 6.0      | 6.6   | 5.8    | 6.2       | 6.2   | <b>6.2</b> |
| 12      | DBW330     | 12         | 6.2      | 6.4   | 6.4    | 6.4       | 6.2   | <b>6.3</b> |
| 13      | DBW328     | 13         | 6.2      | 6.4   | 6.6    | 5.8       | 5.8   | <b>6.2</b> |
| 14      | DBW331     | 14         | 6.0      | 5.8   | 6.6    | 6.0       | 5.2   | <b>5.9</b> |
|         |            |            |          |       |        |           |       |            |

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

| Sr. No. | Entry      | Trial Code | Ludhiana    | Hisar       | Karnal      | Pantnagar   | Delhi       | Mean        |
|---------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1       | DBW303*    | 4          | 81.5        | 79.3        | 78.0        | 79.9        | 78.5        | <b>79.4</b> |
| 2       | DBW187*    | 6          | 80.3        | 76.8        | 77.0        | 80.3        | 78.9        | <b>78.7</b> |
| 3       | WH1270*    | 10         | 82.1        | 78.0        | 80.2        | 81.3        | 81.1        | <b>80.5</b> |
| 4       | HD2967 (C) | 5          | 80.1        | 76.7        | 73.0        | 79.1        | 79.6        | <b>77.7</b> |
| 5       | HD3086 (C) | 2          | 81.7        | 81.0        | 79.4        | 79.5        | 78.8        | <b>80.1</b> |
| 6       | DBW327     | 1          | 82.5        | 77.0        | 81.2        | 80.6        | 81.7        | <b>80.6</b> |
| 7       | DBW332     | 3          | 80.7        | 76.6        | 76.5        | 81.7        | 80.6        | <b>79.2</b> |
| 8       | DBW329     | 7          | 78.9        | 77.5        | 77.0        | 80.1        | 79.7        | <b>78.6</b> |
| 9       | WH1252     | 8          | 82.1        | 71.5        | 80.0        | 80.6        | 81.0        | <b>79.0</b> |
| 10      | HD3378     | 9          | 81.3        | 79.5        | 77.0        | 78.7        | 79.9        | <b>79.3</b> |
| 11      | DBW333     | 11         | 80.1        | 80.3        | 79.0        | 78.4        | 80.6        | <b>79.7</b> |
| 12      | DBW330     | 12         | 78.9        | 77.0        | 75.0        | 77.4        | 78.4        | <b>77.3</b> |
| 13      | DBW328     | 13         | 81.7        | 78.2        | 79.6        | 78.9        | 80.3        | <b>79.7</b> |
| 14      | DBW331     | 14         | 79.9        | 76.0        | 76.2        | 79.7        | 76.9        | <b>77.7</b> |
|         |            |            | <b>80.8</b> | <b>77.5</b> | <b>77.8</b> | <b>79.7</b> | <b>79.7</b> | <b>79.1</b> |

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

| Sr. No. | Entry      | Trial Code | Ludhiana    | Hisar       | Karnal      | Pantnagar   | Delhi       | Mean        |
|---------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1       | DBW303*    | 4          | 11.6        | 13.3        | 13.1        | 12.0        | 13.4        | <b>12.7</b> |
| 2       | DBW187*    | 6          | 9.3         | 13.6        | 13.2        | 10.9        | 13.7        | <b>12.2</b> |
| 3       | WH1270*    | 10         | 11.6        | 13.0        | 12.4        | 12.1        | 12.6        | <b>12.4</b> |
| 4       | HD2967 (C) | 5          | 9.4         | 13.2        | 12.5        | 10.4        | 12.7        | <b>11.6</b> |
| 5       | HD3086 (C) | 2          | 9.8         | 13.0        | 12.4        | 10.8        | 13.9        | <b>12.0</b> |
| 6       | DBW327     | 1          | 9.4         | 13.1        | 12.0        | 10.4        | 11.5        | <b>11.3</b> |
| 7       | DBW332     | 3          | 10.5        | 12.9        | 12.9        | 10.2        | 11.9        | <b>11.7</b> |
| 8       | DBW329     | 7          | 11.3        | 12.9        | 12.7        | 10.7        | 12.9        | <b>12.1</b> |
| 9       | WH1252     | 8          | 11.7        | 14.2        | 12.7        | 12.2        | 13.4        | <b>12.9</b> |
| 10      | HD3378     | 9          | 9.7         | 12.6        | 13.0        | 10.3        | 13.6        | <b>11.8</b> |
| 11      | DBW333     | 11         | 9.9         | 13.4        | 12.5        | 12.2        | 14.1        | <b>12.4</b> |
| 12      | DBW330     | 12         | 10.6        | 13.1        | 12.3        | 12.0        | 12.2        | <b>12.1</b> |
| 13      | DBW328     | 13         | 12.0        | 13.3        | 13.5        | 11.4        | 14.1        | <b>12.8</b> |
| 14      | DBW331     | 14         | 10.3        | 13.1        | 12.6        | 11.1        | 12.6        | <b>11.9</b> |
|         |            |            | <b>10.5</b> | <b>13.2</b> | <b>12.7</b> | <b>11.2</b> | <b>13.0</b> | <b>12.1</b> |

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

| Sr. No. | Entry      | Trial Code | Ludhiana    | Hisar       | Karnal      | Pantnagar   | Delhi       | Mean        |
|---------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1       | DBW303*    | 4          | 64.4        | 66.7        | 69.1        | 58.7        | 65.3        | <b>64.8</b> |
| 2       | DBW187*    | 6          | 59.7        | 73.8        | 73.8        | 64.4        | 71.9        | <b>68.7</b> |
| 3       | WH1270*    | 10         | 62.5        | 60.6        | 58.3        | 67.2        | 62.0        | <b>62.1</b> |
| 4       | HD2967 (C) | 5          | 58.7        | 70.0        | 68.1        | 59.7        | 62.5        | <b>63.8</b> |
| 5       | HD3086 (C) | 2          | 52.6        | 58.7        | 64.4        | 63.4        | 71.9        | <b>62.2</b> |
| 6       | DBW327     | 1          | 54.5        | 62.0        | 60.6        | 57.3        | 60.1        | <b>58.9</b> |
| 7       | DBW332     | 3          | 65.3        | 69.1        | 71.4        | 64.4        | 72.8        | <b>68.6</b> |
| 8       | DBW329     | 7          | 65.3        | 66.7        | 72.8        | 60.6        | 73.8        | <b>67.9</b> |
| 9       | WH1252     | 8          | 58.7        | 60.6        | 62.0        | 57.3        | 60.6        | <b>59.9</b> |
| 10      | HD3378     | 9          | 59.7        | 63.4        | 64.4        | 55.9        | 71.4        | <b>63.0</b> |
| 11      | DBW333     | 11         | 55.9        | 65.3        | 71.4        | 61.6        | 71.4        | <b>65.1</b> |
| 12      | DBW330     | 12         | 57.8        | 70.0        | 64.4        | 57.8        | 66.7        | <b>63.3</b> |
| 13      | DBW328     | 13         | 70.0        | 65.3        | 72.4        | 52.6        | 69.1        | <b>65.9</b> |
| 14      | DBW331     | 14         | 56.8        | 57.3        | 62.0        | 57.3        | 72.8        | <b>61.3</b> |
|         |            |            | <b>60.1</b> | <b>65.0</b> | <b>66.8</b> | <b>59.9</b> | <b>68.0</b> | <b>64.0</b> |

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

| Sr. No. | Entry      | Trial Code | Ludhiana | Hisar | Karnal | Pantnagar | Delhi | Mean |
|---------|------------|------------|----------|-------|--------|-----------|-------|------|
| 1       | DBW303*    | 4          |          |       |        |           | 74    | 74   |
| 2       | DBW187*    | 6          |          |       |        |           | 79    | 79   |
| 3       | WH1270*    | 10         |          |       |        |           | 79    | 79   |
| 4       | HD2967 (C) | 5          |          |       |        |           | 82    | 82   |
| 5       | HD3086 (C) | 2          |          |       |        |           | 80    | 80   |
| 6       | DBW327     | 1          |          |       |        |           | 82    | 82   |
| 7       | DBW332     | 3          |          |       |        |           | 74    | 74   |
| 8       | DBW329     | 7          |          |       |        |           | 71    | 71   |
| 9       | WH1252     | 8          |          |       |        |           | 66    | 66   |
| 10      | HD3378     | 9          |          |       |        |           | 80    | 80   |
| 11      | DBW333     | 11         |          |       |        |           | 66    | 66   |
| 12      | DBW330     | 12         |          |       |        |           | 63    | 63   |
| 13      | DBW328     | 13         |          |       |        |           | 76    | 76   |
| 14      | DBW331     | 14         |          |       |        |           | 67    | 67   |
|         |            |            |          |       |        |           | 74    | 74   |

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

| Sr. No. | Entry      | Trial Code | Ludhiana   | Hisar      | Karnal     | Pantnagar  | Delhi      | Mean       |
|---------|------------|------------|------------|------------|------------|------------|------------|------------|
| 1       | DBW303*    | 4          | 6.5        | 5.0        | 6.5        | 6.0        | 7.5        | <b>6.3</b> |
| 2       | DBW187*    | 6          | 6.0        | 7.0        | 7.5        | 7.5        | 8.0        | <b>7.2</b> |
| 3       | WH1270*    | 10         | 7.5        | 5.5        | 7.5        | 7.5        | 6.5        | <b>6.9</b> |
| 4       | HD2967 (C) | 5          | 6.0        | 6.0        | 6.5        | 5.5        | 7.0        | <b>6.2</b> |
| 5       | HD3086 (C) | 2          | 7.0        | 4.5        | 7.0        | 7.0        | 8.0        | <b>6.7</b> |
| 6       | DBW327     | 1          | 6.5        | 5.0        | 7.5        | 7.5        | 8.0        | <b>6.9</b> |
| 7       | DBW332     | 3          | 7.0        | 4.5        | 7.0        | 6.0        | 7.0        | <b>6.3</b> |
| 8       | DBW329     | 7          | 7.5        | 7.5        | 7.5        | 7.0        | 7.0        | <b>7.3</b> |
| 9       | WH1252     | 8          | 6.5        | 5.0        | 6.0        | 6.0        | 6.5        | <b>6.0</b> |
| 10      | HD3378     | 9          | 7.5        | 5.5        | 6.5        | 6.5        | 6.0        | <b>6.4</b> |
| 11      | DBW333     | 11         | 6.5        | 5.5        | 6.5        | 5.5        | 6.0        | <b>6.0</b> |
| 12      | DBW330     | 12         | 6.0        | 6.0        | 7.0        | 6.0        | 6.5        | <b>6.3</b> |
| 13      | DBW328     | 13         | 7.5        | 7.0        | 7.0        | 6.0        | 7.0        | <b>6.9</b> |
| 14      | DBW331     | 14         | 8.0        | 8.0        | 8.0        | 6.0        | 7.2        | <b>7.4</b> |
|         |            |            | <b>6.9</b> | <b>5.9</b> | <b>7.0</b> | <b>6.4</b> | <b>7.0</b> | <b>6.6</b> |

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

| Sr. No. | Entry      | Trial Code | Ludhiana    | Hisar       | Karnal      | Pantnagar   | Delhi       | Mean        |
|---------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1       | DBW303*    | 4          | 35.5        | 35.0        | 37.6        | 43.0        | 37.2        | <b>37.7</b> |
| 2       | DBW187*    | 6          | 37.9        | 44.7        | 39.9        | 42.2        | 42.7        | <b>41.5</b> |
| 3       | WH1270*    | 10         | 38.1        | 32.1        | 36.2        | 45.6        | 37.5        | <b>37.9</b> |
| 4       | HD2967 (C) | 5          | 31.5        | 36.2        | 41.3        | 43.1        | 36.6        | <b>37.7</b> |
| 5       | HD3086 (C) | 2          | 33.5        | 40.2        | 45.1        | 46.4        | 46.2        | <b>42.3</b> |
| 6       | DBW327     | 1          | 39.1        | 38.5        | 36.7        | 43.0        | 37.0        | <b>38.9</b> |
| 7       | DBW332     | 3          | 31.9        | 35.0        | 38.1        | 41.7        | 41.6        | <b>37.7</b> |
| 8       | DBW329     | 7          | 38.8        | 37.1        | 44.2        | 37.9        | 43.9        | <b>40.4</b> |
| 9       | WH1252     | 8          | 41.9        | 37.1        | 41.2        | 46.3        | 45.9        | <b>42.5</b> |
| 10      | HD3378     | 9          | 34.9        | 36.9        | 36.2        | 40.0        | 43.8        | <b>38.4</b> |
| 11      | DBW333     | 11         | 37.5        | 38.1        | 41.4        | 44.2        | 48.5        | <b>41.9</b> |
| 12      | DBW330     | 12         | 33.2        | 39.0        | 38.2        | 49.8        | 41.0        | <b>40.2</b> |
| 13      | DBW328     | 13         | 38.3        | 39.6        | 43.5        | 49.8        | 40.6        | <b>42.4</b> |
| 14      | DBW331     | 14         | 43.4        | 34.8        | 38.5        | 38.1        | 41.6        | <b>39.3</b> |
|         |            |            | <b>36.8</b> | <b>37.5</b> | <b>39.9</b> | <b>43.7</b> | <b>41.7</b> | <b>39.9</b> |

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

| Sr. No. | Entry      | Trial Code | Ludhiana    | Hisar       | Karnal      | Pantnagar   | Delhi       | Mean        |
|---------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1       | DBW303*    | 4          | 29.7        | 44.6        | 29.4        | 29.3        | 54.9        | <b>37.6</b> |
| 2       | DBW187*    | 6          | 32.7        | 42.6        | 26.4        | 28.6        | 55.2        | <b>37.1</b> |
| 3       | WH1270*    | 10         | 31.7        | 44.1        | 28.8        | 29.8        | 54.4        | <b>37.8</b> |
| 4       | HD2967 (C) | 5          | 26.3        | 47.9        | 32.5        | 25.4        | 51.5        | <b>36.7</b> |
| 5       | HD3086 (C) | 2          | 28.7        | 49.4        | 29.5        | 29.4        | 54.2        | <b>38.2</b> |
| 6       | DBW327     | 1          | 39.2        | 47.5        | 28.7        | 29.6        | 52.3        | <b>39.5</b> |
| 7       | DBW332     | 3          | 25.6        | 37.0        | 28.4        | 25.8        | 55.4        | <b>34.4</b> |
| 8       | DBW329     | 7          | 28.6        | 44.5        | 33.8        | 29.1        | 57.3        | <b>38.7</b> |
| 9       | WH1252     | 8          | 27.3        | 52.8        | 28.8        | 28.6        | 58.7        | <b>39.2</b> |
| 10      | HD3378     | 9          | 24.7        | 42.1        | 29.7        | 24.9        | 40.5        | <b>32.4</b> |
| 11      | DBW333     | 11         | 33.3        | 52.3        | 30.8        | 29.3        | 59.3        | <b>41.0</b> |
| 12      | DBW330     | 12         | 32.4        | 40.9        | 30.7        | 27.8        | 46.2        | <b>35.6</b> |
| 13      | DBW328     | 13         | 32.1        | 44.0        | 29.6        | 28.6        | 56.4        | <b>38.1</b> |
| 14      | DBW331     | 14         | 34.1        | 46.1        | 29.5        | 25.4        | 59.5        | <b>38.9</b> |
|         |            |            | <b>30.5</b> | <b>45.4</b> | <b>29.8</b> | <b>28.0</b> | <b>54.0</b> | <b>37.5</b> |

**Dicoccum Trial**

**Table 9: Thousand grain weight (g) of Dicoccum genotypes**

| Sl No. | Variety            | PZ           |              |              | SHZ          | Overall Mean |
|--------|--------------------|--------------|--------------|--------------|--------------|--------------|
|        |                    | Dharwad      | Pune         | Mean         | Wellington   |              |
| 1      | MACS5055           | 39.56        | 38.75        | <b>39.16</b> | 38.75        | 39.05        |
| 2      | MACS6222 (a) (C) D | 39.26        | 38.00        | <b>38.63</b> | 38.00        | 38.47        |
| 3      | DDK1029 (C)        | 38.23        | 38.54        | <b>38.38</b> | 38.54        | 38.42        |
| 4      | MACS5054           | 40.71        | 41.33        | <b>41.02</b> | 41.33        | 41.10        |
| 5      | DDK1058            | 34.24        | 34.06        | <b>34.15</b> | 34.06        | 34.13        |
| 6      | HW1098 (C)         | 40.56        | 42.03        | <b>41.29</b> | 42.03        | 41.48        |
| 7      | DDK1059            | 41.91        | 42.46        | <b>42.19</b> | 42.46        | 42.26        |
|        | <b>Mean</b>        | <b>39.21</b> | <b>39.31</b> | <b>39.26</b> | <b>39.31</b> | <b>39.27</b> |
|        | <b>Max</b>         | <b>41.91</b> | <b>42.46</b> | <b>42.19</b> | <b>42.46</b> | <b>42.26</b> |
|        | <b>Min</b>         | <b>34.24</b> | <b>34.06</b> | <b>34.15</b> | <b>34.06</b> | <b>34.13</b> |

**Table 10 : Protein content (%) at 12% moisture basis of Dicoccum genotypes**

| Sl No. | Variety            | PZ           |              |              | SHZ          | Overall Mean |
|--------|--------------------|--------------|--------------|--------------|--------------|--------------|
|        |                    | Dharwad      | Pune         | Mean         | Wellington   |              |
| 1      | MACS5055           | 14.87        | 14.08        | <b>14.48</b> | 15.40        | 14.71        |
| 2      | MACS6222 (a) (C) D | 14.17        | 12.41        | <b>13.29</b> | 13.55        | 13.35        |
| 3      | DDK1029 (C)        | 12.94        | 12.06        | <b>12.50</b> | 13.73        | 12.80        |
| 4      | MACS5054           | 13.20        | 12.76        | <b>12.98</b> | 13.90        | 13.21        |
| 5      | DDK1058            | 15.22        | 12.76        | <b>13.99</b> | 14.17        | 14.04        |
| 6      | HW1098 (C)         | 14.61        | 13.38        | <b>13.99</b> | 14.87        | 14.21        |
| 7      | DDK1059            | 14.34        | 12.58        | <b>13.46</b> | 13.20        | 13.40        |
|        | <b>Mean</b>        | <b>14.19</b> | <b>12.86</b> | <b>13.53</b> | <b>14.12</b> | <b>13.67</b> |
|        | <b>Max</b>         | <b>15.22</b> | <b>14.08</b> | <b>14.48</b> | <b>15.40</b> | <b>14.71</b> |
|        | <b>Min</b>         | <b>12.94</b> | <b>12.06</b> | <b>12.50</b> | <b>13.20</b> | <b>12.80</b> |

**Table 11 : Sedimentation Value (ml) of Dicoccum genotypes**

| Sl No. | Variety            | PZ        |           |           | SHZ        | Overall Mean |
|--------|--------------------|-----------|-----------|-----------|------------|--------------|
|        |                    | Dharwad   | Pune      | Mean      | Wellington |              |
| 1      | MACS5055           | 32        | 25        | <b>28</b> | 29         | 29           |
| 2      | MACS6222 (a) (C) D | 41        | 38        | <b>39</b> | 39         | 39           |
| 3      | DDK1029 (C)        | 27        | 23        | <b>25</b> | 23         | 24           |
| 4      | MACS5054           | 26        | 23        | <b>24</b> | 24         | 24           |
| 5      | DDK1058            | 24        | 20        | <b>22</b> | 23         | 22           |
| 6      | HW1098 (C)         | 31        | 25        | <b>28</b> | 29         | 28           |
| 7      | DDK1059            | 30        | 24        | <b>27</b> | 21         | 26           |
|        | <b>Mean</b>        | <b>30</b> | <b>25</b> | <b>28</b> | <b>27</b>  | <b>27</b>    |
|        | <b>Max</b>         | <b>41</b> | <b>38</b> | <b>39</b> | <b>39</b>  | <b>39</b>    |
|        | <b>Min</b>         | <b>24</b> | <b>20</b> | <b>22</b> | <b>21</b>  | <b>22</b>    |

