

**Table S1.** Mean, minimum and maximum values and standard deviations for 27 continuously variable descriptors for 1322 winter wheat varieties

	Descriptive Statistics				
	Valid N	Mean	Minimum	Maximum	Std.Dev.
Seed: colour	1322	1.492	1	4	0.628
Seed: coloration with phenol	1322	7.344	1	9	1.803
Coleoptile: anthocyanin coloration	1322	1.141	1	9	0.663
Plant: growth habit	1322	4.638	1	9	1.111
Plants: frequency of plants with recurved flag leaves	1322	3.626	1	9	1.654
Flag leaf: anthocyanin coloration of auricles	1322	1.035	1	7	0.270
Time of ear emergence (first spikelet visible on 50% of ears)	1322	6.641	1	9	1.854
Flag leaf: glaucosity of sheath	1322	7.210	1	9	1.429
Fleg leaf: glaucosity of blade	1322	6.524	1	9	1.649
Ear: glaucosity	1322	5.750	1	9	1.574
Culm: glaucosity of neck	1322	6.731	1	9	1.550
Lower glume: hairiness of external surface	1322	1.049	1	9	0.621
Plant: length (stem,ears,awns and scurs)	1322	4.110	1	9	1.433
Straw: pith in cross section	1322	1.493	1	3	0.555
Ear: density	1322	4.325	2	9	1.012
Ear: length (excluding awns and scurs)	1322	3.797	1	9	1.401
Ear: scurs and awns	1322	2.310	1	3	0.543
Ear: length of scurs or awns	1322	4.209	1	9	2.104
Ear: colour	1322	1.152	1	2	0.359
Ear: shape in profile	1322	2.427	1	5	1.705

Apical rachis segment: area of hairness of convex surface	1322	4.623	1	9	2.145
Lower glume: shoulder width	1322	4.297	1	9	1.828
Lower glume: shoulder shape	1322	4.486	1	9	1.737
Lower glume: length of beak	1322	6.032	1	9	1.955
Lower glume: shape of beak	1322	3.803	1	9	1.645
Lower glume: area of hairiness on internal surface	1322	2.830	1	9	1.465
Seasonal type	1322	1.011	1	2	0.106

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