Summary of Nucleotide Diversity in Tetraploid and Hexaploid Wheat and *Aegilops tauschii*

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Materials and Methods

Plant materials: Accessions employed in studies of nucleotide diversity in wheat and *Ae. tauschii* are listed in **Table 1**. They were chosen to be representative of the geographic distribution of each taxon, even when only a subset was used.

Primers: For sequencing gene fragments in polyploid wheat, PCR primers that were genome specific (genome-specific primers) were used. Genome-specific primers are available at (http://probes.pw.usda.gov:8080/snpworld/Search).

Table 1. Plant materials.

Taxon	Place of origin	Accessions
Ae. tauschii	NE Turkey	KU2131, KU2134
	Transcaucasia	DV328, AL10/80, AL11/80, AL7/80, AL8/78, AL9/78, K1574, KU2111, KU2121, KU2123, KU2143, KU2144, KU2147, KU2810, KU2811, KU2816, KU2822, KU2826, KU2827
	Iran	KU2068, KU2071, KU2074, KU2080, KU2082, KU2084, KU2088, KU2090, KU2091, KU2092, KU2095, KU2101, KU2104, KU2110, KU2125, KU2154, KU2159
	Turkmenistan	AL7/79, AL20/79
	Afghanistan	KU2020, KU2059, KU2063
	China	AS75
T. dicoccoides	Israel	PI538695, PI538719, PI428118, PI428107, PI428108, PI538693, PI428121, PI470968, PI466970, PI466974, PI428094, PI503314, PI538677, PI428095, PI479780, PI466995, PI470997
	Lebanon	PI428143, PI538709, PI503316, PI538714, one plant each from five populations
	Southern Syria	PI470948, one plant each from five populations
	SE Turkey	PI428020*, PI428027*, PI428053*, PI428064*, PI428082*, PI428083*, PI428086*, PI428073, PI428092*, PI503310*
T. dicoccum	Armenia	PI94683
	Bosnia	PI374685, PI434999

	Czech Republic	PI355490
	Dagestan	PI94617
	Ethiopia	PI297861, PI273978, PI298573,
	Israel	PI415152
	Iran	PI94670
	India	PI164578
	Oman	PI532304
	Spain	PI276004, PI276009
	Syria	PI355498
	Serbia	PI265004
	Ukraine	PI2789, PI94660
T. durum	China	Jianyang Ailammai
	Egypt	PI7016, PI60727, PI60731, PI60730,
	France	5109/1034
	Greece	5109/904
	Hungary,	5109/966
	Iran	IWA06053
	Pakistan	5109/768
	Poland	5109/941
	Portugal	5109/578
	Syria	5109/705
T. aestivum	Austria	PI350731*
	Mexico	Yecora Rojo*, Opata 85*
	China	Yangxian Yangquanmai*, Chinese Spring*
	Iran	IWA10993*, IWA10940*, Iranian spelt (405a)*
	Turkey	PI16698*, PI166305*, PI166792*, PI119325*
	Pakistan	PI410595*
Synth. wheat	CIMMYT	*T. durum* 'Altar' x *Ae. tauschii* W7984*, CIMMYT 62052*, 62056*, 161725*
	Univ. Missouri, Columbia	Developed by E.R. Search
	Agriculture Canada	Developed by E. R. Kerber, RL5402, 5403, 5405, 5406

* Accessions used for the estimation of diversity in fragments of 1228 genes (Table 2)

Summary data

The following measures of diversity were estimated: The number of haplotypes (*h*), haplotype diversity (*Hd*), nucleotide diversity (π), nucleotide polymorphism (Watterson θ), and Tadjima D. The diversity statistics are summarized in **Table 2**.

Table 2. Summary of Diversity Measures in Wheat and its Diploid Ancestors

Taxon	Genome	Accessions	Loci	*h*	*Hd**	*Π**	***θ****	***D***
Wild emmer whole	A	46	14	4.2	0.37	2.26	2.15	-0.33
Wild emmer whole	B	46	11	4.0	0.41	2.32	2.56	-0.44
Wild emmer whole	AB	46	25	4.1	0.39	**2.28**	2.33	-0.38
Wild emmer pop. 3d**	AB	10	25	2.1	0.34	1.36	1.12	0.36
Wild emmer pop. 3d	A	9	621	2.3	0.32	0.99	0.96	0.01
Wild emmer pop. 3d	B	9	607	2.4	0.33	1.06	1.05	0.02
Wild emmer pop. 3d	AB	9	1228	2.4	0.33	1.03	1.00	0.02
Dom. emmer whole	AB	20	23	2.3	0.34	**1.17**	0.94	0.44
Durum whole	AB	18	10	2.0	0.21	0.87	0.92	-0.19
T. aestivum	A	13	626	1.8	0.22	0.69	0.70	-0.09
T. aestivum	B	13	615	1.8	0.21	0.67	0.65	0.01
T. aestivum	AB	13	1241	1.8	0.22	0.68	0.68	-0.04
T. aestivum	D	13	638	1.3	0.06	**0.23**	0.27	-0.52
Ae. tauschii	D	44	25	6.8	0.68	**3.14**	2.43	0.80

* monomorphic loci were also included into the estimates of mean

** Population 3d are representative accessions of wild emmer from Diyarbakir region in southwestern Turkey. The accessions are indicated by asterisk in Table 1. This population was suggested to be the primary source of domesticated emmer population (Ozkan, H. et al. 2005; Luo, M.C. et al. 2007).

References

Luo M.C., Yang Z.L., You F.M., Kawahara T., Waines J.G., Dvorak J. (2007) The structure of wild and domesticated emmer wheat populations, gene flow between them, and the site of emmer domestication. Theor Appl Genet 114:947-959

Ozkan H., Brandolini A., Pozzi C., Effgen S., Wunder J., Salamini F. (2005) A reconsideration of the domestication geography of tetraploid wheat. Theor Appl Genet 110:1052-1060