**Table 12: Yellow Pigment content (ppm) of Dicoccum genotypes**

| Sl No. | Variety            | PZ          |             |             | SHZ         | Overall Mean |
|--------|--------------------|-------------|-------------|-------------|-------------|--------------|
|        |                    | Dharwad     | Pune        | Mean        | Wellington  |              |
| 1      | MACS5055           | 2.67        | 2.24        | <b>2.46</b> | 3.17        | 2.64         |
| 2      | MACS6222 (a) (C) D | 3.61        | 2.54        | <b>3.07</b> | 4.81        | 3.51         |
| 3      | DDK1029 (C)        | 5.04        | 3.35        | <b>4.19</b> | 5.48        | 4.51         |
| 4      | MACS5054           | 3.98        | 2.59        | <b>3.28</b> | 4.35        | 3.55         |
| 5      | DDK1058            | 3.55        | 2.73        | <b>3.14</b> | 3.50        | 3.23         |
| 6      | HW1098 (C)         | 4.09        | 2.55        | <b>3.32</b> | 3.59        | 3.39         |
| 7      | DDK1059            | 4.48        | 3.07        | <b>3.77</b> | 4.35        | 3.92         |
|        | <b>Mean</b>        | <b>3.91</b> | <b>2.72</b> | <b>3.32</b> | <b>4.18</b> | <b>3.53</b>  |
|        | <b>Max</b>         | <b>5.04</b> | <b>3.35</b> | <b>4.19</b> | <b>5.48</b> | <b>4.51</b>  |
|        | <b>Min</b>         | <b>2.67</b> | <b>2.24</b> | <b>2.46</b> | <b>3.17</b> | <b>2.64</b>  |

**CI-HYT Trial**

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

|    |            | <b>CI-HYT</b> | <b>Ludhiana</b> | <b>Hisar</b> | <b>Karnal</b> | <b>P.Nagar</b> | <b>Delhi</b> |            |
|----|------------|---------------|-----------------|--------------|---------------|----------------|--------------|------------|
| 1  | DBW187 (C) | <b>11</b>     | 6.2             | 5.0          | 6.6           | 6.0            | 5.8          | <b>5.9</b> |
| 2  | HD3086 (C) | <b>17</b>     | 6.4             | 6.0          | 6.6           | 6.4            | 5.6          | <b>6.2</b> |
| 3  | HD2967 (C) | <b>19</b>     | 5.6             | 5.8          | 6.2           | 6.4            | 5.8          | <b>6.0</b> |
| 4  | DBW340     | <b>1</b>      | 6.2             | 5.6          | 6.8           | 6.0            | 5.4          | <b>6.0</b> |
| 5  | HD3374     | <b>2</b>      | 5.0             | 5.2          | 6.2           | 5.8            | 5.6          | <b>5.6</b> |
| 6  | DBW341     | <b>3</b>      | 6.2             | 5.2          | 7.0           | 6.0            | 5.2          | <b>5.9</b> |
| 7  | DBW338     | <b>4</b>      | 6.8             | 5.2          | 6.6           | 6.2            | 5.0          | <b>6.0</b> |
| 8  | PBW846     | <b>5</b>      | 6.0             | 6.4          | 6.8           | 5.8            | 5.6          | <b>6.1</b> |
| 9  | WH1285     | <b>6</b>      | 5.0             | 5.2          | 6.0           | 5.4            | 5.2          | <b>5.4</b> |
| 10 | HD3375     | <b>7</b>      | 5.8             | 5.2          | 6.6           | 6.6            | 5.0          | <b>5.8</b> |
| 11 | HD3373     | <b>8</b>      | 5.8             | 4.8          | 6.6           | 6.4            | 5.2          | <b>5.8</b> |
| 12 | DBW337     | <b>9</b>      | 6.0             | 5.2          | 6.4           | 5.8            | 5.2          | <b>5.7</b> |
| 13 | PBW847     | <b>10</b>     | 5.4             | 6.2          | 6.6           | 6.2            | 5.6          | <b>6.0</b> |
| 14 | UP3066     | <b>12</b>     | 6.0             | 5.8          | 6.0           | 6.6            | 5.6          | <b>6.0</b> |
| 15 | UP3068     | <b>13</b>     | 5.8             | 5.0          | 5.8           | 6.2            | 4.8          | <b>5.5</b> |
| 16 | PBW844     | <b>14</b>     | 6.2             | 4.8          | 6.4           | 6.2            | 5.6          | <b>5.8</b> |
| 17 | DBW339     | <b>15</b>     | 6.2             | 5.0          | 6.2           | 6.2            | 5.6          | <b>5.8</b> |
| 18 | DBW299     | <b>16</b>     | 6.4             | 6.4          | 6.4           | 6.6            | 5.0          | <b>6.2</b> |
| 19 | DBW336     | <b>18</b>     | 6.0             | 5.2          | 6.4           | 6.4            | 5.6          | <b>5.9</b> |
| 20 | WH1287     | <b>20</b>     | 6.0             | 6.4          | 6.8           | 6.6            | 5.6          | <b>6.3</b> |
| 21 | WH1286     | <b>21</b>     | 6.0             | 6.4          | 6.8           | 6.2            | 6.0          | <b>6.3</b> |
| 22 | PBW843     | <b>22</b>     | 6.0             | 5.6          | 6.6           | 5.8            | 5.8          | <b>6.0</b> |
| 23 | HD3379     | <b>23</b>     | 5.4             | 4.8          | 5.0           | 6.0            | 5.4          | <b>5.3</b> |
| 24 | DBW281     | <b>24</b>     | 6.4             | 5.4          | 6.6           | 6.6            | 5.8          | <b>6.2</b> |
| 25 | UP3067     | <b>25</b>     | 5.2             | 5.6          | 6.4           | 6.2            | 5.6          | <b>5.8</b> |
|    |            |               | <b>5.9</b>      | <b>5.5</b>   | <b>6.4</b>    | <b>6.2</b>     | <b>5.5</b>   | <b>5.9</b> |

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

|    |            | CI-HYT | Ludhiana | Hisar | Karnal | P.Nagar | Delhi |      |
|----|------------|--------|----------|-------|--------|---------|-------|------|
| 1  | DBW187 (C) | 11     | 80.1     | 75.0  | 78.0   | 78.6    | 79.4  | 78.2 |
| 2  | HD3086 (C) | 17     | 80.0     | 76.6  | 79.5   | 78.6    | 77.7  | 78.5 |
| 3  | HD2967 (C) | 19     | 76.3     | 74.0  | 75.6   | 79.7    | 78.9  | 76.9 |
| 4  | DBW340     | 1      | 80.7     | 74.4  | 78.0   | 79.5    | 78.1  | 78.1 |
| 5  | HD3374     | 2      | 73.2     | 75.0  | 73.0   | 77.1    | 77.6  | 75.2 |
| 6  | DBW341     | 3      | 76.1     | 74.2  | 77.0   | 77.3    | 74.5  | 75.8 |
| 7  | DBW338     | 4      | 74.9     | 73.5  | 77.0   | 79.0    | 73.3  | 75.5 |
| 8  | PBW846     | 5      | 77.1     | 78.0  | 78.3   | 77.8    | 78.5  | 77.9 |
| 9  | WH1285     | 6      | 73.2     | 74.0  | 71.4   | 75.1    | 74.3  | 73.6 |
| 10 | HD3375     | 7      | 78.7     | 76.0  | 77.0   | 79.9    | 75.1  | 77.3 |
| 11 | HD3373     | 8      | 75.3     | 73.3  | 79.5   | 78.9    | 75.5  | 76.5 |
| 12 | DBW337     | 9      | 79.8     | 75.3  | 75.4   | 78.2    | 76.8  | 77.1 |
| 13 | PBW847     | 10     | 77.2     | 75.6  | 80.0   | 79.1    | 79.5  | 78.3 |
| 14 | UP3066     | 12     | 75.1     | 77.0  | 77.4   | 79.9    | 75.7  | 77.0 |
| 15 | UP3068     | 13     | 78.3     | 74.0  | 77.0   | 77.9    | 74.7  | 76.4 |
| 16 | PBW844     | 14     | 79.3     | 74.5  | 80.3   | 80.2    | 78.7  | 78.6 |
| 17 | DBW339     | 15     | 78.2     | 72.0  | 75.7   | 79.2    | 76.5  | 76.3 |
| 18 | DBW299     | 16     | 80.6     | 78.0  | 78.6   | 80.2    | 73.3  | 78.1 |
| 19 | DBW336     | 18     | 77.6     | 76.7  | 77.0   | 78.6    | 77.4  | 77.5 |
| 20 | WH1287     | 20     | 79.1     | 76.8  | 78.0   | 78.4    | 77.0  | 77.9 |
| 21 | WH1286     | 21     | 76.9     | 75.0  | 79.6   | 79.9    | 79.0  | 78.1 |
| 22 | PBW843     | 22     | 78.7     | 75.3  | 77.6   | 78.6    | 78.5  | 77.7 |
| 23 | HD3379     | 23     | 75.2     | 74.0  | 72.5   | 76.8    | 75.5  | 74.8 |
| 24 | DBW281     | 24     | 81.0     | 77.7  | 80.0   | 78.9    | 80.8  | 79.7 |
| 25 | UP3067     | 25     | 71.2     | 71.7  | 73.5   | 73.7    | 75.8  | 73.2 |
|    |            |        | 77.4     | 75.1  | 77.1   | 78.4    | 76.9  | 77.0 |

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

|           |            | <b>CI-HYT</b> | <b>Ludhiana</b> | <b>Hisar</b> | <b>Karnal</b> | <b>P.Nagar</b> | <b>Delhi</b> |             |
|-----------|------------|---------------|-----------------|--------------|---------------|----------------|--------------|-------------|
| <b>1</b>  | DBW187 (C) | <b>11</b>     | 12.0            | 14.2         | 12.6          | 11.5           | 13.4         | <b>12.8</b> |
| <b>2</b>  | HD3086 (C) | <b>17</b>     | 11.7            | 13.4         | 12.5          | 12.1           | 13.8         | <b>12.7</b> |
| <b>3</b>  | HD2967 (C) | <b>19</b>     | 11.4            | 14.3         | 12.5          | 9.6            | 14.4         | <b>12.5</b> |
| <b>4</b>  | DBW340     | <b>1</b>      | 9.6             | 14.3         | 13.3          | 10.4           | 14.9         | <b>12.5</b> |
| <b>5</b>  | HD3374     | <b>2</b>      | 11.6            | 12.4         | 12.6          | 11.2           | 13.0         | <b>12.2</b> |
| <b>6</b>  | DBW341     | <b>3</b>      | 11.4            | 13.3         | 12.6          | 11.2           | 14.3         | <b>12.6</b> |
| <b>7</b>  | DBW338     | <b>4</b>      | 10.9            | 12.8         | 12.0          | 10.3           | 12.9         | <b>11.8</b> |
| <b>8</b>  | PBW846     | <b>5</b>      | 12.0            | 12.9         | 12.1          | 9.9            | 12.6         | <b>11.9</b> |
| <b>9</b>  | WH1285     | <b>6</b>      | 11.4            | 11.2         | 12.7          | 11.2           | 12.2         | <b>11.7</b> |
| <b>10</b> | HD3375     | <b>7</b>      | 10.9            | 13.0         | 12.5          | 11.6           | 13.6         | <b>12.3</b> |
| <b>11</b> | HD3373     | <b>8</b>      | 11.8            | 13.4         | 12.5          | 11.6           | 13.5         | <b>12.6</b> |
| <b>12</b> | DBW337     | <b>9</b>      | 10.4            | 13.9         | 13.3          | 10.4           | 13.9         | <b>12.4</b> |
| <b>13</b> | PBW847     | <b>10</b>     | 12.9            | 14.4         | 12.4          | 11.2           | 13.3         | <b>12.9</b> |
| <b>14</b> | UP3066     | <b>12</b>     | 10.5            | 12.4         | 12.2          | 10.8           | 13.1         | <b>11.8</b> |
| <b>15</b> | UP3068     | <b>13</b>     | 10.9            | 13.2         | 12.4          | 10.2           | 13.9         | <b>12.1</b> |
| <b>16</b> | PBW844     | <b>14</b>     | 10.5            | 13.0         | 11.3          | 10.8           | 12.5         | <b>11.6</b> |
| <b>17</b> | DBW339     | <b>15</b>     | 11.3            | 14.8         | 12.9          | 11.0           | 14.4         | <b>12.9</b> |
| <b>18</b> | DBW299     | <b>16</b>     | 11.5            | 13.1         | 12.9          | 11.0           | 13.8         | <b>12.4</b> |
| <b>19</b> | DBW336     | <b>18</b>     | 11.4            | 12.9         | 12.3          | 11.5           | 12.6         | <b>12.1</b> |
| <b>20</b> | WH1287     | <b>20</b>     | 10.7            | 12.9         | 12.6          | 11.2           | 13.9         | <b>12.3</b> |
| <b>21</b> | WH1286     | <b>21</b>     | 11.5            | 13.1         | 12.4          | 11.3           | 13.0         | <b>12.3</b> |
| <b>22</b> | PBW843     | <b>22</b>     | 12.0            | 13.5         | 12.5          | 9.9            | 13.5         | <b>12.3</b> |
| <b>23</b> | HD3379     | <b>23</b>     | 11.2            | 12.8         | 12.5          | 11.1           | 12.6         | <b>12.1</b> |
| <b>24</b> | DBW281     | <b>24</b>     | 10.5            | 14.2         | 12.3          | 11.3           | 12.8         | <b>12.2</b> |
| <b>25</b> | UP3067     | <b>25</b>     | 11.1            | 13.5         | 13.1          | 11.6           | 12.9         | <b>12.4</b> |
|           |            |               | <b>11.3</b>     | <b>13.3</b>  | <b>12.5</b>   | <b>11.0</b>    | <b>13.4</b>  | <b>12.3</b> |

**Table 4 : Sedimentation value (ml) of *T. aestivum* entries of CI-HYT Trial**

|           |            | CI-HYT    | Ludhiana    | Hisar       | Karnal      | P.Nagar     | Delhi       |             |
|-----------|------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>1</b>  | DBW187 (C) | <b>11</b> | 71.9        | 73.8        | 71.9        | 72.4        | 76.2        | <b>73.3</b> |
| <b>2</b>  | HD3086 (C) | <b>17</b> | 57.8        | 55.0        | 65.4        | 62.5        | 69.1        | <b>62.0</b> |
| <b>3</b>  | HD2967 (C) | <b>19</b> | 64.4        | 54.1        | 62.1        | 58.8        | 73.8        | <b>62.6</b> |
| <b>4</b>  | DBW340     | <b>1</b>  | 59.7        | 62.1        | 62.1        | 59.7        | 76.2        | <b>63.9</b> |
| <b>5</b>  | HD3374     | <b>2</b>  | 63.5        | 57.3        | 51.2        | 52.6        | 60.6        | <b>57.1</b> |
| <b>6</b>  | DBW341     | <b>3</b>  | 62.1        | 60.6        | 52.6        | 52.2        | 66.8        | <b>58.9</b> |
| <b>7</b>  | DBW338     | <b>4</b>  | 59.2        | 59.7        | 59.7        | 58.8        | 74.8        | <b>62.4</b> |
| <b>8</b>  | PBW846     | <b>5</b>  | 69.6        | 68.2        | 71.5        | 61.6        | 73.8        | <b>68.9</b> |
| <b>9</b>  | WH1285     | <b>6</b>  | 71.0        | 64.4        | 62.1        | 62.1        | 74.8        | <b>66.9</b> |
| <b>10</b> | HD3375     | <b>7</b>  | 69.1        | 69.1        | 69.1        | 70.1        | 75.7        | <b>70.6</b> |
| <b>11</b> | HD3373     | <b>8</b>  | 70.1        | 57.3        | 57.3        | 57.3        | 73.4        | <b>63.1</b> |
| <b>12</b> | DBW337     | <b>9</b>  | 66.8        | 70.5        | 73.8        | 64.4        | 76.6        | <b>70.4</b> |
| <b>13</b> | PBW847     | <b>10</b> | 71.5        | 71.0        | 71.9        | 64.4        | 72.9        | <b>70.3</b> |
| <b>14</b> | UP3066     | <b>12</b> | 63.0        | 66.8        | 70.5        | 62.5        | 74.3        | <b>67.4</b> |
| <b>15</b> | UP3068     | <b>13</b> | 69.1        | 76.2        | 73.8        | 56.9        | 75.7        | <b>70.3</b> |
| <b>16</b> | PBW844     | <b>14</b> | 68.2        | 73.8        | 70.1        | 62.1        | 70.1        | <b>68.8</b> |
| <b>17</b> | DBW339     | <b>15</b> | 67.2        | 72.9        | 71.5        | 62.1        | 73.8        | <b>69.5</b> |
| <b>18</b> | DBW299     | <b>16</b> | 60.2        | 64.4        | 71.5        | 67.2        | 76.2        | <b>67.9</b> |
| <b>19</b> | DBW336     | <b>18</b> | 71.9        | 66.8        | 72.9        | 71.9        | 76.2        | <b>71.9</b> |
| <b>20</b> | WH1287     | <b>20</b> | 64.4        | 60.6        | 66.8        | 67.2        | 76.2        | <b>67.0</b> |
| <b>21</b> | WH1286     | <b>21</b> | 70.1        | 59.7        | 59.7        | 57.3        | 67.2        | <b>62.8</b> |
| <b>22</b> | PBW843     | <b>22</b> | 63.5        | 54.1        | 57.8        | 53.1        | 65.4        | <b>58.8</b> |
| <b>23</b> | HD3379     | <b>23</b> | 71.0        | 64.4        | 68.2        | 62.5        | 73.8        | <b>68.0</b> |
| <b>24</b> | DBW281     | <b>24</b> | 62.5        | 70.1        | 66.8        | 61.6        | 73.8        | <b>67.0</b> |
| <b>25</b> | UP3067     | <b>25</b> | 59.7        | 69.1        | 59.7        | 58.8        | 72.9        | <b>64.0</b> |
|           |            |           | <b>65.9</b> | <b>64.9</b> | <b>65.6</b> | <b>61.6</b> | <b>72.8</b> | <b>66.2</b> |

**Table 5 : Phenol test score (Max. 10) of *T. aestivum* entries of CI-HYT Trial**

|           |            | <b>CI-HYT</b> | <b>Ludhiana</b> | <b>Hisar</b> | <b>Karnal</b> | <b>P.Nagar</b> | <b>Delhi</b> |            |
|-----------|------------|---------------|-----------------|--------------|---------------|----------------|--------------|------------|
| <b>1</b>  | DBW187 (C) | <b>11</b>     | 8.0             | 8.0          | 7.5           | 7.5            | 8.0          | <b>7.8</b> |
| <b>2</b>  | HD3086 (C) | <b>17</b>     | 7.0             | 7.0          | 7.0           | 6.5            | 6.5          | <b>6.8</b> |
| <b>3</b>  | HD2967 (C) | <b>19</b>     | 6.5             | 6.5          | 6.0           | 6.5            | 6.0          | <b>6.3</b> |
| <b>4</b>  | DBW340     | <b>1</b>      | 7.5             | 8.5          | 7.5           | 7.5            | 6.0          | <b>7.4</b> |
| <b>5</b>  | HD3374     | <b>2</b>      | 7.5             | 6.0          | 7.0           | 6.5            | 5.5          | <b>6.5</b> |
| <b>6</b>  | DBW341     | <b>3</b>      | 6.5             | 3.0          | 5.5           | 3.5            | 4.5          | <b>4.6</b> |
| <b>7</b>  | DBW338     | <b>4</b>      | 4.0             | 8.0          | 6.0           | 5.0            | 5.0          | <b>5.6</b> |
| <b>8</b>  | PBW846     | <b>5</b>      | 8.0             | 8.0          | 7.0           | 6.5            | 7.0          | <b>7.3</b> |
| <b>9</b>  | WH1285     | <b>6</b>      | 7.5             | 7.0          | 7.0           | 6.5            | 7.0          | <b>7.0</b> |
| <b>10</b> | HD3375     | <b>7</b>      | 8.0             | 7.5          | 7.0           | 6.5            | 7.5          | <b>7.3</b> |
| <b>11</b> | HD3373     | <b>8</b>      | 7.5             | 7.5          | 7.5           | 7.0            | 7.5          | <b>7.4</b> |
| <b>12</b> | DBW337     | <b>9</b>      | 7.5             | 8.0          | 7.5           | 7.5            | 8.5          | <b>7.8</b> |
| <b>13</b> | PBW847     | <b>10</b>     | 7.5             | 8.0          | 6.5           | 6.0            | 8.5          | <b>7.3</b> |
| <b>14</b> | UP3066     | <b>12</b>     | 7.0             | 7.5          | 7.0           | 6.5            | 7.0          | <b>7.0</b> |
| <b>15</b> | UP3068     | <b>13</b>     | 8.0             | 8.0          | 8.0           | 7.0            | 7.0          | <b>7.6</b> |
| <b>16</b> | PBW844     | <b>14</b>     | 7.5             | 7.5          | 7.0           | 6.0            | 6.5          | <b>6.9</b> |
| <b>17</b> | DBW339     | <b>15</b>     | 7.5             | 7.5          | 8.0           | 7.0            | 6.0          | <b>7.2</b> |
| <b>18</b> | DBW299     | <b>16</b>     | 7.0             | 6.5          | 6.5           | 7.0            | 8.0          | <b>7.0</b> |
| <b>19</b> | DBW336     | <b>18</b>     | 7.5             | 7.5          | 7.5           | 7.5            | 8.0          | <b>7.6</b> |
| <b>20</b> | WH1287     | <b>20</b>     | 7.5             | 7.0          | 6.5           | 7.5            | 6.5          | <b>7.0</b> |
| <b>21</b> | WH1286     | <b>21</b>     | 7.5             | 7.0          | 6.0           | 7.0            | 7.0          | <b>6.9</b> |
| <b>22</b> | PBW843     | <b>22</b>     | 8.0             | 7.0          | 7.0           | 7.0            | 6.5          | <b>7.1</b> |
| <b>23</b> | HD3379     | <b>23</b>     | 8.0             | 3.0          | 7.5           | 7.5            | 7.0          | <b>6.6</b> |
| <b>24</b> | DBW281     | <b>24</b>     | 7.5             | 7.0          | 8.0           | 7.0            | 8.5          | <b>7.6</b> |
| <b>25</b> | UP3067     | <b>25</b>     | 8.0             | 7.0          | 8             | 7.5            | 7.5          | <b>7.6</b> |
|           |            |               | <b>7.4</b>      | <b>7.0</b>   | <b>7.0</b>    | <b>6.7</b>     | <b>6.9</b>   | <b>7.0</b> |

