

**Appendix** Name and coat color of wheat cultivars used in this study

W: white; R: Red; B: Black

Name	Coat color	Name	Coat color	Name	Coat color	Name	Coat color	Name	Coat color
Yumai 58	W	Aikang 58	W	Ping'an 6	W	Zhoumai 98023	W	Xinong 979	W
Shannong 62008	W	Baikezaomei	W	Jinmai12	W	Jinmai 61	W	Linmai 2	W
Zhongyu 5	W	Guangmai	W	Yumai 34	W	Mianmai 98-351	W	Xinong 2	W
Huaiyin 9628	W	Fengmai 24	W	Jing 841	W	Zhengnong 9908	W	Mianmai 35	W
Xiaoyan 54	W	Anmai 1	W	Yunong 202	W	Yuzhan 2000	W	PH82-2-2	R
Yumai 56	W	Taishan 008	W	Doumai	W	Gaomai 8901	W	Dahongmai	R
Yumai 50	W	CA 0175	W	Xinong 3517	W	Xinmai 9	W	Xinanzhao	R
Xumai 4060	W	Zhengmai 004	W	Zhengmai9962	W	Gaoyou 503	W	Yangmai 9	R
Wanxianbai	W	Yanzhan 4110	W	Zhoumai 23	W	Jimai 20	W	Chuanmai 42	R
Mianyang 26	W	Xumai 197	W	Huai 0021	W	Yanmai 0401	W	Yulinli	R
Lankao 906	W	Yumai 14youxi	W	Guomai 0319	W	Huaimai 0360	W	Yangmai 158	R
Huaimai 0607	W	Xinmai 208	W	Zhongmai998	W	Jinan 31	W	Dabaimang	R
Pumai 9	W	Yannong 19	W	Yumai70-36	W	Shan 253	W	Chuanyu 12	R
Shan 283	W	Jimai 2	W	Luomai 8	W	Huapei 8	W	Nuomai	R
Yuanfeng 898	W	Yumai 54	W	Bainong160	W	Zhengmai 21	W	Sichuanyonggang2	R
Shanyou 225	W	Yunong 949	W	Yunong 982	W	Jimai 4	W	Sanheliuleng	R
Wan 798	W	Zhengmai 9987	W	Shannong8355	W	Guinong 775	W	Yangmai 10	R
Huai 0308	W	Luomai 22	W	Zhongyu 12	W	Yuanfan 2	W	Wuhuatou	R
Jinan 17	W	Luomai 9	W	Erwa 2	W	Xiaoyan 6	W	Ningmai 9	R
Baiyingdong 2	W	Shannong 98	W	Erwa 1	W	Linfei 125	W	Yingliqiangchun	R
Yumai 18	W	Shi 4185	W	Zhongyu 1	W	Zhoumai 19	W	Baikemai	R
Jinmai 66	W	Xuke 1	W	Yumai 70	W	Zhengfeng98411	W	Yangmai 12	R
Mianyang 35	W	Zhoumai 22	W	Yumai 52	W	Jimai 1	W	Yangxiaomai	R
Xinzhou 18	W	Ping'an 8	W	Shandong 943	W	9411	W	Yangmai 13	R
Baiyingdong 3	W	Xinong 132	W	Heibei 9409	W	Xumai 5034	W	Hepomai	R
Huai 0208	W	Danmai 5030	W	Kenong 9204	W	Liangxing 99	W	Yunmai 42	R
Yumai 62	W	Shannong 263	W	Huaimai 0458	W	Xiaohongmang	W	Mianzi 2-12	R
Shannong 98	W	Zimai 12	W	Zhengnong 16	W	Chuanmai 32	W	Mianmai 38	R
Zhengnong 18	W	Xuzhou 25	W	Kenong 605	W	Zhengmai 9023	W	Hedongwumai	B
Yumai 68	W	Shan 955159	W	Jinan 17	W	Yunyou 1	W	Mailuxiang	B
Annong 0487	W	Zhoumai 18	W	Zhongguochun	W	Laizhou 137	W	Heixiaomai 76	B
Jining 9903	W	Yunong 416	W	Baitutou	W	Xumai 270	W	Heixiaomai 1	B
Yangao 1	W	Annong 0324	W	Wan 98-68	W	Huaimai 6	W	Gaoyuan 115	
Zhoumai 16	W	Lumai 212	W	Yumai 51	W	Yumai49-986	W	Huanpu 1	B
Zhongyu 8	W	Lumai 21	W	Zheng 8998	W	Handan 6172	W		
Xinong 3	W	Zhengnong 9676	W	Liuli	W	Jinmai 207	W		
				Yangxiaomai					