**Northern Hills Zone (IVT)**

**Table 1: 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                   | HS 507 (C) | 1901       | 5.4    | 6.4    | 6.0   | 5.9  |
| 2                   | HS 562 (C) | 1912       | 5.2    | 5.8    | 5.4   | 5.5  |
| 3                   | SKW 356    | 1902       | 5.0    | 6.2    | 5.8   | 5.7  |
| 4                   | VL 2042    | 1903       | 4.8    | 5.4    | 4.0   | 4.7  |
| 5                   | HPW 471    | 1904       | 5.2    | 5.4    | 5.0   | 5.2  |
| 6                   | HS 675     | 1905       | 4.8    | 4.8    | 5.0   | 4.9  |
| 7                   | HPW 472    | 1906       | 4.8    | 5.2    | 5.6   | 5.2  |
| 8                   | VL 2039    | 1907       | 4.6    | 5.8    | 4.8   | 5.1  |
| 9                   | HS 677     | 1908       | 4.6    | 6.4    | 6.6   | 5.9  |
| 10                  | HS 676     | 1909       | 5.8    | 5.8    | 6.2   | 5.9  |
| 11                  | UP 3064    | 1910       | 5.6    | 6.4    | 5.8   | 5.9  |
| 12                  | HS 678     | 1911       | 5.6    | 5.8    | 5.6   | 5.7  |
| 13                  | HPW 470    | 1913       | 5.6    | 5.6    | 5.6   | 5.6  |
| 14                  | HPW 469    | 1914       | 5.6    | 5.4    | 5.2   | 5.4  |
| 15                  | VL 2041    | 1915       | 5.6    | 5.6    | 5.8   | 5.7  |
| 16                  | VL 2040    | 1916       | 5.6    | 6.0    | 4.2   | 5.3  |
|                     |            |            | 5.2    | 5.8    | 5.4   | 5.5  |

**Table 2: 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                   | HS 507 (C) | 1901       | 79.0   | 81.4   | 82.0  | 80.8 |
| 2                   | HS 562 (C) | 1912       | 77.0   | 80.4   | 72.0  | 76.5 |
| 3                   | SKW 356    | 1902       | 76.5   | 81.2   | 79.7  | 79.1 |
| 4                   | VL 2042    | 1903       | 72.6   | 78.7   | 64.3  | 71.9 |
| 5                   | HPW 471    | 1904       | 76.8   | 79.0   | 78.0  | 77.9 |
| 6                   | HS 675     | 1905       | 77.6   | 79.5   | 80.6  | 79.2 |
| 7                   | HPW 472    | 1906       | 76.6   | 81.3   | 78.4  | 78.8 |
| 8                   | VL 2039    | 1907       | 75.3   | 79.7   | 75.7  | 76.9 |
| 9                   | HS 677     | 1908       | 78.2   | 82.4   | 81.0  | 80.5 |
| 10                  | HS 676     | 1909       | 76.5   | 79.0   | 76.0  | 77.2 |
| 11                  | UP 3064    | 1910       | 77.5   | 82.3   | 72.0  | 77.3 |
| 12                  | HS 678     | 1911       | 79.0   | 81.0   | 79.6  | 79.9 |
| 13                  | HPW 470    | 1913       | 76.3   | 78.5   | 76.5  | 77.1 |
| 14                  | HPW 469    | 1914       | 77.5   | 79.4   | 75.4  | 77.4 |
| 15                  | VL 2041    | 1915       | 76.0   | 78.0   | 78.0  | 77.3 |
| 16                  | VL 2040    | 1916       | 77.5   | 78.8   | 69.5  | 75.3 |
|                     |            |            | 76.9   | 80.0   | 76.2  | 77.7 |

**Table 3: 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                   | HS 507 (C) | 1901       | 10.7   | 9.1    | 9.3   | 9.7  |
| 2                   | HS 562 (C) | 1912       | 10.1   | 6.7    | 9.1   | 8.7  |
| 3                   | SKW 356    | 1902       | 11.3   | 10.4   | 10.4  | 10.7 |
| 4                   | VL 2042    | 1903       | 10.9   | 5.8    | 9.8   | 8.8  |
| 5                   | HPW 471    | 1904       | 11.3   | 7.1    | 8.9   | 9.1  |
| 6                   | HS 675     | 1905       | 10.4   | 6.4    | 7.7   | 8.2  |
| 7                   | HPW 472    | 1906       | 11.4   | 9.2    | 9.1   | 9.9  |
| 8                   | VL 2039    | 1907       | 10.1   | 9.8    | 10.4  | 10.1 |
| 9                   | HS 677     | 1908       | 11.8   | 9.1    | 9.8   | 10.2 |
| 10                  | HS 676     | 1909       | 11.5   | 9.1    | 9.7   | 10.1 |
| 11                  | UP 3064    | 1910       | 10.6   | 8.4    | 9.0   | 9.3  |
| 12                  | HS 678     | 1911       | 12.2   | 9.3    | 10.1  | 10.5 |
| 13                  | HPW 470    | 1913       | 10.9   | 6.6    | 10.1  | 9.2  |
| 14                  | HPW 469    | 1914       | 10.5   | 7.5    | 9.2   | 9.1  |
| 15                  | VL 2041    | 1915       | 9.7    | 7.3    | 7.4   | 8.1  |
| 16                  | VL 2040    | 1916       | 10.3   | 9.3    | 9.5   | 9.7  |
|                     |            |            | 10.8   | 8.2    | 9.3   | 9.5  |

**Table 4: 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                   | HS 507 (C) | 1901       | 57     | 47     | 48    | 51   |
| 2                   | HS 562 (C) | 1912       | 68     | 47     | 66    | 60   |
| 3                   | SKW 356    | 1902       | 60     | 49     | 61    | 57   |
| 4                   | VL 2042    | 1903       | 67     | 45     | 61    | 58   |
| 5                   | HPW 471    | 1904       | 64     | 47     | 60    | 57   |
| 6                   | HS 675     | 1905       | 68     | 45     | 59    | 57   |
| 7                   | HPW 472    | 1906       | 53     | 35     | 52    | 47   |
| 8                   | VL 2039    | 1907       | 64     | 57     | 66    | 63   |
| 9                   | HS 677     | 1908       | 54     | 40     | 51    | 48   |
| 10                  | HS 676     | 1909       | 43     | 29     | 44    | 39   |
| 11                  | UP 3064    | 1910       | 57     | 53     | 56    | 55   |
| 12                  | HS 678     | 1911       | 67     | 48     | 63    | 59   |
| 13                  | HPW 470    | 1913       | 70     | 51     | 71    | 64   |
| 14                  | HPW 469    | 1914       | 57     | 45     | 60    | 54   |
| 15                  | VL 2041    | 1915       | 47     | 37     | 46    | 43   |
| 16                  | VL 2040    | 1916       | 70     | 61     | 65    | 65   |
|                     |            |            | 60     | 46     | 58    | 55   |

**Table 5: 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                   | HS 507 (C) | 1901       | 7.0    | 6.5    | 7.0   | 6.8  |
| 2                   | HS 562 (C) | 1912       | 8.0    | 7.5    | 8.0   | 7.8  |
| 3                   | SKW 356    | 1902       | 7.0    | 6.0    | 7.0   | 6.7  |
| 4                   | VL 2042    | 1903       | 6.5    | 6.5    | 7.5   | 6.8  |
| 5                   | HPW 471    | 1904       | 6.5    | 5.5    | 7.0   | 6.3  |
| 6                   | HS 675     | 1905       | 6.0    | 5.0    | 6.5   | 5.8  |
| 7                   | HPW 472    | 1906       | 6.5    | 6.0    | 7.5   | 6.7  |
| 8                   | VL 2039    | 1907       | 7.0    | 6.5    | 7.0   | 6.8  |
| 9                   | HS 677     | 1908       | 7.0    | 7.0    | 8.0   | 7.3  |
| 10                  | HS 676     | 1909       | 7.5    | 6.0    | 6.0   | 6.5  |
| 11                  | UP 3064    | 1910       | 5.5    | 4.0    | 5.0   | 4.8  |
| 12                  | HS 678     | 1911       | 8.5    | 7.0    | 8.5   | 8.0  |
| 13                  | HPW 470    | 1913       | 7.5    | 8.0    | 8.0   | 7.8  |
| 14                  | HPW 469    | 1914       | 7.0    | 8.5    | 6.5   | 7.3  |
| 15                  | VL 2041    | 1915       | 5.0    | 3.0    | 5.5   | 4.5  |
| 16                  | VL 2040    | 1916       | 8.5    | 8.0    | 7.5   | 8.0  |
|                     |            |            | 6.9    | 6.3    | 7.0   | 6.8  |

**Table 6: 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       |        |        | 83    | 83   |
| 2                   | HS562 (C) | 1812       |        |        | 81    | 81   |
| 3                   | HD3340    | 1816       |        |        | 88    | 88   |
| 4                   | HPW462    | 1801       |        |        | 63    | 63   |
| 5                   | HPW463    | 1815       |        |        | 81    | 81   |
| 6                   | HPW464    | 1814       |        |        | 88    | 88   |
| 7                   | HPW466    | 1802       |        |        | 75    | 75   |
| 8                   | HS667     | 1808       |        |        | 76    | 76   |
| 9                   | HS668     | 1809       |        |        | 80    | 80   |
| 10                  | HS669     | 1810       |        |        | 84    | 84   |
| 11                  | UP3038    | 1806       |        |        | 85    | 85   |
| 12                  | UP3039    | 1811       |        |        | 80    | 80   |
| 13                  | VL2035    | 1807       |        |        | 93    | 93   |
| 14                  | VL2036    | 1813       |        |        | 77    | 77   |
| 15                  | VL2037    | 1804       |        |        | 30    | 30   |
| 16                  | VL2038    | 1803       |        |        | 81    | 81   |
|                     |           |            |        |        | 78    | 78   |

**QCWBN**

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

| Sr. No. | Genotype        |        |       |          |       |         | Mean |
|---------|-----------------|--------|-------|----------|-------|---------|------|
|         |                 | Karnal | Hisar | Ludhiana | Delhi | P.Nagar |      |
| 1       | GW-A-2019-957   | 6.4    | 6.0   | 5.2      | 6.4   | 5.8     | 6.0  |
| 2       | IND-549         | 5.4    | 5.6   | 5.8      | 5.8   | 5.4     | 5.6  |
| 3       | UP2672(C)       | 6.6    | 6.2   | 6.4      | 6.0   | 5.8     | 6.2  |
| 4       | BST-2019-01     | 5.2    | 5.6   | 5.0      | 5.8   | 4.8     | 5.3  |
| 5       | KA-1916         | 5.8    | 6.6   | 6.2      | 6.0   | 5.6     | 6.0  |
| 6       | MACS6222(C)     | 5.2    | 6.4   | 6.2      | 5.8   | 5.6     | 5.8  |
| 7       | KA-1917         | 5.8    | 6.8   | 6.6      | 6.6   | 6.0     | 6.4  |
| 8       | DBW187(C)       | 5.8    | 6.2   | 6.2      | 6.4   | 6.0     | 6.1  |
| 9       | WB2(C)          | 5.8    | 6.4   | 5.8      | 6.2   | 5.0     | 5.8  |
| 10      | HD3086(C)       | 5.6    | 6.4   | 6.2      | 6.2   | 5.6     | 6.0  |
| 11      | BWL- 8880       | 6.0    | 6.8   | 5.8      | 6.0   | 5.8     | 6.1  |
| 12      | GW322(C)        | 5.6    | 5.8   | 5.6      | 6.0   | 5.8     | 5.8  |
| 13      | UASDW 30561     | 6.0    | 6.6   | 6.0      | 7.0   | 6.0     | 6.3  |
| 14      | HS490(C)        | 6.0    | 5.6   | 5.6      | 5.6   | 5.6     | 5.7  |
| 15      | BWL- 7829       | 6.6    | 6.6   | 5.6      | 6.4   | 5.8     | 6.2  |
| 16      | QBI-19 - 22     | 5.0    | 5.6   | 5.4      | 5.4   | 5.2     | 5.3  |
| 17      | BWL- 8875       | 6.8    | 6.8   | 6.6      | 6.0   | 5.6     | 6.4  |
| 18      | BWL- 8878       | 6.6    | 6.6   | 6.4      | 6.2   | 5.8     | 6.3  |
| 19      | QLD112          | 6.2    | 6.4   | 6.0      | 5.6   | 6.0     | 6.0  |
| 23      | GW-A-2019-958   | 5.4    | 6.6   | 5.6      | 6.2   | 5.0     | 5.8  |
| 24      | IND-551         | 6.4    | 6.2   | 5.8      | 5.8   | 5.6     | 6.0  |
| 25      | BWL- 8884       | 6.2    | 6.8   | 6.0      | 6.2   | 5.6     | 6.2  |
| 26      | QBI-19 - 14     | 5.2    | 5.0   | 4.6      | 5.8   | 4.8     | 5.1  |
| 29      | BST-2019-02     | 5.2    | 5.8   | 4.2      | 5.2   | 5.2     | 5.1  |
| 31      | QBP-18-14       | 6.6    | 6.4   | 6.4      | 6.2   | 5.6     | 6.2  |
| 34      | QBP-18-15       | 6.2    | 6.6   | 5.6      | 6.0   | 6.0     | 6.1  |
| 36      | BNSR-4          | 6.6    | 6.0   | 6.0      | 6.4   | 5.4     | 6.1  |
| 37      | QBI-19 - 08     | 6.6    | 6.0   | 6.2      | 6.0   | 5.8     | 6.1  |
| 39      | MP3533          | 6.4    | 6.0   | 6.4      | 6.0   | 5.6     | 6.1  |
| 42      | BWL- 8879       | 6.6    | 6.2   | 6.0      | 6.0   | 6.0     | 6.2  |
| 44      | GW2017-825      | 6.6    | 5.8   | 6.2      | 6.0   | 5.0     | 5.9  |
| 46      | KA-1935         | 6.4    | 6.0   | 6.0      | 5.6   | 6.0     | 6.0  |
| 47      | 2nd HPYT429     | 6.4    | 5.8   | 5.6      | 5.8   | 5.8     | 5.9  |
| 48      | QBI-19 - 11     | 6.4    | 6.0   | 5.8      | 6.0   | 6.0     | 6.0  |
| 49      | GW-2018-936 (d) | 6.0    | 5.4   | 5.4      | 6.2   | 6.2     | 5.8  |
| 51      | HD3304          | 6.6    | 6.2   | 5.8      | 5.8   | 5.6     | 6.0  |
| 54      | MP3520          | 6.8    | 5.8   | 5.8      | 5.8   | 5.6     | 6.0  |
| 56      | GW-2018-934 (d) | 5.8    | 5.4   | 6.0      | 6.4   | 5.6     | 5.8  |
| 57      | BWL5429         | 6.4    | 5.0   | 6.0      | 6.0   | 5.4     | 5.8  |
| 58      | QBI-19 - 10     | 6.6    | 5.2   | 6.0      | 6.0   | 5.8     | 5.9  |
| 60      | AR-15-15        | 5.4    | 4.6   | 5.2      | 4.8   |         | 5.0  |
| 61      | 8th HPYT443     | 6.4    | 5.0   | 6.4      | 6.0   | 5.8     | 5.9  |
| 64      | BWL-8035        | 6.6    | 5.8   | 6.2      | 5.8   | 6.2     | 6.1  |
| 68      | NIAW-3889       | 6.4    | 5.2   | 5.8      | 6.0   | 5.8     | 5.8  |
| 69      | BWL- 8881       | 6.2    | 5.2   | 5.4      | 5.8   | 5.8     | 5.7  |
| 71      | MP3522          | 6.2    | 4.8   | 5.6      | 6.2   | 5.6     | 5.7  |
| 73      | QBI-19 - 15     | 6.0    | 4.8   | 5.0      | 5.0   | 5.2     | 5.2  |
| 74      | BWL- 7827       | 6.6    | 4.8   | 6.0      | 5.8   | 5.4     | 5.7  |
| 76      | 8th HPYT431     | 6.6    | 5.0   | 6.0      | 5.8   | 5.6     | 5.8  |
| 78      | QLD-116         | 6.4    | 5.6   | 6.0      | 6.0   | 5.6     | 5.9  |
| 79      | KA1821          | 7.0    | 5.0   | 5.4      | 6.2   | 5.4     | 5.8  |
| 80      | QBI-19 - 09     | 6.6    | 5.4   | 6.2      | 6.2   | 6.0     | 6.1  |
|         |                 | 6.4    | 6.0   | 5.2      | 6.4   | 5.8     | 6.0  |

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

| Sr. No. | Genotype        | Varanasi | Kanpur | Mean       | Indore | Vijapur | Mean       | Dharwad |
|---------|-----------------|----------|--------|------------|--------|---------|------------|---------|
|         |                 |          |        |            |        |         |            |         |
| 1       | GW-A-2019-957   | 6.0      | 6.2    | <b>6.1</b> | 6.6    | 6.6     | <b>6.6</b> | 6.0     |
| 2       | IND-549         | 6.0      | 5.8    | <b>5.9</b> | 6.4    | 6.0     | <b>6.2</b> | 5.8     |
| 3       | UP2672(C)       | 6.0      | 6.4    | <b>6.2</b> | 6.2    | 6.0     | <b>6.1</b> | 6.2     |
| 4       | BST-2019-01     | 5.0      | 4.2    | <b>4.6</b> | 5.8    | 6.0     | <b>5.9</b> | 5.8     |
| 5       | KA-1916         | 5.6      | 5.4    | <b>5.5</b> | 6.0    | 6.4     | <b>6.2</b> | 5.6     |
| 6       | MACS6222(C)     | 5.6      | 5.2    | <b>5.4</b> | 6.0    | 6.4     | <b>6.2</b> | 5.8     |
| 7       | KA-1917         | 6.2      | 6.4    | <b>6.3</b> | 5.0    | 6.2     | <b>5.6</b> | 6.2     |
| 8       | DBW187(C)       | 5.6      | 5.2    | <b>5.4</b> | 6.0    | 5.8     | <b>5.9</b> | 5.6     |
| 9       | WB2(C)          | 5.8      | 5.0    | <b>5.4</b> | 6.0    | 6.2     | <b>6.1</b> | 5.8     |
| 10      | HD3086(C)       | 5.8      | 5.4    | <b>5.6</b> | 5.4    | 5.6     | <b>5.5</b> | 6.0     |
| 11      | BWL- 8880       | 6.0      | 6.4    | <b>6.2</b> | 6.2    | 6.0     | <b>6.1</b> | 6.0     |
| 12      | GW322(C)        | 6.0      | 4.8    | <b>5.4</b> | 5.8    | 6.0     | <b>5.9</b> | 5.8     |
| 13      | UASDW 30561     | 6.6      | 4.0    | <b>5.3</b> | 7.2    | 7.0     | <b>7.1</b> | 6.6     |
| 14      | HS490(C)        | 5.0      | 4.2    | <b>4.6</b> | 4.4    | 5.6     | <b>5.0</b> | 5.4     |
| 15      | BWL- 7829       | 6.2      | 5.8    | <b>6.0</b> | 5.6    | 6.2     | <b>5.9</b> | 5.2     |
| 16      | QBI-19 - 22     | 5.4      | 5.6    | <b>5.5</b> | 4.2    | 5.8     | <b>5.0</b> | 6.0     |
| 17      | BWL- 8875       | 6.0      | 5.6    | <b>5.8</b> | 6.0    | 6.0     | <b>6.0</b> | 6.2     |
| 18      | BWL- 8878       | 6.0      | 5.6    | <b>5.8</b> | 5.6    | 6.0     | <b>5.8</b> | 5.2     |
| 19      | QLD112          | 5.8      | 4.8    | <b>5.3</b> | 5.6    | 6.2     | <b>5.9</b> | 5.8     |
| 23      | GW-A-2019-958   | 5.8      | 5.6    | <b>5.7</b> | 6.2    | 6.2     | <b>6.2</b> | 6.4     |
| 24      | IND-551         | 6.0      | 5.8    | <b>5.9</b> | 4.2    | 5.0     | <b>4.6</b> | 6.0     |
| 25      | BWL- 8884       | 6.2      | 6.0    | <b>6.1</b> | 6.2    | 6.2     | <b>6.2</b> | 5.6     |
| 26      | QBI-19 - 14     | 5.8      | 5.4    | <b>5.6</b> | 6.0    | 6.2     | <b>6.1</b> | 5.8     |
| 29      | BST-2019-02     | 5.4      | 4.8    | <b>5.1</b> | 4.0    | 5.4     | <b>4.7</b> | 5.8     |
| 31      | QBP-18-14       | 5.6      | 6.2    | <b>5.9</b> | 5.8    | 6.0     | <b>5.9</b> | 6.2     |
| 34      | QBP-18-15       | 5.8      | 4.2    | <b>5.0</b> | 5.2    | 5.2     | <b>5.2</b> | 6.0     |
| 36      | BNSR-4          | 6.0      | 6.2    | <b>6.1</b> | 6.4    | 6.4     | <b>6.4</b> | 5.4     |
| 37      | QBI-19 - 08     | 6.0      | 5.8    | <b>5.9</b> | 5.2    | 5.8     | <b>5.5</b> | 5.8     |
| 39      | MP3533          | 6.0      | 6.4    | <b>6.2</b> | 6.8    | 7.2     | <b>7.0</b> | 6.2     |
| 42      | BWL- 8879       | 5.6      | 5.8    | <b>5.7</b> | 5.8    | 6.2     | <b>6.0</b> | 4.8     |
| 44      | GW2017-825      | 6.0      | 5.4    | <b>5.7</b> | 6.2    | 6.6     | <b>6.4</b> | 6.2     |
| 46      | KA-1935         | 6.0      | 6.0    | <b>6.0</b> | 5.6    | 6.8     | <b>6.2</b> | 5.0     |
| 47      | 2nd HPYT429     | 5.8      | 5.6    | <b>5.7</b> | 6.4    | 5.6     | <b>6.0</b> | 5.8     |
| 48      | QBI-19 - 11     | 6.0      | 6.0    | <b>6.0</b> | 5.4    | 6.2     | <b>5.8</b> | 6.0     |
| 49      | GW-2018-936 (d) | 5.6      | 5.6    | <b>5.6</b> | 6.4    | 6.6     | <b>6.5</b> | 6.8     |
| 51      | HD3304          | 5.0      | 5.2    | <b>5.1</b> | 5.8    | 6.4     | <b>6.1</b> | 5.6     |
| 54      | MP3520          | 5.2      | 5.8    | <b>5.5</b> | 5.2    | 5.6     | <b>5.4</b> | 5.6     |
| 56      | GW-2018-934 (d) | 5.2      | 5.8    | <b>5.5</b> | 6.4    | 6.8     | <b>6.6</b> | 6.6     |
| 57      | BWL5429         | 4.8      | 4.8    | <b>4.8</b> | 6.2    | 6.0     | <b>6.1</b> | 5.2     |
| 58      | QBI-19 - 10     | 5.4      | 5.4    | <b>5.4</b> | 6.0    | 6.2     | <b>6.1</b> | 5.6     |
| 60      | AR-15-15        |          | 4.8    | <b>4.8</b> | 4.4    | 5.6     | <b>5.0</b> | 5.0     |
| 61      | 8th HPYT443     | 5.6      | 6.0    | <b>5.8</b> | 5.4    | 6.0     | <b>5.7</b> | 6.2     |
| 64      | BWL-8035        | 6.0      | 6.2    | <b>6.1</b> | 5.2    | 6.2     | <b>5.7</b> | 6.2     |
| 68      | NIAW-3889       | 6.2      | 5.6    | <b>5.9</b> | 5.6    | 6.2     | <b>5.9</b> | 5.2     |
| 69      | BWL- 8881       | 6.0      | 5.8    | <b>5.9</b> | 5.4    | 6.4     | <b>5.9</b> | 5.6     |
| 71      | MP3522          | 6.0      | 4.0    | <b>5.0</b> | 5.2    | 6.4     | <b>5.8</b> | 5.8     |
| 73      | QBI-19 - 15     | 5.2      | 4.8    | <b>5.0</b> | 4.8    | 5.8     | <b>5.3</b> | 5.6     |
| 74      | BWL- 7827       | 5.6      | 5.4    | <b>5.5</b> | 5.2    | 6.0     | <b>5.6</b> | 5.2     |
| 76      | 8th HPYT431     | 6.0      | 5.6    | <b>5.8</b> | 5.2    | 6.0     | <b>5.6</b> | 6.0     |
| 78      | QLD-116         | 6.0      | 4.6    | <b>5.3</b> | 5.6    | 6.2     | <b>5.9</b> | 6.0     |
| 79      | KA1821          | 5.8      | 5.2    | <b>5.5</b> | 5.2    | 5.8     | <b>5.5</b> | 5.8     |
| 80      | QBI-19 - 09     | 6.2      | 6.4    | <b>6.3</b> | 6.6    | 6.4     | <b>6.5</b> | 6.0     |
|         |                 | 6.0      | 6.2    | <b>6.1</b> | 6.6    | 6.6     | <b>6.6</b> | 6.0     |

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

| Sr. No. | Genotype        |             |             |             |             |             | Mean        |
|---------|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|
|         |                 | Karnal      | Hisar       | Ludhiana    | Delhi       | P.Nagar     |             |
| 1       | GW-A-2019-957   | 79.0        | 79.6        | 73.6        | 79.9        | 70.5        | 76.5        |
| 2       | IND-549         | 75.0        | 78.6        | 80.1        | 78.8        | 73.2        | 77.1        |
| 3       | UP2672(C)       | 77.0        | 79.5        | 77.1        | 76.5        | 71.3        | 76.3        |
| 4       | BST-2019-01     | 79.0        | 77.6        | 74.0        | 77.1        | 67.9        | 75.1        |
| 5       | KA-1916         | 78.0        | 83.2        | 80.4        | 81.4        | 73.9        | 79.4        |
| 6       | MACS6222(C)     | 74.0        | 81.0        | 80.5        | 76.0        | 71.3        | 76.6        |
| 7       | KA-1917         | 76.0        | 80.1        | 77.5        | 76.7        | 72.0        | 76.5        |
| 8       | DBW187(C)       | 76.3        | 79.0        | 76.7        | 77.6        | 70.8        | 76.1        |
| 9       | WB2(C)          | 77.3        | 78.4        | 75.7        | 78.8        | 68.8        | 75.8        |
| 10      | HD3086(C)       | 78.0        | 81.2        | 80.4        | 78.1        | 73.0        | 78.1        |
| 11      | BWL- 8880       | 78.0        | 80.0        | 75.4        | 78.6        | 72.5        | 76.9        |
| 12      | GW322(C)        | 76.2        | 76.0        | 77.2        | 75.5        | 71.3        | 75.2        |
| 13      | UASDW 30561     | 78.5        | 76.5        | 74.9        | 76.4        | 73.2        | 75.9        |
| 14      | HS490(C)        | 77.0        | 74.4        | 73.4        | 72.9        | 69.1        | 73.4        |
| 15      | BWL- 7829       | 78.6        | 78.6        | 77.2        | 79.0        | 71.2        | 76.9        |
| 16      | QBI-19 - 22     | 75.4        | 77.0        | 73.5        | 75.2        | 68.0        | 73.8        |
| 17      | BWL- 8875       | 78.0        | 79.7        | 78.3        | 77.4        | 72.9        | 77.3        |
| 18      | BWL- 8878       | 79.4        | 81.2        | 78.0        | 78.4        | 74.0        | 78.2        |
| 19      | QLD112          | 77.5        | 79.0        | 78.3        | 78.0        | 70.8        | 76.7        |
| 23      | GW-A-2019-958   | 74.2        | 80.5        | 77.9        | 79.9        | 70.0        | 76.5        |
| 24      | IND-551         | 76.3        | 79.5        | 78.8        | 76.2        | 71.5        | 76.5        |
| 25      | BWL- 8884       | 76.0        | 81.0        | 80.3        | 79.2        | 71.3        | 77.6        |
| 26      | QBI-19 - 14     | 74.6        | 78.7        | 74.3        | 76.5        | 65.5        | 73.9        |
| 29      | BST-2019-02     | 74.4        | 77.0        | 75.1        | 73.8        | 73.1        | 74.7        |
| 31      | QBP-18-14       | 78.7        | 79.6        | 78.4        | 77.5        | 72.9        | 77.4        |
| 34      | QBP-18-15       | 79.7        | 81.5        | 80.0        | 79.0        | 74.3        | 78.9        |
| 36      | BNSR-4          | 77.4        | 78.6        | 78.0        | 78.1        | 69.9        | 76.4        |
| 37      | QBI-19 - 08     | 79.0        | 82.5        | 77.6        | 79.0        | 71.7        | 78.0        |
| 39      | MP3533          | 77.5        | 80.2        | 80.5        | 78.5        | 72.0        | 77.7        |
| 42      | BWL- 8879       | 76.0        | 79.2        | 79.6        | 79.9        | 71.8        | 77.3        |
| 44      | GW2017-825      | 77.6        | 79.4        | 79.2        | 76.9        | 67.3        | 76.1        |
| 46      | KA-1935         | 75.7        | 79.7        | 79.7        | 77.6        | 72.0        | 76.9        |
| 47      | 2nd HPYT429     | 76.0        | 80.2        | 77.7        | 78.2        | 71.1        | 76.6        |
| 48      | QBI-19 - 11     | 79.2        | 78.8        | 76.9        | 77.8        | 74.3        | 77.4        |
| 49      | GW-2018-936 (d) | 72.0        | 74.7        | 74.9        | 77.0        | 71.9        | 74.1        |
| 51      | HD3304          | 75.5        | 79.0        | 77.4        | 75.2        | 72.0        | 75.8        |
| 54      | MP3520          | 77.5        | 81.0        | 75.7        | 75.5        | 72.1        | 76.4        |
| 56      | GW-2018-934 (d) | 68.5        | 67.0        | 76.4        | 76.3        | 70.9        | 71.8        |
| 57      | BWL5429         | 77.2        | 77.2        | 79.4        | 76.3        | 71.9        | 76.4        |
| 58      | QBI-19 - 10     | 77.7        | 78.7        | 80.2        | 77.7        | 74.2        | 77.7        |
| 60      | AR-15-15        | 66.7        | 70.0        | 69.5        | 68.2        |             | 68.6        |
| 61      | 8th HPYT443     | 77.0        | 74.7        | 81.3        | 77.4        | 74.0        | 76.9        |
| 64      | BWL-8035        | 80.4        | 80.5        | 80.1        | 80.1        | 77.7        | 79.8        |
| 68      | NIAW-3889       | 77.5        | 76.7        | 78.3        | 76.0        | 73.3        | 76.4        |
| 69      | BWL- 8881       | 74.0        | 76.5        | 77.3        | 74.4        | 72.4        | 74.9        |
| 71      | MP3522          | 76.0        | 75.6        | 78.4        | 76.6        | 72.1        | 75.7        |
| 73      | QBI-19 - 15     | 74.9        | 74.2        | 76.0        | 69.3        | 66.7        | 72.2        |
| 74      | BWL- 7827       | 76.3        | 79.0        | 81.6        | 76.6        | 72.7        | 77.2        |
| 76      | 8th HPYT431     | 73.8        | 75.0        | 77.9        | 71.9        | 73.7        | 74.5        |
| 78      | QLD-116         | 77.6        | 73.2        | 79.0        | 74.5        | 74.5        | 75.8        |
| 79      | KA1821          | 78.2        | 75.2        | 77.9        | 75.0        | 73.0        | 75.9        |
| 80      | QBI-19 - 09     | 78.3        | 77.4        | 80.0        | 77.1        | 74.6        | 77.5        |
|         |                 | <b>76.5</b> | <b>78.1</b> | <b>77.6</b> | <b>76.8</b> | <b>71.8</b> | <b>76.2</b> |

**Table 2: Hectolire Weight (kg/hl of QCWBN entries**

| Sr. No. | Genotype        |          |         |             |             |             |             |             |
|---------|-----------------|----------|---------|-------------|-------------|-------------|-------------|-------------|
|         |                 | Varanasi | Kanpur* | Mean        | Indore      | Vijapur     | Mean        | Dharwad     |
| 1       | GW-A-2019-957   | 78.0     |         | 78.0        | 81.6        | 81.5        | <b>81.6</b> | 77.6        |
| 2       | IND-549         | 80.1     |         | 80.1        | 80.0        | 81.5        | <b>80.8</b> | 80.0        |
| 3       | UP2672(C)       | 74.3     |         | 74.3        | 77.3        | 78.5        | <b>77.9</b> | 78.8        |
| 4       | BST-2019-01     | 61.9     |         | 61.9        | 77.6        | 77.8        | <b>77.7</b> | 78.4        |
| 5       | KA-1916         | 78.3     |         | 78.3        | 81.6        | 81.2        | <b>81.4</b> | 79.2        |
| 6       | MACS6222(C)     | 74.4     |         | 74.4        | 80.0        | 80.7        | <b>80.4</b> | 79.4        |
| 7       | KA-1917         | 76.7     |         | 76.7        | 66.6        | 74.8        | <b>70.7</b> | 79.0        |
| 8       | DBW187(C)       | 74.9     |         | 74.9        | 75.5        | 75.2        | <b>75.4</b> |             |
| 9       | WB2(C)          | 74.2     |         | 74.2        | 78.2        | 77.2        | <b>77.7</b> | 76.5        |
| 10      | HD3086(C)       | 75.0     |         | 75.0        | 74.3        | 75.2        | <b>74.8</b> | 76.2        |
| 11      | BWL- 8880       | 78.5     |         | 78.5        | 79.2        | 76.7        | <b>78.0</b> | 78.3        |
| 12      | GW322(C)        | 73.7     |         | 73.7        | 73.6        | 74.1        | <b>73.9</b> | 77.6        |
| 13      | UASDW 30561     | 72.8     |         | 72.8        | 80.0        | 77.4        | <b>78.7</b> | 79.9        |
| 14      | HS490(C)        | 68.6     |         | 68.6        | 73.0        | 73.0        | <b>73.0</b> | 74.0        |
| 15      | BWL- 7829       | --       | --      | --          | 78.0        | 77.3        | <b>77.7</b> | 76.3        |
| 16      | QBI-19 - 22     | --       | --      | --          | 74.6        | 76.6        | <b>75.6</b> | 80.0        |
| 17      | BWL- 8875       | 77.1     |         | 77.1        | 76.0        | 77.1        | <b>76.6</b> | 78.1        |
| 18      | BWL- 8878       | 76.8     |         | 76.8        | 73.6        | 74.1        | <b>73.9</b> | 77.7        |
| 19      | QLD112          | 78.1     |         | 78.1        | 75.5        | 77.4        | <b>76.5</b> | 75.9        |
| 23      | GW-A-2019-958   | 77.8     |         | 77.8        | 80.3        | 79.3        | <b>79.8</b> | 78.2        |
| 24      | IND-551         | 76.4     |         | 76.4        | 67.4        | 67.0        | <b>67.2</b> | 75.4        |
| 25      | BWL- 8884       | 73.3     |         | 73.3        | 78.6        | 78.8        | <b>78.7</b> | 77.7        |
| 26      | QBI-19 - 14     | 74.4     |         | 74.4        | 78.0        | 79.6        | <b>78.8</b> | 76.3        |
| 29      | BST-2019-02     | 77.1     |         | 77.1        | 70.7        | 74.9        | <b>72.8</b> | 78.7        |
| 31      | QBP-18-14       | 74.7     |         | 74.7        | 74.0        | 78.8        | <b>76.4</b> | 77.7        |
| 34      | QBP-18-15       | 79.0     |         | 79.0        | 78.0        | 78.9        | <b>78.5</b> | 79.3        |
| 36      | BNSR-4          | 79.8     |         | 79.8        | 79.0        | 78.8        | <b>78.9</b> | 75.6        |
| 37      | QBI-19 - 08     | 78.9     |         | 78.9        | 73.7        | 76.9        | <b>75.3</b> | 79.6        |
| 39      | MP3533          | 78.4     |         | 78.4        | 82.0        | 81.2        | <b>81.6</b> | 79.1        |
| 42      | BWL- 8879       | 78.3     |         | 78.3        | 74.7        | 78.5        | <b>76.6</b> |             |
| 44      | GW2017-825      | 80.1     |         | 80.1        | 81.0        | 81.7        | <b>81.4</b> | 79.1        |
| 46      | KA-1935         | 76.6     |         | 76.6        | 78.7        | 79.7        | <b>79.2</b> |             |
| 47      | 2nd HPYT429     | 77.8     |         | 77.8        | 75.3        | 76.6        | <b>76.0</b> | 79.7        |
| 48      | QBI-19 - 11     | 79.1     |         | 79.1        | 78.0        | 79.6        | <b>78.8</b> | 79.7        |
| 49      | GW-2018-936 (d) | 70.1     |         | 70.1        | 76.5        | 78.0        | <b>77.3</b> | 78.8        |
| 51      | HD3304          | 70.3     |         | 70.3        | 73.4        | 77.5        | <b>75.5</b> | 76.8        |
| 54      | MP3520          | 75.8     |         | 75.8        | 69.5        | 73.8        | <b>71.7</b> | 77.3        |
| 56      | GW-2018-934 (d) | 67.6     |         | 67.6        | 77.3        | 79.3        | <b>78.3</b> | 79.7        |
| 57      | BWL5429         | 73.7     |         | 73.7        | 79.0        | 80.9        | <b>80.0</b> | 78.4        |
| 58      | QBI-19 - 10     | 71.9     |         | 71.9        | 77.4        |             | <b>77.4</b> | 79.9        |
| 60      | AR-15-15        |          |         |             | 64.5        | 77.1        | <b>70.8</b> |             |
| 61      | 8th HPYT443     | 74.3     |         | 74.3        | 72.7        | 77.1        | <b>74.9</b> | 78.2        |
| 64      | BWL-8035        | 81.2     |         | 81.2        | 75.0        | 80.3        | <b>77.7</b> | 78.7        |
| 68      | NIAW-3889       | 77.9     |         | 77.9        | 73.2        | 76.5        | <b>74.9</b> | 78.7        |
| 69      | BWL- 8881       | 77.5     |         | 77.5        | 74.7        | 77.8        | <b>76.3</b> | 76.5        |
| 71      | MP3522          | 78.8     |         | 78.8        | 73.7        | 79.9        | <b>76.8</b> | 80.5        |
| 73      | QBI-19 - 15     | 74.2     |         | 74.2        | 73.7        | 75.2        | <b>74.5</b> | 75.8        |
| 74      | BWL- 7827       | 79.3     |         | 79.3        | 78.4        | 80.0        | <b>79.2</b> | 78.3        |
| 76      | 8th HPYT431     | 76.1     |         | 76.1        | 69.0        | 71.9        | <b>70.5</b> | 77.0        |
| 78      | QLD-116         | 76.9     |         | 76.9        | 74.0        | 75.8        | <b>74.9</b> | 77.4        |
| 79      | KA1821          | 78.0     |         | 78.0        | 67.3        | 69.1        | <b>68.2</b> | 77.6        |
| 80      | QBI-19 - 09     | 78.2     |         | 78.2        | 80.0        | 80.0        | <b>80.0</b> | 78.6        |
|         |                 | 75.9     |         | <b>75.9</b> | <b>75.7</b> | <b>77.4</b> | <b>76.5</b> | <b>78.1</b> |

\*less sample

**Table 3: Grain protein content (%) at 12% MB of QCWBN entries**

| Sr. No. | Genotype        |        |       |          |       |         | Mean |
|---------|-----------------|--------|-------|----------|-------|---------|------|
|         |                 | Karnal | Hisar | Ludhiana | Delhi | P.Nagar |      |
| 1       | GW-A-2019-957   | 12.3   | 12.8  | 15.0     | 11.4  | 11.6    | 12.6 |
| 2       | IND-549         | 12.1   | 11.8  | 11.6     | 11.2  | 11.2    | 11.6 |
| 3       | UP2672(C)       | 12.7   | 10.4  | 12.1     | 13.4  | 13.4    | 12.4 |
| 4       | BST-2019-01     | 12.3   | 10.6  | 11.0     | 12.8  | 13.0    | 12.0 |
| 5       | KA-1916         | 11.3   | 8.4   | 8.7      | 12.1  | 10.3    | 10.2 |
| 6       | MACS6222(C)     | 11.5   | 9.0   | 10.5     | 12.0  | 10.6    | 10.7 |
| 7       | KA-1917         | 10.4   | 9.8   | 11.6     | 13.1  | 11.1    | 11.2 |
| 8       | DBW187(C)       |        | 10.4  | 12.4     | 13.1  | 10.9    | 11.7 |
| 9       | WB2(C)          | 13.2   | 10.5  | 12.4     | 14.0  | 12.3    | 12.5 |
| 10      | HD3086(C)       | 12.2   | 8.5   | 11.5     | 12.1  | 10.6    | 11.0 |
| 11      | BWL- 8880       | 13.0   | 11.8  | 12.2     | 13.8  | 10.9    | 12.3 |
| 12      | GW322(C)        | 11.1   | 11.2  | 8.5      | 12.1  | 10.0    | 10.6 |
| 13      | UASDW 30561     | 13.1   | 12.3  | 12.3     | 14.8  | 10.7    | 12.6 |
| 14      | HS490(C)        | 11.5   | 11.1  | 11.3     | 12.6  | 10.6    | 11.4 |
| 15      | BWL- 7829       | 13.5   | 13.2  | 12.1     | 13.3  | 11.4    | 12.7 |
| 16      | QBI-19 - 22     | 12.7   | 10.7  | 13.0     | 12.1  | 11.2    | 11.9 |
| 17      | BWL- 8875       | 13.0   | 11.8  | 11.2     | 12.1  | 11.2    | 11.9 |
| 18      | BWL- 8878       | 12.5   | 10.1  | 11.8     | 12.7  | 11.7    | 11.8 |
| 19      | QLD112          | 13.0   | 10.0  | 11.9     | 13.4  | 14.1    | 12.5 |
| 23      | GW-A-2019-958   | 12.0   | 9.5   | 11.9     | 12.8  | 12.3    | 11.7 |
| 24      | IND-551         | 11.4   | 9.1   | 11.5     | 12.0  | 11.1    | 11.0 |
| 25      | BWL- 8884       | 12.0   | 10.3  | 11.2     | 12.6  | 11.0    | 11.4 |
| 26      | QBI-19 - 14     | 13.2   | 11.1  | 14.9     | 12.3  | 12.5    | 12.8 |
| 29      | BST-2019-02     | 12.3   | 11.2  | 11.2     | 13.6  | 11.6    | 12.0 |
| 31      | QBP-18-14       | 13.4   | 11.6  | 12.3     | 14.4  | 11.7    | 12.7 |
| 34      | QBP-18-15       | 14.4   | 13.9  | 14.0     | 15.0  | 12.6    | 14.0 |
| 36      | BNSR-4          | 14.3   | 12.8  | 12.9     | 15.0  | 13.2    | 13.6 |
| 37      | QBI-19 - 08     | 11.9   | 8.6   | 10.1     | 12.2  | 10.3    | 10.6 |
| 39      | MP3533          | 13.8   | 11.0  | 12.6     | 14.0  | 12.5    | 12.8 |
| 42      | BWL- 8879       | 13.4   | 9.5   | 11.9     | 13.6  | 10.8    | 11.8 |
| 44      | GW2017-825      | 12.7   | 12.6  | 12.2     | 12.5  | 12.4    | 12.5 |
| 46      | KA-1935         | 13.1   | 12.4  | 13.0     | 13.1  | 11.7    | 12.6 |
| 47      | 2nd HPYT429     |        | 10.6  | 10.7     | 11.7  | 10.7    | 10.9 |
| 48      | QBI-19 - 11     | 12.8   | 11.9  | 13.0     | 13.6  | 11.7    | 12.6 |
| 49      | GW-2018-936 (d) | 15.6   | 14.8  | 14.4     | 14.1  | 11.0    | 14.0 |
| 51      | HD3304          | 12.3   | 11.2  | 12.0     | 12.3  | 12.6    | 12.1 |
| 54      | MP3520          | 12.3   | 8.7   | 12.2     | 12.1  | 9.7     | 11.0 |
| 56      | GW-2018-934 (d) |        | 14.5  | 13.1     | 14.7  | 11.0    | 13.3 |
| 57      | BWL5429         | 13.6   | 9.6   | 12.3     | 14.1  | 11.2    | 12.2 |
| 58      | QBI-19 - 10     | 12.6   | 8.9   | 12.2     | 12.8  | 10.7    | 11.4 |
| 60      | AR-15-15        | 15.3   | 12.8  | 13.0     | 15.2  | -       | 14.1 |
| 61      | 8th HPYT443     |        | 12.8  | 12.5     | 13.6  | 12.1    | 12.7 |
| 64      | BWL-8035        | 14.2   | 10.4  | 12.3     | 14.8  | 12.7    | 12.9 |
| 68      | NIAW-3889       | 11.8   | 9.6   | 10.0     | 12.0  | 11.2    | 10.9 |
| 69      | BWL- 8881       | 13.3   | 9.4   | 10.0     | 12.2  | 10.8    | 11.1 |
| 71      | MP3522          | 11.7   | 8.3   | 10.0     | 11.4  | 10.4    | 10.4 |
| 73      | QBI-19 - 15     | 11.8   | 9.1   | 11.0     | 12.4  | 10.4    | 10.9 |
| 74      | BWL- 7827       | 14.1   | 8.9   | 11.0     | 13.7  | 10.9    | 11.7 |
| 76      | 8th HPYT431     | 12.8   | 11.8  | 9.8      | 12.5  | 9.8     | 11.4 |
| 78      | QLD-116         |        | 12.9  | 10.1     | 12.7  | 11.1    | 11.7 |
| 79      | KA1821          | 13.3   | 11.7  | 9.5      | 12.8  | 10.7    | 11.6 |
| 80      | QBI-19 - 09     | 14.8   | 12.5  | 11.3     | 14.3  | 12.2    | 13.0 |
|         |                 | 12.3   | 12.8  | 15.0     | 11.4  | 11.6    | 12.6 |

**Table 3: Grain protein content (%) at 12% MB of QCWBN entries**

| Sr. No. | Genotype        |          |        |             |        |         |             |         |
|---------|-----------------|----------|--------|-------------|--------|---------|-------------|---------|
|         |                 | Varanasi | Kanpur | Mean        | Indore | Vijapur | Mean        | Dharwad |
| 1       | GW-A-2019-957   | 10.9     | 10.9   | <b>10.9</b> | 11.4   | 12.4    | <b>11.9</b> | 14.4    |
| 2       | IND-549         | 10.1     | 11.3   | <b>10.7</b> | 10.7   | 11.4    | <b>11.0</b> | 14.5    |
| 3       | UP2672(C)       | 11.1     | 9.5    | <b>10.3</b> | 11.1   | 11.4    | <b>11.3</b> | 16.0    |
| 4       | BST-2019-01     | 11.1     | 11.5   | <b>11.3</b> | 12.9   | 13.1    | <b>13.0</b> | 12.7    |
| 5       | KA-1916         | 10.0     | 10.3   | <b>10.2</b> | 10.1   | 11.0    | <b>10.5</b> | 12.6    |
| 6       | MACS6222(C)     | 10.5     | 10.0   | <b>10.3</b> | 10.9   | 11.2    | <b>11.1</b> | 13.0    |
| 7       | KA-1917         | 10.7     | 11.4   | <b>11.0</b> | 10.1   | 10.8    | <b>10.5</b> | 12.3    |
| 8       | DBW187(C)       | 10.7     | 11.8   | <b>11.2</b> | 10.4   | 13.1    | <b>11.7</b> | 16.2    |
| 9       | WB2(C)          | 11.8     | 12.3   | <b>12.1</b> | 11.2   | 12.7    | <b>12.0</b> | 15.6    |
| 10      | HD3086(C)       | 11.0     | 10.7   | <b>10.9</b> | 9.1    | 10.8    | <b>10.0</b> | 15.4    |
| 11      | BWL- 8880       | 11.7     | 12.9   | <b>12.3</b> | 11.7   | 14.4    | <b>13.0</b> | 15.8    |
| 12      | GW322(C)        | 9.6      | 11.9   | <b>10.7</b> | 9.6    | 11.0    | <b>10.3</b> | 12.2    |
| 13      | UASDW 30561     | 12.7     | 12.3   | <b>12.5</b> | 11.0   | 14.4    | <b>12.7</b> | 14.6    |
| 14      | HS490(C)        | 11.1     | 12.6   | <b>11.8</b> | 10.1   | 11.6    | <b>10.8</b> | 13.4    |
| 15      | BWL- 7829       | 12.7     | 12.9   | <b>12.8</b> | 13.5   | 14.4    | <b>13.9</b> | 17.4    |
| 16      | QBI-19 - 22     | 0.0      | 9.9    | <b>5.0</b>  | 10.5   | 11.6    | <b>11.0</b> | 14.3    |
| 17      | BWL- 8875       | 10.7     | 10.3   | <b>10.5</b> | 11.5   | 11.6    | <b>11.6</b> | 14.0    |
| 18      | BWL- 8878       | 10.7     | 10.7   | <b>10.7</b> | 13.0   | 12.8    | <b>12.9</b> | 16.3    |
| 19      | QLD112          | 12.6     | 10.5   | <b>11.5</b> | 10.9   | 10.7    | <b>10.8</b> | 16.6    |
| 23      | GW-A-2019-958   | 10.1     | 13.0   | <b>11.5</b> | 11.4   | 11.6    | <b>11.5</b> | 13.5    |
| 24      | IND-551         | 10.3     | 10.8   | <b>10.6</b> | 12.6   | 13.6    | <b>13.1</b> | 14.6    |
| 25      | BWL- 8884       | 10.0     | 10.7   | <b>10.4</b> | 12.8   | 12.6    | <b>12.7</b> | 16.5    |
| 26      | QBI-19 - 14     | 11.1     | 11.3   | <b>11.2</b> | 10.7   | 12.1    | <b>11.4</b> | 13.3    |
| 29      | BST-2019-02     | 10.1     | 10.2   | <b>10.1</b> | 12.1   | 12.2    | <b>12.1</b> | 14.0    |
| 31      | QBP-18-14       | 11.8     | 13.3   | <b>12.5</b> | 12.5   | 13.7    | <b>13.1</b> | 16.1    |
| 34      | QBP-18-15       | 11.3     | 13.4   | <b>12.3</b> | 13.6   | 14.2    | <b>13.9</b> | 16.1    |
| 36      | BNSR-4          | 10.9     | 12.8   | <b>11.8</b> | 12.1   | 13.1    | <b>12.6</b> | 14.7    |
| 37      | QBI-19 - 08     | 9.3      | 9.6    | <b>9.5</b>  | 10.3   | 10.5    | <b>10.4</b> | 13.5    |
| 39      | MP3533          | 10.3     | 13.9   | <b>12.1</b> | 11.5   | 11.8    | <b>11.6</b> | 14.3    |
| 42      | BWL- 8879       | 10.2     | 11.3   | <b>10.7</b> | 11.7   | 10.4    | <b>11.0</b> | 17.2    |
| 44      | GW2017-825      | 9.4      | 12.5   | <b>10.9</b> | 10.9   | 10.9    | <b>10.9</b> | 13.8    |
| 46      | KA-1935         | 9.8      | 11.9   | <b>10.9</b> | 11.6   | 11.9    | <b>11.8</b> | 16.7    |
| 47      | 2nd HPYT429     | 9.1      | 11.9   | <b>10.5</b> | 11.0   | 9.9     | <b>10.4</b> | 14.1    |
| 48      | QBI-19 - 11     | 10.4     | 10.4   | <b>10.4</b> | 11.9   | 12.3    | <b>12.1</b> | 15.0    |
| 49      | GW-2018-936 (d) | 13.0     | 11.5   | <b>12.3</b> | 13.1   | 14.6    | <b>13.9</b> | 15.7    |
| 51      | HD3304          | 11.3     | 11.0   | <b>11.2</b> | 11.7   | 11.2    | <b>11.4</b> | 14.4    |
| 54      | MP3520          | 11.5     | 12.4   | <b>12.0</b> | 10.7   | 9.8     | <b>10.2</b> | 15.6    |
| 56      | GW-2018-934 (d) | 14.2     | 12.1   | <b>13.2</b> | 14.1   | 13.8    | <b>14.0</b> | 14.4    |
| 57      | BWL5429         | 12.9     | 11.1   | <b>12.0</b> | 11.8   | 12.0    | <b>11.9</b> | 15.7    |
| 58      | QBI-19 - 10     | 12.8     | 11.9   | <b>12.3</b> | 11.8   | 11.5    | <b>11.7</b> | 14.7    |
| 60      | AR-15-15        |          | 11.1   | <b>11.1</b> | 10.9   | 11.3    | <b>11.1</b> |         |
| 61      | 8th HPYT443     | 9.6      | 11.1   | <b>10.3</b> |        | 12.0    | <b>12.0</b> | 14.6    |
| 64      | BWL-8035        | 12.2     | 10.9   | <b>11.6</b> | 13.0   | 12.8    | <b>12.9</b> | 14.9    |
| 68      | NIAW-3889       | 9.1      | 9.5    | <b>9.3</b>  | 12.1   | 11.0    | <b>11.6</b> | 15.0    |
| 69      | BWL- 8881       | 9.3      | 12.3   | <b>10.8</b> | 13.9   | 11.0    | <b>12.5</b> | 16.5    |
| 71      | MP3522          | 9.0      | 14.4   | <b>11.7</b> | 11.3   | 9.7     | <b>10.5</b> | 13.0    |
| 73      | QBI-19 - 15     | 9.9      | 11.1   | <b>10.5</b> | 10.9   | 10.6    | <b>10.7</b> | 13.1    |
| 74      | BWL- 7827       | 10.7     | 10.7   | <b>10.7</b> | 11.5   | 10.6    | <b>11.0</b> | 15.7    |
| 76      | 8th HPYT431     | 10.4     | 13.5   | <b>11.9</b> | 13.5   | 12.1    | <b>12.8</b> | 15.1    |
| 78      | QLD-116         | 10.2     | 11.8   | <b>11.0</b> | 13.2   | 12.7    | <b>13.0</b> | 15.5    |
| 79      | KA1821          | 9.8      | 13.6   | <b>11.7</b> | 9.9    | 11.1    | <b>10.5</b> | 13.5    |
| 80      | QBI-19 - 09     | 11.1     | 10.6   | <b>10.9</b> | 11.6   | 13.1    | <b>12.4</b> | 15.6    |
|         |                 | 10.9     | 10.9   | <b>10.9</b> | 11.4   | 12.4    | <b>11.9</b> | 14.4    |

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

| Sr. No. | Genotype        |           |           |           |           |           | Mean      |
|---------|-----------------|-----------|-----------|-----------|-----------|-----------|-----------|
|         |                 | Karnal    | Hisar     | Ludhiana  | Delhi     | P.Nagar   |           |
| 1       | GW-A-2019-957   | 50        | 48        | 53        | 55        | 53        | 52        |
| 2       | IND-549         | 65        | 53        | 65        | 68        | 62        | 63        |
| 3       | UP2672(C)       | 69        | 57        | 71        | 74        | 70        | 68        |
| 4       | BST-2019-01     | 29        | 29        | 26        | 36        | 41        | 32        |
| 5       | KA-1916         | 46        | 36        | 37        | 53        | 46        | 43        |
| 6       | MACS6222(C)     | 41        | 34        | 38        | 53        | 47        | 42        |
| 7       | KA-1917         | 34        | 39        | 42        | 50        | 49        | 43        |
| 8       | DBW187(C)       | 75        | 60        | 76        | 74        | 68        | 70        |
| 9       | WB2(C)          | 76        | 65        | 75        | 76        | 76        | 74        |
| 10      | HD3086(C)       | 69        | 50        | 62        | 74        | 57        | 62        |
| 11      | BWL- 8880       | 67        | 67        | 69        | 69        | 60        | 66        |
| 12      | GW322(C)        | 43        | 43        | 37        | 50        | 41        | 43        |
| 13      | UASDW 30561     | 46        | 34        | 36        | 53        | 53        | 44        |
| 14      | HS490(C)        | 41        | 39        | 39        | 51        | 39        | 42        |
| 15      | BWL- 7829       | 60        | 55        | 57        | 67        | 53        | 58        |
| 16      | QBI-19 - 22     | 46        | 39        | 47        | 50        | 39        | 44        |
| 17      | BWL- 8875       | 69        | 64        | 63        | 70        | 60        | 65        |
| 18      | BWL- 8878       | 68        | 60        | 58        | 69        | 61        | 63        |
| 19      | QLD112          | 76        | 49        | 49        | 57        | 59        | 58        |
| 23      | GW-A-2019-958   | 53        | 44        | 48        | 52        | 52        | 50        |
| 24      | IND-551         | 60        | 51        | 59        | 61        | 60        | 58        |
| 25      | BWL- 8884       | 57        | 54        | 60        | 64        | 52        | 58        |
| 26      | QBI-19 - 14     | 46        | 41        | 56        | 45        | 47        | 47        |
| 29      | BST-2019-02     | 60        | 54        | 63        | 65        | 60        | 60        |
| 31      | QBP-18-14       | 75        | 70        | 59        | 67        | 70        | 68        |
| 34      | QBP-18-15       | 79        | 76        | 79        | 74        | 69        | 75        |
| 36      | BNSR-4          | 78        | 69        | 71        | 76        | 68        | 73        |
| 37      | QBI-19 - 08     | 51        | 47        | 51        | 65        | 50        | 53        |
| 39      | MP3533          | 59        | 54        | 62        | 70        | 62        | 61        |
| 42      | BWL- 8879       | 75        | 62        | 67        | 77        | 71        | 70        |
| 44      | GW2017-825      | 50        | 48        | 49        | 54        | 59        | 52        |
| 46      | KA-1935         | 62        | 55        | 61        | 70        | 67        | 63        |
| 47      | 2nd HPYT429     | 71        | 74        | 64        | 74        | 64        | 70        |
| 48      | QBI-19 - 11     | 65        | 67        | 64        | 76        | 66        | 68        |
| 49      | GW-2018-936 (d) | 29        | 27        | 27        | 28        | 34        | 29        |
| 51      | HD3304          | 74        | 74        | 69        | 76        | 76        | 74        |
| 54      | MP3520          | 62        | 53        | 63        | 77        | 56        | 62        |
| 56      | GW-2018-934 (d) | 31        | 36        | 23        | 26        | 36        | 31        |
| 57      | BWL5429         | 78        | 69        | 79        | 77        | 74        | 75        |
| 58      | QBI-19 - 10     | 67        | 53        | 62        | 71        | 58        | 62        |
| 60      | AR-15-15        | 67        | 56        | 60        | 76        | 6         | 53        |
| 61      | 8th HPYT443     | 79        | 74        | 79        | 79        | 79        | 78        |
| 64      | BWL-8035        | 74        | 63        | 68        | 76        | 69        | 70        |
| 68      | NIAW-3889       | 73        | 62        | 60        | 79        | 67        | 68        |
| 69      | BWL- 8881       | 63        | 60        | 57        | 65        | 60        | 61        |
| 71      | MP3522          | 71        | 51        | 64        | 48        | 63        | 60        |
| 73      | QBI-19 - 15     | 43        | 36        | 39        | 47        | 36        | 40        |
| 74      | BWL- 7827       | 63        | 53        | 60        | 75        | 69        | 64        |
| 76      | 8th HPYT431     | 64        | 55        | 56        | 74        | 52        | 60        |
| 78      | QLD-116         | 70        | 63        | 57        | 74        | 64        | 66        |
| 79      | KA1821          | 71        | 60        | 60        | 75        | 64        | 66        |
| 80      | QBI-19 - 09     | 63        | 55        | 54        | 63        | 55        | 58        |
|         |                 | <b>61</b> | <b>54</b> | <b>57</b> | <b>64</b> | <b>57</b> | <b>58</b> |

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

| Sr. No. | Genotype        | Varanasi  | Kanpur    | Mean      | Indore    | Vijapur   | Mean      | Dharwad   |
|---------|-----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|         |                 |           |           |           |           |           |           |           |
| 1       | GW-A-2019-957   | 56        | 59        | <b>57</b> | 43        | 47        | <b>45</b> | 48        |
| 2       | IND-549         | 59        | 72        | <b>66</b> | 63        | 59        | <b>61</b> | 70        |
| 3       | UP2672(C)       | 63        | 67        | <b>65</b> | 69        | 69        | <b>69</b> | 71        |
| 4       | BST-2019-01     | 40        | 34        | <b>37</b> | 34        | 31        | <b>33</b> | 29        |
| 5       | KA-1916         | 48        | 53        | <b>50</b> | 47        | 42        | <b>44</b> | 44        |
| 6       | MACS6222(C)     | 53        | 52        | <b>52</b> | 45        | 40        | <b>42</b> | 67        |
| 7       | KA-1917         | 51        | 55        | <b>53</b> | 42        | 39        | <b>40</b> | 46        |
| 8       | DBW187(C)       | 75        | 76        | <b>75</b> | 76        | 77        | <b>76</b> | 71        |
| 9       | WB2(C)          | 71        | 77        | <b>74</b> | 78        | 74        | <b>76</b> | 75        |
| 10      | HD3086(C)       | 63        | 64        | <b>63</b> | 56        | 67        | <b>61</b> | 67        |
| 11      | BWL- 8880       | 62        | 76        | <b>69</b> | 63        | 70        | <b>67</b> | 63        |
| 12      | GW322(C)        | 43        | 48        | <b>46</b> | 47        | 52        | <b>49</b> | 45        |
| 13      | UASDW 30561     | 48        | 49        | <b>49</b> | 41        | 38        | <b>39</b> | 41        |
| 14      | HS490(C)        | 47        | 57        | <b>52</b> | 43        | 42        | <b>42</b> | 47        |
| 15      | BWL- 7829       | 64        | 62        | <b>63</b> | 70        | 64        | <b>67</b> | 65        |
| 16      | QBI-19 - 22     | 40        | 49        | <b>45</b> | 54        | 48        | <b>51</b> | 48        |
| 17      | BWL- 8875       | 61        | 62        | <b>61</b> | 63        | 65        | <b>64</b> | 60        |
| 18      | BWL- 8878       | 61        | 70        | <b>65</b> | 73        | 70        | <b>71</b> | 69        |
| 19      | QLD112          | 49        | 58        | <b>54</b> | 60        | 61        | <b>60</b> | 54        |
| 23      | GW-A-2019-958   | 48        | 58        | <b>53</b> | 57        | 51        | <b>54</b> | 70        |
| 24      | IND-551         | 55        | 61        | <b>58</b> | 73        | 72        | <b>72</b> | 71        |
| 25      | BWL- 8884       | 56        | 59        | <b>57</b> | 67        | 64        | <b>66</b> | 69        |
| 26      | QBI-19 - 14     | 45        | 50        | <b>47</b> | 44        | 43        | <b>43</b> | 48        |
| 29      | BST-2019-02     | 56        | 69        | <b>63</b> | 71        | 67        | <b>69</b> | 67        |
| 31      | QBP-18-14       | 71        | 74        | <b>73</b> | 72        | 76        | <b>74</b> | 75        |
| 34      | QBP-18-15       | 77        | 77        | <b>77</b> | 78        | 79        | <b>78</b> | 76        |
| 36      | BNSR-4          | 65        | 76        | <b>71</b> | 75        | 69        | <b>72</b> | 51        |
| 37      | QBI-19 - 08     | 51        | 53        | <b>52</b> | 67        | 55        | <b>61</b> | 62        |
| 39      | MP3533          | 55        | 62        | <b>59</b> | 65        | 56        | <b>61</b> | 62        |
| 42      | BWL- 8879       | 77        | 74        | <b>75</b> | 79        | 63        | <b>71</b> | 74        |
| 44      | GW2017-825      | 47        | 68        | <b>57</b> | 50        | 47        | <b>48</b> | 49        |
| 46      | KA-1935         | 59        | 64        | <b>62</b> | 67        | 61        | <b>64</b> | 76        |
| 47      | 2nd HPYT429     | 60        | 78        | <b>69</b> | 75        | 67        | <b>71</b> | 73        |
| 48      | QBI-19 - 11     | 64        | 66        | <b>65</b> | 76        | 62        | <b>69</b> | 67        |
| 49      | GW-2018-936 (d) | 33        | 36        | <b>35</b> | 24        | 34        | <b>29</b> | 32        |
| 51      | HD3304          | 74        | 68        | <b>71</b> | 76        | 67        | <b>71</b> | 74        |
| 54      | MP3520          | 69        | 74        | <b>72</b> | 73        | 59        | <b>66</b> | 68        |
| 56      | GW-2018-934 (d) | 32        | 39        | <b>36</b> | 24        | 29        | <b>27</b> | 32        |
| 57      | BWL5429         | 74        | 75        | <b>74</b> | 79        | 64        | <b>71</b> | 79        |
| 58      | QBI-19 - 10     | 69        | 69        | <b>69</b> | 75        | 59        | <b>67</b> | 68        |
| 60      | AR-15-15        | 6         | 60        | <b>33</b> | 60        | 53        | <b>56</b> | 70        |
| 61      | 8th HPYT443     | 44        | 78        | <b>61</b> | 78        | 71        | <b>75</b> | 62        |
| 64      | BWL-8035        | 68        | 62        | <b>65</b> | 74        | 71        | <b>73</b> | 70        |
| 68      | NIAW-3889       | 57        | 63        | <b>60</b> | 79        | 61        | <b>70</b> | 64        |
| 69      | BWL- 8881       | 55        | 63        | <b>59</b> | 78        | 62        | <b>70</b> | 69        |
| 71      | MP3522          | 61        | 75        | <b>68</b> | 73        | 56        | <b>64</b> | 70        |
| 73      | QBI-19 - 15     | 40        | 41        | <b>41</b> | 48        | 36        | <b>42</b> | 47        |
| 74      | BWL- 7827       | 60        | 57        | <b>59</b> | 75        | 63        | <b>69</b> | 75        |
| 76      | 8th HPYT431     | 57        | 59        | <b>58</b> | 75        | 68        | <b>71</b> | 62        |
| 78      | QLD-116         | 62        | 73        | <b>67</b> | 76        | 71        | <b>74</b> | 74        |
| 79      | KA1821          | 61        | 72        | <b>67</b> | 62        | 62        | <b>62</b> | 68        |
| 80      | QBI-19 - 09     | 56        | 55        | <b>56</b> | 62        | 57        | <b>60</b> | 62        |
|         |                 | <b>56</b> | <b>62</b> | <b>59</b> | <b>63</b> | <b>58</b> | <b>61</b> | <b>62</b> |

**Table 5: Fe content (ppm) of QCWBN entries**

| Sr. No. | Genotype        | Delhi | Karnal        | Hisar | Ludhiana | Kanpur | Vijapur | Indore |
|---------|-----------------|-------|---------------|-------|----------|--------|---------|--------|
|         |                 | 1     | GW-A-2019-957 | 28.8  | 39.2     | 43.6   | 36.5    | 37.0   |
| 2       | IND-549         | 36.6  | 42.9          | 44.0  | 40.1     | 44.9   | 35.5    | 47.9   |
| 4       | BST-2019-01     | 29.2  | 31.6          | 34.0  | 30.2     | 33.1   | 32.6    | 43.0   |
| 5       | KA-1916         | 39.8  | 37.3          | 38.6  | 32.2     | 36.1   | 34.3    | 42.2   |
| 7       | KA-1917         | 36.6  | 41.2          | 36.8  | 38.3     | 37.2   | 36.7    | 37.8   |
| 11      | BWL- 8880       | 35.4  | 37.2          | 40.0  | 32.9     | 40.1   | 36.2    | 39.0   |
| 13      | UASDW 30561     | 36.5  | 39.5          | 43.8  | 33.1     | 34.0   | 32.6    | 40.8   |
| 15      | BWL- 7829       | 34.7  | 37.4          | 39.2  | 35.2     | 36.2   | 34.1    | 37.0   |
| 16      | QBI-19 - 22     | 32.7  | 34.1          | 34.1  | 32.1     | 32.0   | 30.5    | 35.7   |
| 17      | BWL- 8875       | 37.1  | 41.1          | 59.1  | 33.3     | 34.3   | 31.6    | 38.0   |
| 18      | BWL- 8878       | 40.5  | 38.2          | 36.5  | 34.7     | 33.8   | 34.1    | 39.4   |
| 19      | QLD112          | 40.9  | 37.4          | 35.4  | 34.1     | 33.8   | 36.0    | 41.3   |
| 23      | GW-A-2019-958   | 36.0  | 33.7          | 38.1  | 34.5     | 34.2   | 35.4    | 38.1   |
| 24      | IND-551         | 35.0  | 37.6          | 36.7  | 35.8     | 29.3   | 35.2    | 36.0   |
| 25      | BWL- 8884       | 36.9  | 36.2          | 38.2  | 36.4     | 36.5   | 31.5    | 38.3   |
| 26      | QBI-19 – 14     | 33.3  | 33.1          | 28.9  | 42.2     | 33.7   | 30.3    | 38.4   |
| 29      | BST-2019-02     | 35.2  | 31.9          | 34.0  | 30.5     | 35.8   | 34.0    | 36.4   |
| 31      | QBP-18-14       | 37.8  | 37.1          | 33.9  | 30.8     | 39.9   | 31.6    | 38.9   |
| 34      | QBP-18-15       | 42.7  | 42.5          | 45.2  | 37.5     | 40.4   | 37.3    | 42.1   |
| 36      | BNSR-4          | 43.0  | 36.8          | 39.0  | 39.9     | 37.9   | 36.2    | 38.8   |
| 37      | QBI-19 – 08     | 36.6  | 35.7          | 42.4  | 34.3     | 32.9   | 33.4    | 35.3   |
| 39      | MP3533          | 38.5  | 45.0          | 40.2  | 40.1     | 38.0   | 36.1    | 43.5   |
| 42      | BWL- 8879       | 39.9  | 41.3          | 39.0  | 35.8     | 39.5   | 30.1    | 40.9   |
| 44      | GW2017-825      | 38.0  | 44.2          | 41.1  | 31.4     | 36.8   | 33.3    | 42.2   |
| 46      | KA-1935         | 34.0  | 34.9          | 46.5  | 35.9     | 36.5   | 35.8    | 37.4   |
| 47      | 2nd HPYT429     | 33.7  | 37.0          | 39.7  | 36.9     | 38.9   | 38.5    | 35.5   |
| 48      | QBI-19 - 11     | 42.7  | 38.0          | 38.6  | 32.1     | 35.9   | 35.6    | 40.8   |
| 49      | GW-2018-936 (d) | 34.2  | 41.5          | 39.6  | 36.5     | 34.1   | 33.9    | 37.9   |
| 51      | HD3304          | 37.6  | 39.0          | 38.8  | 31.0     | 38.1   | 36.2    | 39.9   |
| 54      | MP3520          | 35.3  | 33.2          | 39.8  | 27.2     | 36.1   | 30.8    | 37.6   |
| 56      | GW-2018-934 (d) | 33.0  | 38.7          | 44.2  | 29.8     | 35.7   | 34.2    | 37.4   |
| 57      | BWL5429         | 33.8  | 38.5          | 38.6  | 32.1     | 34.6   | 34.9    | 35.2   |
| 58      | QBI-19 - 10     | 42.5  | 40.3          | 33.3  | 36.7     | 33.5   | 33.7    | 38.9   |
| 60      | AR-15-15        | 34.6  | 37.9          | 42.7  | 32.9     | 33.5   | 30.8    | 35.2   |
| 61      | 8th HPYT443     | 43.1  | 44.4          | 39.2  | 34.2     | 31.4   | 38.9    | 40.4   |
| 64      | BWL-8035        | 36.7  | 35.8          | 42.6  | 33.3     | 38.6   | 35.0    | 36.4   |
| 68      | NIAW-3889       | 40.0  | 35.4          | 35.0  | 29.4     | 33.4   | 31.2    | 36.5   |
| 69      | BWL- 8881       | 35.1  | 39.2          | 37.1  | 34.5     | 37.0   | 29.1    | 39.5   |
| 71      | MP3522          | 32.5  | 31.1          | 38.9  | 31.6     | 39.0   | 31.9    | 35.5   |
| 73      | QBI-19 - 15     | 29.6  | 31.4          | 36.8  | 31.2     | 29.7   | 31.4    | 33.5   |
| 74      | BWL- 7827       | 37.3  | 38.8          | 36.6  | 32.6     | 33.2   | 34.7    | 38.5   |
| 76      | 8th HPYT431     | 37.2  | 33.0          | 39.4  | 29.6     | 36.5   | 35.3    | 38.2   |
| 78      | QLD-116         | 37.1  | 41.8          | 43.3  | 29.6     | 37.3   | 36.6    | 40.4   |
| 79      | KA1821          | 31.9  | 31.6          | 38.5  | 26.6     | 35.4   | 32.4    | 35.7   |
| 80      | QBI-19 - 09     | 40.9  | 41.0          | 42.1  | 36.6     | 37.7   | 35.7    | 41.5   |

**Table 5: Fe content (PPM) of QCWBN entries (Checks)**

| Sr. No. | Genotype    | Delhi | Karnal    | Hisar | Ludhiana | Kanpur | Vijapur | Indore |
|---------|-------------|-------|-----------|-------|----------|--------|---------|--------|
|         |             | 1     | UP2672(C) | 37.5  | 32.9     | 35     | 31.4    | 34.5   |
| 2       | MACS6222(C) | 36.2  | 37.2      | 36.7  | 30.1     | 33.1   | 34.4    | 42.9   |
| 3       | DBW187(C)   | 35.5  | 36.8      | 45.1  | 35.1     | 37.4   | 36.2    | 35.5   |
| 4       | WB2(C)      | 36    | 34.8      | 35.6  | 36.1     | 37.6   | 36.3    | 39.9   |
| 5       | HD3086(C)   | 36.4  | 34.7      | 33.2  | 33.4     | 37.7   | 33.9    | 35.2   |
| 6       | GW322(C)    | 37.4  | 34.8      | 41.9  | 31.5     | 35.9   | 31.1    | 34.4   |
| 7       | HS490(C)    | 34.3  | 32.3      | 40.3  | 33.6     | 36.8   | 33.8    | 34.1   |
| 1       | UP2672(C)   | 36.1  | 35.3      | 43.8  | 33.7     | 34.4   | 29.3    | 36.4   |
| 2       | MACS6222(C) | 39    | 33.6      | 41.7  | 33.1     | 38     | 36.2    | 41.4   |
| 3       | DBW187(C)   | 33.7  | 39        | 45.9  | 29.5     | 44.1   | 32.1    | 35.8   |
| 4       | WB2(C)      | 39.8  | 41.5      | 40.3  | 35.3     | 37.7   | 33      | 39.4   |
| 5       | HD3086(C)   | 37.2  | 41.7      | 39.4  | 32.6     | 40.2   | 31.1    | 37.2   |
| 6       | GW322(C)    | 33.3  | 35.6      | 38.2  | 30.7     | 36.6   | 27.8    | 36.5   |
| 7       | HS490(C)    | 34.3  | 35.8      | 36.7  | 28.2     | 31.4   | 31.1    | 33.2   |
| 1       | UP2672(C)   | 38    | 37.5      | 37.5  | 32.4     | 34.3   | 32.4    | 37     |
| 2       | MACS6222(C) | 40.5  | 37.1      | 36.5  | 32.2     | 34.8   | 32.5    | 40.3   |
| 3       | DBW187(C)   | 38.2  | 39.2      | 38.6  | 31.8     | 33.3   | 32.3    | 38.8   |
| 4       | WB2(C)      | 38.3  | 41.9      | 43.4  | 37       | 41.5   | 33.8    | 39.7   |
| 5       | HD3086(C)   | 38.7  | 39.8      | 38.1  | 33.8     | 38.3   | 33.1    | 34.7   |
| 6       | GW322(C)    | 35.4  | 35.1      | 40.8  | 30       | 39.4   | 31.3    | 33.6   |
| 7       | HS490(C)    | 34.4  | 38.7      | 35.7  | 30.3     | 36.3   | 30.1    | 31.9   |
| 1       | UP2672(C)   | 35.6  | 41.4      | 43.3  | 36.7     | 35.1   | 35.7    | 36.4   |
| 2       | MACS6222(C) | 34.9  | 42        | 40.5  | 30.7     | 30.6   | 49.4    | 38.3   |
| 3       | DBW187(C)   | 38    | 37.6      | 33.3  | 31.3     | 30.8   | 33.1    | 38.2   |
| 4       | WB2(C)      | 39.5  | 38.7      | 37.7  | 34.3     | 37     | 33.2    | 37.4   |
| 5       | HD3086(C)   | 32.8  | 39.2      | 46.8  | 34.9     | 37.4   | 38.5    | 37.5   |
| 6       | GW322(C)    | 32.2  | 33.9      | 35.4  | 29.5     | 37.7   | 31.8    | 36.1   |
| 7       | HS490(C)    | 33.5  | 32        | 33.7  | 30.4     | 33.1   | 32.2    | 32.4   |
|         |             |       |           |       |          |        |         |        |

**Table 6: Zn content in ppm of QCWBN entries**

| Sr. No. | Genotype        | Delhi | Karnal        | Hisar | Ludhiana | Kanpur | Vijapur | Indore |
|---------|-----------------|-------|---------------|-------|----------|--------|---------|--------|
|         |                 | 1     | GW-A-2019-957 | 45.2  | 45.2     | 50.2   | 60.4    | 28.7   |
| 2       | IND-549         | 48.4  | 33.9          | 41.9  | 40.0     | 36.2   | 56.3    | 51.2   |
| 4       | BST-2019-01     | 44.6  | 32.8          | 36.0  | 36.5     | 35.5   | 51.1    | 44.3   |
| 5       | KA-1916         | 67.2  | 33.4          | 32.8  | 29.6     | 37.3   | 58.4    | 40.8   |
| 7       | KA-1917         | 57.8  | 40.5          | 37.0  | 36.9     | 34.7   | 54.2    | 50.8   |
| 11      | BWL- 8880       | 57.2  | 33.3          | 36.5  | 38.7     | 33.9   | 55.6    | 47.6   |
| 13      | UASDW 30561     | 57.3  | 33.3          | 38.9  | 55.0     | 33.7   | 49.6    | 48.2   |
| 15      | BWL- 7829       | 51.3  | 40.2          | 39.6  | 38.9     | 34.5   | 57.2    | 52.8   |
| 16      | QBI-19 - 22     | 53.9  | 33.1          | 36.1  | 43.0     | 28.0   | 47.3    | 43.6   |
| 17      | BWL- 8875       | 52.4  | 36.7          | 38.9  | 28.0     | 29.7   | 43.0    | 42.8   |
| 18      | BWL- 8878       | 69.8  | 36.4          | 34.2  | 38.1     | 36.1   | 51.4    | 47.6   |
| 19      | QLD112          | 60.3  | 34.4          | 30.9  | 32.8     | 36.1   | 43.9    | 41.2   |
| 23      | GW-A-2019-958   | 56.7  | 30.0          | 35.7  | 40.2     | 42.2   | 53.8    | 47.3   |
| 24      | IND-551         | 50.3  | 35.7          | 29.5  | 31.2     | 33.1   | 52.2    | 47.2   |
| 25      | BWL- 8884       | 61.8  | 31.5          | 33.2  | 31.7     | 30.5   | 46.4    | 42.7   |
| 26      | QBI-19 – 14     | 59.2  | 37.7          | 31.9  | 51.9     | 30.5   | 56.1    | 39.6   |
| 29      | BST-2019-02     | 63.1  | 28.8          | 27.5  | 28.3     | 27.5   | 48.5    | 47.1   |
| 31      | QBP-18-14       | 66.3  | 34.3          | 37.0  | 32.1     | 37.3   | 57.3    | 49.0   |
| 34      | QBP-18-15       | 74.4  | 47.0          | 48.3  | 37.2     | 36.7   | 50.8    | 48.0   |
| 36      | BNSR-4          | 76.8  | 30.8          | 39.7  | 35.1     | 33.6   | 55.2    | 44.8   |
| 37      | QBI-19 – 08     | 59.6  | 33.9          | 35.6  | 26.7     | 31.4   | 47.9    | 42.9   |
| 39      | MP3533          | 54.7  | 43.6          | 32.0  | 34.2     | 34.0   | 52.7    | 44.2   |
| 42      | BWL- 8879       | 57.0  | 35.4          | 29.8  | 35.2     | 33.9   | 45.4    | 45.7   |
| 44      | GW2017-825      | 54.7  | 43.0          | 36.7  | 34.0     | 27.2   | 56.4    | 42.7   |
| 46      | KA-1935         | 56.0  | 34.1          | 41.1  | 38.3     | 42.2   | 48.8    | 37.8   |
| 47      | 2nd HPYT429     | 50.2  | 31.6          | 40.8  | 31.1     | 32.3   | 53.9    | 38.8   |
| 48      | QBI-19 - 11     | 67.4  | 37.5          | 42.1  | 31.2     | 30.6   | 53.0    | 47.6   |
| 49      | GW-2018-936 (d) | 46.6  | 51.3          | 44.7  | 45.7     | 37.4   | 51.7    | 46.5   |
| 51      | HD3304          | 55.3  | 38.1          | 42.2  | 32.9     | 39.2   | 54.6    | 41.9   |
| 54      | MP3520          | 42.8  | 29.1          | 34.7  | 23.1     | 34.4   | 39.9    | 43.0   |
| 56      | GW-2018-934 (d) | 45.3  | 44.0          | 54.5  | 30.3     | 40.1   | 52.9    | 47.9   |
| 57      | BWL5429         | 55.9  | 32.6          | 35.6  | 24.8     | 36.9   | 53.8    | 41.1   |
| 58      | QBI-19 - 10     | 67.8  | 33.3          | 31.6  | 31.9     | 41.4   | 55.5    | 47.6   |
| 60      | AR-15-15        | 67.8  | 35.2          | 53.2  | 29.8     | 39.6   | 51.3    | 49.0   |
| 61      | 8th HPYT443     | 60.2  | 33.3          | 29.5  | 34.1     | 29.1   | 52.2    | 44.3   |
| 64      | BWL-8035        | 62.8  | 32.7          | 41.9  | 30.9     | 32.0   | 54.9    | 47.3   |
| 68      | NIAW-3889       | 51.6  | 29.1          | 33.2  | 33.0     | 33.5   | 41.2    | 42.9   |
| 69      | BWL- 8881       | 61.2  | 28.6          | 38.4  | 33.4     | 33.6   | 41.1    | 44.4   |
| 71      | MP3522          | 44.2  | 24.9          | 28.5  | 36.9     | 42.2   | 37.4    | 41.8   |
| 73      | QBI-19 - 15     | 46.8  | 29.1          | 33.3  | 38.0     | 42.0   | 49.2    | 38.4   |
| 74      | BWL- 7827       | 72.8  | 30.2          | 40.8  | 40.5     | 41.6   | 54.0    | 44.7   |
| 76      | 8th HPYT431     | 63.3  | 30.9          | 26.8  | 33.5     | 49.6   | 49.8    | 43.5   |
| 78      | QLD-116         | 63.4  | 31.6          | 35.6  | 29.8     | 29.8   | 47.3    | 41.0   |
| 79      | KA1821          | 47.5  | 27.1          | 28.0  | 30.1     | 36.1   | 42.9    | 40.3   |
| 80      | QBI-19 - 09     | 72.2  | 31.5          | 58.1  | 49.4     | 34.5   | 54.7    | 45.2   |

**Table 6: Zn content in ppm of QCWBN entries (checks)**

| Sr. No. | Genotype    | Delhi | Karnal    | Hisar | Ludhiana | Kanpur | Vijapur | Indore |
|---------|-------------|-------|-----------|-------|----------|--------|---------|--------|
|         |             | 1     | UP2672(C) | 57.4  | 31.9     | 37.0   | 31.1    | 33.0   |
| 2       | MACS6222(C) | 46.3  | 35.6      | 29.9  | 29.9     | 31.3   | 47.2    | 44.5   |
| 3       | DBW187(C)   | 47.0  | 28.6      | 29.5  | 29.7     | 29.4   | 44.4    | 38.9   |
| 4       | WB2(C)      | 46.3  | 30.0      | 33.8  | 32.5     | 33.8   | 47.7    | 43.2   |
| 5       | HD3086(C)   | 40.9  | 27.3      | 31.6  | 35.9     | 27.3   | 47.7    | 38.5   |
| 6       | GW322(C)    | 53.5  | 28.9      | 35.1  | 38.6     | 33.3   | 49.4    | 40.3   |
| 7       | HS490(C)    | 60.5  | 29.1      | 33.8  | 35.6     | 32.2   | 51.3    | 38.9   |
| 1       | UP2672(C)   | 58.7  | 41.9      | 29.9  | 36.8     | 29.9   | 47.5    | 49.0   |
| 2       | MACS6222(C) | 55.5  | 29.2      | 35.5  | 30.5     | 31.0   | 54.1    | 43.3   |
| 3       | DBW187(C)   | 44.8  | 26.8      | 25.8  | 26.7     | 25.7   | 44.4    | 38.5   |
| 4       | WB2(C)      | 65.6  | 30.8      | 31.5  | 32.5     | 33.8   | 45.9    | 40.3   |
| 5       | HD3086(C)   | 56.5  | 31.1      | 30.1  | 25.8     | 28.6   | 45.7    | 40.0   |
| 6       | GW322(C)    | 60.1  | 32.1      | 31.4  | 30.5     | 28.8   | 50.9    | 48.0   |
| 7       | HS490(C)    | 56.2  | 32.6      | 29.4  | 26.0     | 29.5   | 45.4    | 36.7   |
| 1       | UP2672(C)   | 60.8  | 40.0      | 29.5  | 32.5     | 30.0   | 50.8    | 45.3   |
| 2       | MACS6222(C) | 70.5  | 35.9      | 33.9  | 29.5     | 33.7   | 46.6    | 39.9   |
| 3       | DBW187(C)   | 52.2  | 30.4      | 29.3  | 23.7     | 28.5   | 41.3    | 36.9   |
| 4       | WB2(C)      | 54.9  | 36.8      | 34.2  | 28.4     | 31.6   | 46.4    | 41.1   |
| 5       | HD3086(C)   | 58.7  | 31.1      | 27.3  | 25.6     | 34.4   | 43.4    | 37.3   |
| 6       | GW322(C)    | 60.0  | 34.7      | 37.1  | 30.8     | 30.1   | 46.6    | 42.2   |
| 7       | HS490(C)    | 51.3  | 37.2      | 34.3  | 28.8     | 32.9   | 47.3    | 40.2   |
| 1       | UP2672(C)   | 50.4  | 34.0      | 45.3  | 38.1     | 30.1   | 55.1    | 41.8   |
| 2       | MACS6222(C) | 49.6  | 36.3      | 35.7  | 29.5     | 28.7   | 47.6    | 42.4   |
| 3       | DBW187(C)   | 47.7  | 31.1      | 28.6  | 28.0     | 24.8   | 41.2    | 37.8   |
| 4       | WB2(C)      | 40.7  | 38.5      | 34.1  | 24.9     | 32.5   | 44.8    | 44.7   |
| 5       | HD3086(C)   | 41.4  | 31.0      | 32.3  | 31.0     | 30.5   | 49.2    | 37.5   |
| 6       | GW322(C)    | 45.1  | 32.8      | 34.4  | 23.6     | 39.4   | 53.4    | 44.6   |
| 7       | HS490(C)    | 51.3  | 29.4      | 34.1  | 26.4     | 29.3   | 44.2    | 38.2   |
|         |             |       |           |       |          |        |         |        |

## **Wheat product quality**

**Chapati**

**Bread**

**Biscuit**

**Gluten**

**Pasta**

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

|   |               | Code | Ludhiana    | Hisar       | Delhi       | Pantnagar   | Durgapura   |             |
|---|---------------|------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1 | HD3298*       | 215  | 7.45        | 7.95        | 7.83        | 7.83        | 7.83        | <b>7.78</b> |
| 2 | HD3059 (C)    | 202  | 7.91        | 7.58        | 7.70        | 8.00        | 8.08        | <b>7.85</b> |
| 3 | DBW173 (C)    | 204  | 7.66        | 7.83        | 7.58        | 7.91        | 8.04        | <b>7.80</b> |
| 4 | WH1021 (C)    | 205  | 7.65        | 8.04        | 8.00        | 7.79        | 7.50        | <b>7.80</b> |
| 5 | WH1124 (C)    | 216  | 7.91        | 7.66        | 7.87        | 7.95        | 7.75        | <b>7.83</b> |
| 6 | PBW771(I) (C) | 212  | 7.95        | 7.75        | 7.54        | 7.95        | 7.95        | <b>7.83</b> |
|   |               |      | <b>7.76</b> | <b>7.80</b> | <b>7.75</b> | <b>7.91</b> | <b>7.86</b> | <b>7.81</b> |

**NWPZ-HYPT**

|   |            | Code | Ludhiana    | Hisar       | Karnal      | Pantnagar   | Delhi       |             |
|---|------------|------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1 | DBW303*    | 4    | 8.50        | 7.79        | 7.54        | 8.12        | 7.45        | <b>7.88</b> |
| 2 | DBW187*    | 6    | 7.95        | 7.62        | 7.16        | 7.70        | 7.33        | <b>7.55</b> |
| 3 | WH1270*    | 10   | 7.37        | 8.04        | 7.45        | 7.79        | 7.66        | <b>7.66</b> |
| 4 | HD2967 (C) | 5    | 8.00        | 8.00        | 7.66        | 7.83        | 8.08        | <b>7.91</b> |
| 5 | HD3086 (C) | 2    | 8.04        | 7.91        | 7.37        | 8.00        | 7.54        | <b>7.77</b> |
|   |            |      | <b>7.97</b> | <b>7.87</b> | <b>7.44</b> | <b>7.89</b> | <b>7.61</b> | <b>7.76</b> |

**NEPZ-RI-TS**

|   |               | Code | Kanpur      | Pusa        | Sabour      | Varanasi    |             |
|---|---------------|------|-------------|-------------|-------------|-------------|-------------|
| 1 | HD3293*       | 303  | 8.20        | 6.33        | 6.20        | 7.91        | <b>7.16</b> |
| 2 | HD3171 (C)    | 301  | 8.20        | 6.54        | 6.54        | 7.79        | <b>7.27</b> |
| 3 | HD2888 (C)    | 302  | 7.95        | 6.62        | 6.83        | 7.45        | <b>7.21</b> |
| 4 | K1317 (C)     | 304  | 8.54        | 7.83        | 6.70        | 8.00        | <b>7.77</b> |
| 5 | HI1612 (C)    | 305  | 8.08        | 6.87        | 7.08        | 7.87        | <b>7.48</b> |
| 6 | DBW252(I) (C) | 306  | 8.16        | 7.16        | 6.95        | 7.70        | <b>7.49</b> |
|   |               |      | <b>8.19</b> | <b>6.89</b> | <b>6.72</b> | <b>7.79</b> | <b>7.40</b> |

**CZ-IR-LS**

|   |                       | Code | Vijapur     | Junagarh    | P.Kheda     | Indore      |             |
|---|-----------------------|------|-------------|-------------|-------------|-------------|-------------|
| 1 | CG1029*               | 205  | 8.00        | 7.87        | 6.91        | 7.62        | <b>7.60</b> |
| 2 | HI1634 <sup>Q</sup> * | 201  | 8.08        | 8.08        | 7.25        | 8.04        | <b>7.86</b> |
| 3 | HD2932 (C)            | 202  | 7.95        | 7.95        | 6.87        | 7.66        | <b>7.61</b> |
| 4 | MP3336 (C)            | 203  | 8.04        | 7.91        | 7.12        | 7.79        | <b>7.72</b> |
| 5 | HD2864 (C)            | 204  | 8.33        | 7.62        | 6.70        | 7.45        | <b>7.53</b> |
|   |                       |      | <b>8.08</b> | <b>7.89</b> | <b>6.97</b> | <b>7.71</b> | <b>7.66</b> |

**PZ-IR-LS**

|   |             | Code | Pune | Dharwad | Niphad |      |
|---|-------------|------|------|---------|--------|------|
| 1 | HI1633*     | 210  | 7.45 | 7.54    | 7.91   | 7.63 |
| 2 | HD3090 (C)  | 203  | 7.7  | 7.37    | 7.66   | 7.58 |
| 3 | HD2932 (C)  | 207  | 7.91 | 7.62    | 7.95   | 7.83 |
| 4 | RAJ4083 (C) | 204  | 7.62 | 7.45    | 7.79   | 7.62 |
|   |             |      | 7.67 | 7.50    | 7.83   | 7.66 |

**Table 2: Bread Quality Loaf volume (ml) of *T. aestivum* genotypes  
NWPZ-IR-LS**

|   |               | Code | Ludhiana | Hisar | Delhi | Pantnagar | Durgapura |     |
|---|---------------|------|----------|-------|-------|-----------|-----------|-----|
| 1 | HD3298*       | 215  | 600      | 610   | 550   | 650       | 590       | 600 |
| 2 | HD3059 (C)    | 202  | 620      | 610   | 615   | 595       | 635       | 615 |
| 3 | DBW173 (C)    | 204  | 610      | 625   | 605   | 620       | 630       | 618 |
| 4 | WH1021 (C)    | 205  | 575      | 550   | 555   | 600       | 600       | 576 |
| 5 | WH1124 (C)    | 216  | 595      | 620   | 595   | 640       | 605       | 611 |
| 6 | PBW771(I) (C) | 212  | 500      | 515   | 540   | 600       | 420       | 515 |
|   |               |      | 583      | 588   | 577   | 618       | 580       | 589 |

**NWPZ-HYPT**

|   |            | Code | Ludhiana | Hisar | Karnal | Pantnagar | Delhi |     |
|---|------------|------|----------|-------|--------|-----------|-------|-----|
| 1 | DBW303*    | 4    | 545      | 550   | 555    | 565       | 510   | 545 |
| 2 | DBW187*    | 6    | 515      | 600   | 570    | 580       | 595   | 572 |
| 3 | WH1270*    | 10   | 525      | 530   | 555    | 570       | 595   | 555 |
| 4 | HD2967 (C) | 5    | 570      | 600   | 580    | 575       | 590   | 583 |
| 5 | HD3086 (C) | 2    | 550      | 570   | 550    | 570       | 600   | 568 |
|   |            |      | 541      | 570   | 562    | 572       | 578   | 565 |

**NEPZ-RI-TS**

|   |               | Code | Kanpur | Pusa | Sabour | Varanasi |     |
|---|---------------|------|--------|------|--------|----------|-----|
| 1 | HD3293*       | 303  | 460    | 565  | 510    | 515      | 513 |
| 2 | HD3171 (C)    | 301  | 585    | 585  | 590    | 585      | 586 |
| 3 | HD2888 (C)    | 302  | 500    | 620  | 600    | 525      | 561 |
| 4 | K1317 (C)     | 304  | 480    | 575  | 610    | 505      | 543 |
| 5 | HI1612 (C)    | 305  | 495    | 655  | 545    | 555      | 563 |
| 6 | DBW252(I) (C) | 306  | 465    | 565  | 590    | 515      | 534 |
|   |               |      | 498    | 594  | 574    | 533      | 550 |

**CZ-IR-LS**

|   |                       | Code | Vijapur | Junagarh | P.Kheda | Indore |     |
|---|-----------------------|------|---------|----------|---------|--------|-----|
| 1 | CG1029*               | 205  | 485     | 475      | 500     | 400    | 465 |
| 2 | HI1634 <sup>Q</sup> * | 201  | 490     | 510      | 515     | 415    | 483 |
| 3 | HD2932 (C)            | 202  | 545     | 530      | 550     | 515    | 535 |
| 4 | MP3336 (C)            | 203  | 480     | 460      | 495     | 450    | 471 |
| 5 | HD2864 (C)            | 204  | 515     | 510      | 455     | 485    | 491 |
|   |                       |      | 503     | 497      | 503     | 453    | 489 |

**PZ-IR-LS**

|   |             | Code | Pune | Dharwad | Niphad |     |
|---|-------------|------|------|---------|--------|-----|
| 1 | HI1633*     | 210  | 565  | 560     | 520    | 548 |
| 2 | HD3090 (C)  | 203  | 570  | 600     | 550    | 573 |
| 3 | HD2932 (C)  | 207  | 550  | 560     | 520    | 543 |
| 4 | RAJ4083 (C) | 204  | 550  | 590     | 550    | 563 |
|   |             |      | 559  | 578     | 535    | 557 |

**Table 3: Bread Quality Score (Max 10l) of *T. aestivum* genotypes  
NWPZ-IR-LS**

|   |               | Code | Ludhiana | Hisar | Delhi | Pantnagar | Durgapura | Mean |
|---|---------------|------|----------|-------|-------|-----------|-----------|------|
| 1 | HD3298*       | 215  | 6.89     | 7.83  | 7.03  | 7.05      | 7.57      | 7.27 |
| 2 | HD3059 (C)    | 202  | 8.24     | 8.51  | 8.31  | 8.04      | 8.85      | 8.39 |
| 3 | DBW173 (C)    | 204  | 8.24     | 8.31  | 8.31  | 8.51      | 8.65      | 8.40 |
| 4 | WH1021 (C)    | 205  | 6.55     | 6.35  | 6.41  | 6.75      | 7.03      | 6.62 |
| 5 | WH1124 (C)    | 216  | 7.77     | 8.37  | 8.04  | 8.51      | 8.31      | 8.20 |
| 6 | PBW771(I) (C) | 212  | 5.54     | 5.87  | 6.48  | 7.84      | 3.92      | 5.93 |
|   |               |      | 7.21     | 7.54  | 7.43  | 7.78      | 7.39      | 7.47 |

**NWPZ-HYPT**

|   |            | Code | Ludhiana | Hisar | Karnal | Pantnagar | Delhi | Mean |
|---|------------|------|----------|-------|--------|-----------|-------|------|
| 1 | DBW303*    | 4    | 6.82     | 6.89  | 6.82   | 7.09      | 4.59  | 6.44 |
| 2 | DBW187*    | 6    | 6.01     | 8.24  | 7.30   | 7.29      | 8.17  | 7.40 |
| 3 | WH1270*    | 10   | 6.41     | 6.35  | 6.82   | 6.62      | 8.31  | 6.90 |
| 4 | HD2967 (C) | 5    | 7.03     | 7.84  | 7.57   | 7.50      | 7.43  | 7.47 |
| 5 | HD3086 (C) | 2    | 7.29     | 7.70  | 7.16   | 6.89      | 7.97  | 7.40 |
|   |            |      | 6.71     | 7.40  | 7.13   | 7.08      | 7.29  | 7.12 |

**NEPZ-RI-TS**

|   |               | Code | Kanpur | Pusa | Sabour | Varanasi | Mean |
|---|---------------|------|--------|------|--------|----------|------|
| 1 | HD3293*       | 303  | 5.27   | 6.01 | 4.32   | 6.01     | 5.40 |
| 2 | HD3171 (C)    | 301  | 7.91   | 6.14 | 6.76   | 7.90     | 7.18 |
| 3 | HD2888 (C)    | 302  | 5.68   | 7.03 | 7.43   | 6.01     | 6.54 |
| 4 | K1317 (C)     | 304  | 5.27   | 6.41 | 7.16   | 5.61     | 6.11 |
| 5 | HI1612 (C)    | 305  | 6.15   | 8.17 | 7.36   | 6.82     | 7.13 |
| 6 | DBW252(I) (C) | 306  | 5.20   | 7.09 | 7.57   | 6.14     | 6.50 |
|   |               |      | 5.91   | 6.81 | 6.77   | 6.42     | 6.48 |

**CZ-IR-LS**

|   |                       | Code | Vijapur | Junagarh | P.Kheda | Indore | Mean |
|---|-----------------------|------|---------|----------|---------|--------|------|
| 1 | CG1029*               | 205  | 5.07    | 4.80     | 5.27    | 3.38   | 4.63 |
| 2 | HI1634 <sup>Q</sup> * | 201  | 5.41    | 6.62     | 6.28    | 4.26   | 5.64 |
| 3 | HD2932 (C)            | 202  | 6.96    | 5.81     | 7.03    | 6.01   | 6.45 |
| 4 | MP3336 (C)            | 203  | 5.27    | 4.59     | 5.47    | 4.86   | 5.05 |
| 5 | HD2864 (C)            | 204  | 5.61    | 5.81     | 4.93    | 5.07   | 5.36 |
|   |                       |      | 5.66    | 5.53     | 5.80    | 4.72   | 5.43 |

**PZ-IR-LS**

|   |             | Code | Pune | Dharwad | Niphad | Mean |
|---|-------------|------|------|---------|--------|------|
| 1 | HI1633*     | 210  | 7.23 | 6.76    | 5.81   | 6.60 |
| 2 | HD3090 (C)  | 203  | 7.16 | 8.37    | 6.89   | 7.47 |
| 3 | HD2932 (C)  | 207  | 6.49 | 6.76    | 5.95   | 6.40 |
| 4 | RAJ4083 (C) | 204  | 6.89 | 7.84    | 7.03   | 7.25 |
|   |             |      | 6.94 | 7.43    | 6.42   | 6.93 |

**Table 4: Biscuit spread factor of *T. aestivum* genotypes  
NWPZ-IR-LS**

|   |               | Code | Ludhiana | Hisar | Delhi | Pantnagar | Durgapura | Mean |
|---|---------------|------|----------|-------|-------|-----------|-----------|------|
| 1 | HD3298*       | 215  | 7.37     | 7.33  | 7.19  | 7.85      | 6.82      | 7.31 |
| 2 | HD3059 (C)    | 202  | 8.02     | 6.84  | 7.91  | 8.10      | 7.25      | 7.62 |
| 3 | DBW173 (C)    | 204  | 7.64     | 7.20  | 8.04  | 7.68      | 7.12      | 7.54 |
| 4 | WH1021 (C)    | 205  | 6.80     | 7.63  | 8.19  | 7.96      | 7.51      | 7.62 |
| 5 | WH1124 (C)    | 216  | 7.74     | 7.38  | 7.12  | 7.47      | 6.96      | 7.33 |
| 6 | PBW771(I) (C) | 212  | 7.18     | 6.75  | 6.45  | 7.20      | 6.60      | 6.84 |
|   |               |      | 7.46     | 7.19  | 7.48  | 7.71      | 7.04      | 7.38 |

**NWPZ-HYPT**

|   |            | Code | Ludhiana | Hisar | Karnal | Pantnagar | Delhi | Mean |
|---|------------|------|----------|-------|--------|-----------|-------|------|
| 1 | DBW303*    | 4    | 6.59     | 6.20  | 7.17   | 6.83      | 6.92  | 6.74 |
| 2 | DBW187*    | 6    | 6.86     | 6.68  | 7.49   | 6.14      | 6.30  | 6.70 |
| 3 | WH1270*    | 10   | 6.78     | 6.23  | 6.46   | 6.76      | 7.17  | 6.68 |
| 4 | HD2967 (C) | 5    | 7.00     | 6.96  | 7.29   | 7.21      | 6.93  | 7.08 |
| 5 | HD3086 (C) | 2    | 6.16     | 6.85  | 6.67   | 6.64      | 6.24  | 6.51 |
|   |            |      | 6.68     | 6.58  | 7.02   | 6.72      | 6.71  | 6.74 |

**NEPZ-RI-TS**

|   |               | Code | Kanpur | Pusa | Sabour | Varanasi | Mean |
|---|---------------|------|--------|------|--------|----------|------|
| 1 | HD3293*       | 303  | 6.49   | 7.74 | 7.38   | 6.76     | 7.09 |
| 2 | HD3171 (C)    | 301  | 7.18   | 7.28 | 7.23   | 7.10     | 7.20 |
| 3 | HD2888 (C)    | 302  | 6.76   | 6.76 | 7.23   | 6.58     | 6.83 |
| 4 | K1317 (C)     | 304  | 6.08   | 6.86 | 7.22   | 6.67     | 6.71 |
| 5 | HI1612 (C)    | 305  | 7.46   | 6.82 | 6.97   | 6.34     | 6.90 |
| 6 | DBW252(I) (C) | 306  | 6.24   | 7.81 | 6.87   | 6.56     | 6.87 |
|   |               |      | 6.70   | 7.21 | 7.15   | 6.67     | 6.93 |

**CZ-IR-LS**

|   |                       | Code | Vijapur | Junagarh | P.Kheda | Indore | Mean |
|---|-----------------------|------|---------|----------|---------|--------|------|
| 1 | CG1029*               | 205  | 6.65    | 6.44     | 6.78    | 7.11   | 6.75 |
| 2 | HI1634 <sup>Q</sup> * | 201  | 6.89    | 6.83     | 6.75    | 6.44   | 6.73 |
| 3 | HD2932 (C)            | 202  | 6.87    | 6.63     | 6.88    | 7.12   | 6.88 |
| 4 | MP3336 (C)            | 203  | 6.83    | 6.40     | 6.62    | 6.61   | 6.62 |
| 5 | HD2864 (C)            | 204  | 6.23    | 6.52     | 6.88    | 6.77   | 6.60 |
|   |                       |      | 6.69    | 6.56     | 6.78    | 6.81   | 6.71 |

**PZ-IR-LS**

|   |             | Code | Pune | Dharwad | Niphad | Mean |
|---|-------------|------|------|---------|--------|------|
| 1 | HI1633*     | 210  | 7.16 | 7.38    | 6.70   | 7.08 |
| 2 | HD3090 (C)  | 203  | 7.32 | 7.33    | 7.19   | 7.28 |
| 3 | HD2932 (C)  | 207  | 7.34 | 7.65    | 6.88   | 7.29 |
| 4 | RAJ4083 (C) | 204  | 7.26 | 7.10    | 7.22   | 7.19 |
|   |             |      | 7.27 | 7.36    | 7.00   | 7.21 |

**Table 5: Wet gluten (%) of *T. aestivum* genotypes  
NWPZ-IR-LS**

|   |               | Code | Ludhiana | Hisar | Delhi | Pantnagar | Durgapura | Mean |
|---|---------------|------|----------|-------|-------|-----------|-----------|------|
| 1 | HD3298*       | 215  | 27.2     | 32.3  | 31.5  | 23.3      | 33.6      | 29.6 |
| 2 | HD3059 (C)    | 202  | 26.1     | 31.9  | 32.0  | 24.0      | 32.4      | 29.3 |
| 3 | DBW173 (C)    | 204  | 30.8     | 31.2  | 32.4  | 24.8      | 33.1      | 30.5 |
| 4 | WH1021 (C)    | 205  | 29.6     | 32.4  | 32.9  | 27.4      | 38.1      | 32.1 |
| 5 | WH1124 (C)    | 216  | 29.5     | 25.6  | 29.9  | 25.8      | 37.1      | 29.6 |
| 6 | PBW771(I) (C) | 212  | 32.1     | 27.9  | 33.1  | 25.0      | 32.1      | 30.0 |
|   |               |      | 29.2     | 30.2  | 32.0  | 25.1      | 34.4      | 30.2 |

**NWPZ-HYPT**

|   |            | Code | Ludhiana | Hisar | Karnal | Pantnagar | Delhi | Mean |
|---|------------|------|----------|-------|--------|-----------|-------|------|
| 1 | DBW303*    | 4    | 29.8     | 38.1  | 38.9   | 29.9      | 37.6  | 34.9 |
| 2 | DBW187*    | 6    | 19.8     | 35.2  | 33.6   | 25.1      | 34.0  | 29.5 |
| 3 | WH1270*    | 10   | 26.3     | 35.4  | 33.2   | 32.3      | 35.4  | 32.5 |
| 4 | HD2967 (C) | 5    | 23.5     | 34.3  | 34.8   | 23.5      | 36.2  | 30.5 |
| 5 | HD3086 (C) | 2    | 27.5     | 36.1  | 33.2   | 30.4      | 36.6  | 32.8 |
|   |            |      | 25.4     | 35.8  | 34.7   | 28.2      | 36.0  | 32.0 |

**NEPZ-RI-TS**

|   |               | Code | Kanpur | Pusa | Sabour | Varanasi | Mean |
|---|---------------|------|--------|------|--------|----------|------|
| 1 | HD3293*       | 303  | 28.6   | 31.0 | 23.5   | 34.0     | 29.3 |
| 2 | HD3171 (C)    | 301  | 25.0   | 30.4 | 31.5   | 22.0     | 27.2 |
| 3 | HD2888 (C)    | 302  | 33.9   | 35.6 | 24.0   | 34.4     | 32.0 |
| 4 | K1317 (C)     | 304  | 32.8   | 31.8 | 30.7   | 37.2     | 33.1 |
| 5 | HI1612 (C)    | 305  | 26.3   | 29.4 | 32.7   | 32.4     | 30.2 |
| 6 | DBW252(I) (C) | 306  | 31.2   | 30.0 | 34.8   | 37.4     | 33.4 |
|   |               |      | 29.6   | 31.4 | 29.5   | 32.9     | 30.9 |

**CZ-IR-LS**

|   |                       | Code | Vijapur | Junagarh | P.Kheda | Indore | Mean |
|---|-----------------------|------|---------|----------|---------|--------|------|
| 1 | CG1029*               | 205  | 30.1    | 32.5     | 30.4    | 22.8   | 29.0 |
| 2 | HI1634 <sup>Q</sup> * | 201  | 29.0    | 31.9     | 27.6    | 21.9   | 27.6 |
| 3 | HD2932 (C)            | 202  | 29.1    | 33.8     | 33.6    | 24.9   | 30.4 |
| 4 | MP3336 (C)            | 203  | 34.3    | 34.9     | 38.8    | 24.0   | 33.0 |
| 5 | HD2864 (C)            | 204  | 26.8    | 34.7     | 30.7    | 24.7   | 29.2 |
|   |                       |      | 29.9    | 33.6     | 32.2    | 23.7   | 29.8 |

**PZ-IR-LS**

|   |             | Code | Pune | Dharwad | Niphad | Mean |
|---|-------------|------|------|---------|--------|------|
| 1 | HI1633*     | 210  | 31.4 | 37.7    | 34.2   | 34.4 |
| 2 | HD3090 (C)  | 203  | 32.0 | 36.0    | 34.5   | 34.2 |
| 3 | HD2932 (C)  | 207  | 30.0 | 35.4    | 32.8   | 32.7 |
| 4 | RAJ4083 (C) | 204  | 32.8 | 34.6    | 35.9   | 34.4 |
|   |             |      | 31.6 | 35.9    | 34.4   | 33.9 |

**Table 6: Dry gluten (%) of *T. aestivum* genotypes  
NWPZ-IR-LS**

|   |               | Code | Ludhiana | Hisar | Delhi | Pantnagar | Durgapura | Mean |
|---|---------------|------|----------|-------|-------|-----------|-----------|------|
| 1 | HD3298*       | 215  | 8.6      | 9.6   | 10.6  | 7.4       | 11.1      | 9.5  |
| 2 | HD3059 (C)    | 202  | 8.6      | 9.9   | 10.0  | 8.7       | 10.6      | 9.6  |
| 3 | DBW173 (C)    | 204  | 10.3     | 10.5  | 10.7  | 8.1       | 11.4      | 10.2 |
| 4 | WH1021 (C)    | 205  | 9.6      | 9.7   | 11.1  | 8.9       | 12.5      | 10.4 |
| 5 | WH1124 (C)    | 216  | 8.9      | 8.0   | 9.5   | 7.9       | 12.4      | 9.3  |
| 6 | PBW771(I) (C) | 212  | 9.7      | 9.2   | 10.6  | 8.2       | 10.5      | 9.6  |
|   |               |      | 9.3      | 9.5   | 10.4  | 8.2       | 11.4      | 9.8  |

**NWPZ-HYPT**

|   |            | Code | Ludhiana | Hisar | Karnal | Pantnagar | Delhi | Mean |
|---|------------|------|----------|-------|--------|-----------|-------|------|
| 1 | DBW303*    | 4    | 9.7      | 12.0  | 12.8   | 9.7       | 12.1  | 11.3 |
| 2 | DBW187*    | 6    | 6.8      | 11.6  | 11.9   | 8.3       | 11.2  | 10.0 |
| 3 | WH1270*    | 10   | 9.0      | 11.4  | 10.9   | 10.0      | 11.0  | 10.5 |
| 4 | HD2967 (C) | 5    | 8.2      | 10.9  | 10.8   | 7.6       | 11.0  | 9.7  |
| 5 | HD3086 (C) | 2    | 9.1      | 11.0  | 10.6   | 9.2       | 11.5  | 10.3 |
|   |            |      | 8.6      | 11.4  | 11.4   | 9.0       | 11.4  | 10.3 |

**NEPZ-RI-TS**

|   |               | Code | Kanpur | Pusa | Sabour | Varanasi | Mean |
|---|---------------|------|--------|------|--------|----------|------|
| 1 | HD3293*       | 303  | 8.9    | 9.3  | 7.9    | 10.2     | 9.1  |
| 2 | HD3171 (C)    | 301  | 9.0    | 9.6  | 9.9    | 6.2      | 8.7  |
| 3 | HD2888 (C)    | 302  | 10.9   | 10.8 | 8.2    | 11.1     | 10.3 |
| 4 | K1317 (C)     | 304  | 10.5   | 9.9  | 9.5    | 11.9     | 10.5 |
| 5 | HI1612 (C)    | 305  | 8.5    | 9.6  | 10.9   | 10.0     | 9.8  |
| 6 | DBW252(I) (C) | 306  | 9.3    | 9.4  | 11.0   | 12.0     | 10.4 |
|   |               |      | 9.5    | 9.8  | 9.6    | 10.2     | 9.8  |

**CZ-IR-LS**

|   |                       | Code | Vijapur | Junagarh | P.Kheda | Indore | Mean |
|---|-----------------------|------|---------|----------|---------|--------|------|
| 1 | CG1029*               | 205  | 8.9     | 10.0     | 9.0     | 6.5    | 8.6  |
| 2 | HI1634 <sup>Q</sup> * | 201  | 8.9     | 9.8      | 9.2     | 7.2    | 8.8  |
| 3 | HD2932 (C)            | 202  | 9.5     | 10.6     | 10.3    | 7.9    | 9.6  |
| 4 | MP3336 (C)            | 203  | 10.8    | 11.0     | 11.4    | 7.2    | 10.1 |
| 5 | HD2864 (C)            | 204  | 8.4     | 11.0     | 9.9     | 7.6    | 9.2  |
|   |                       |      | 9.3     | 10.5     | 10.0    | 7.3    | 9.3  |

**PZ-IR-LS**

|   |             | Code | Pune | Dharwad | Niphad | Mean |
|---|-------------|------|------|---------|--------|------|
| 1 | HI1633*     | 210  | 9.7  | 11.3    | 10.4   | 10.5 |
| 2 | HD3090 (C)  | 203  | 9.3  | 11.9    | 11.0   | 10.7 |
| 3 | HD2932 (C)  | 207  | 9.8  | 11.3    | 10.0   | 10.4 |
| 4 | RAJ4083 (C) | 204  | 10.2 | 11.0    | 11.4   | 10.9 |
|   |             |      | 9.8  | 11.4    | 10.7   | 10.6 |

**Table 7: Gluten Index (Max 100) of *T. aestivum* genotypes  
NWPZ-IR-LS**

|   |               | Code | Ludhiana | Hisar | Delhi | Pantnagar | Durgapura | Mean |
|---|---------------|------|----------|-------|-------|-----------|-----------|------|
| 1 | HD3298*       | 215  | 80       | 62    | 69    | 88        | 71        | 74   |
| 2 | HD3059 (C)    | 202  | 98       | 81    | 89    | 97        | 89        | 91   |
| 3 | DBW173 (C)    | 204  | 80       | 78    | 77    | 96        | 94        | 85   |
| 4 | WH1021 (C)    | 205  | 60       | 51    | 56    | 49        | 57        | 55   |
| 5 | WH1124 (C)    | 216  | 71       | 80    | 75    | 84        | 79        | 78   |
| 6 | PBW771(I) (C) | 212  | 42       | 50    | 47    | 52        | 54        | 49   |
|   |               |      | 72       | 67    | 69    | 78        | 74        | 72   |

**NWPZ-HYPT**

|   |            | Code | Ludhiana | Hisar | Karnal | Pantnagar | Delhi | Mean |
|---|------------|------|----------|-------|--------|-----------|-------|------|
| 1 | DBW303*    | 4    | 58       | 56    | 59     | 57        | 78    | 62   |
| 2 | DBW187*    | 6    | 96       | 72    | 80     | 85        | 80    | 83   |
| 3 | WH1270*    | 10   | 71       | 60    | 61     | 69        | 63    | 65   |
| 4 | HD2967 (C) | 5    | 96       | 64    | 64     | 94        | 68    | 77   |
| 5 | HD3086 (C) | 2    | 80       | 56    | 66     | 61        | 75    | 68   |
|   |            |      | 80       | 62    | 66     | 73        | 73    | 71   |

**NEPZ-RI-TS**

|   |               | Code | Kanpur | Pusa | Sabour | Varanasi | Mean |
|---|---------------|------|--------|------|--------|----------|------|
| 1 | HD3293*       | 303  | 54     | 63   | 90     | 56       | 66   |
| 2 | HD3171 (C)    | 301  | 85     | 71   | 64     | 94       | 79   |
| 3 | HD2888 (C)    | 302  | 50     | 52   | 81     | 51       | 59   |
| 4 | K1317 (C)     | 304  | 59     | 74   | 80     | 37       | 63   |
| 5 | HI1612 (C)    | 305  | 95     | 82   | 91     | 94       | 91   |
| 6 | DBW252(I) (C) | 306  | 54     | 55   | 71     | 62       | 61   |
|   |               |      | 66     | 66   | 80     | 66       | 69   |

**CZ-IR-LS**

|   |                       | Code | Vijapur | Junagarh | P.Kheda | Indore | Mean |
|---|-----------------------|------|---------|----------|---------|--------|------|
| 1 | CG1029*               | 205  | 66      | 53       | 66      | 78     | 66   |
| 2 | HI1634 <sup>Q</sup> * | 201  | 66      | 57       | 69      | 87     | 70   |
| 3 | HD2932 (C)            | 202  | 94      | 77       | 75      | 87     | 83   |
| 4 | MP3336 (C)            | 203  | 53      | 48       | 55      | 68     | 56   |
| 5 | HD2864 (C)            | 204  | 86      | 74       | 75      | 88     | 81   |
|   |                       |      | 73      | 61.8     | 68      | 82     | 71   |

**PZ-IR-LS**

|   |             | Code | Pune | Dharwad | Niphad | Mean |
|---|-------------|------|------|---------|--------|------|
| 1 | HI1633*     | 210  | 65   | 55      | 54     | 58   |
| 2 | HD3090 (C)  | 203  | 57   | 62      | 65     | 61   |
| 3 | HD2932 (C)  | 207  | 80   | 89      | 73     | 81   |
| 4 | RAJ4083 (C) | 204  | 75   | 82      | 71     | 76   |
|   |             |      | 69   | 72      | 66     | 69   |