

Supplementary Table 1. List of the forty landraces and cultivars used to develop and test PFT_KASP marker

Accession	PFT Haplotype	FHB Phenotype
Sumai 3	R	R
Wangshuibai	R	R
Taiwanxiaomai	R	R
Nobeokabozu	R	R
Aso Zairai II	R	R
Nyubai	R	R
Nobeokabozukamugi	R	R
Huangcandou	R	R
Haiyanzhong	R	R
Huochaomai	R	R
Huang Fang Zhu	R	R
Baishanyuehuang	R	R
Abura	R	R
Tokai 66	R	R
Shuilizhan	R	R
Sanshukomugi	R	R
Shinchunaga	R	R
Shanasui	R	R
Ning 7840	R	R
Wannin 2	R	R
WZHHS	R	R
701 Chokwang	R	R
NTDHP	S1	S
Chinese Spring	S1	S
QiomaiXiaomai	S2	S
Sanyuehuang	S2	S
Nanda 2419	S3	S
Emai 6	S3	S
Jingzhou 1	S3	S
Yangmai 4	S4	S
Yangmai 5	S4	S
Yangmai 158	S4	S
Yangmai 1	S4	S
Aurora	S4	S
Ernie	S4	S
Freedom	S4	S
Wheaton	S4	S
Harding	S4	S
Clark	S4	S
Wesley	S4	S

Supplementary Table 2. Genotyping results of the markers used to screen wheat lines from breeding programs of University of Minnesota and the Pacific Northwest for *Fhb1*

Parental lines ID	PFT_KASP	UMN10	SGNH_GSP	PFT_GSP
MN16396	S	S	S	S
MN11087	R	R	R	R
MN09028	R	R	R	R
MN11064	S	S	S	S
MN11469	S	S	S	S
MN13288-1-1	R	R	R	R
MN13288-1-32	R	R	R	R
MN15005	S	S	S	S
Shelly	R	H	R	R
SY-Valda	R	H	R	R
Bolles	S	S	S	S
MN10201-4-A	R	H	R	R
MN10261-1	R	R	R	R
MN14105-7	R	R	R	R
MN14223-5	R	R	R	R
MN15119-2	R	R	R	R
MN15320-1	R	R	R	R
MN16274	R	R	R	R
MN16311	S	S	S	S
MN16360	R	R	R	R
CIMMYT GID:3613474	S	S	S	S
CIMMYT GID:3855011	S	S	S	S
CIMMYT GID:4314513	S	S	S	S
CIMMYT GID:4577963	S	S	S	S
CIMMYT GID:4878569	S	S	S	S
12X118 (2015 F5#475)	S	S	S	S
MN15287	S	S	S	S
MN15411	R	R	R	R
07x135 (180-14)	S	S	S	S
Wheaton	S	S	S	S
14X124-136-WT	R	R	R	R
14X124-136-T1	R	R	R	R
14X124-156-WT	R	H	R	R
14X124-156-T1	R	R	R	R
14X124-156-T2	R	R	R	R
14X124-156-T3	R	R	R	R
14X124-203-WT	S	S	S	S
14X124-203-T1	S	S	S	S
H0800080	S	S	S	S
H0800103L	S	S	S	S
H0800310	S	S	S	S
H0800314	S	S	S	S
H0900009	S	S	S	S

H0900081	S3	R	S	S
Hollis	S	S	S	S
HR07005-3	S	S	S	S
HR07024-5	S	S	S	S
HW080169	R	R	R	R
HW090006M	S	S	S	S
HWO90071M	S	S	S	S
Kelse	S	S	S	S
Macon	S	S	S	S
Otis	S	S	S	S
Scarlet	S	S	S	S
Tara2002	S	S	S	S
WA8016	S	S	S	S
WA8034	S	S	S	S
WA8074	S	S	S	S
WA8099	S	S	S	S
WA8100	S	S	S	S
WA8123	S	S	S	S
WA8133	S	S	S	S
LOUISE	S	S	S	S
PENAWAWA	S	S	S	S
W14	R	R	R	R
UI Pettit	R	R	R	R
Treasure	S	S	S	S
Jubilee	S	S	S	S
IDO629	S	S	S	S
IDO851	S	S	S	S
IDO852	S	S	S	S
UI Winchester	S	S	S	S
Jerome	S	S	S	S
IDO702	S	S	S	S
Jefferson	S	S	S	S
Lolo	S	S	S	S
UI Lochsa	S	S	S	S
IDO694	S	S	S	S
IDO686	S	S	S	S
IDO671	S	S	S	S
UI Stone	S	S	S	S
IDO644	S	S	S	S
IDO377s	S	S	S	S
Pomerelle	S	S	S	S
ID0696	S	S	S	S
IDO854	S	S	S	S
IDO858	S	S	S	S
IDO868	S	S	S	S
IDO687	S	S	S	S

IDO440	S	S	S	S
IDO488	S	S	S	S
IDO582	S	S	S	S
IDO560	S	S	S	S
WHITEBIRD	S	S	S	S
CENTENNIAL	S	S	S	S
Hahan-1RS	S	S	S	S
Hahan-1RSMA	S	S	S	S
Attila-1RS	S	S	S	S
Attila-1RSMA	S	S	S	S
UC1110	S	S	S	S
PI610750	S	S	S	S
Lassik	S3	R	S	S
UC1682	S	S	S	S
Summit 515	S	S	S	S
Espresso	S	S	S	S
RSI5 Yr5 Yr15 Gpc HMW 1	S	S	S	S
UC1679	S	S	S	S
Blanca Grande 515	S	S	S	S
UC896 5+10 Lr34/Yr18 Yr5 Gpc	S	S	S	S
UC1603	S3	R	S	S
Blanca Fuerte	S	S	S	S
UC1395 Lr34/Yr18	S	S	S	S
UC1396	S	S	S	S
UC1551	S	S	S	S
UC1552	S	S	S	S
UC1554	S	S	S	S
UC1599	S	S	S	S
UC1601	S	S	S	S
UC1602	S	S	S	S
UC1616	S	S	S	S
UC1618	S3	R	S	S
UC1642	S	S	S	S
UC1643	S	S	S	S
11010-9, 10013-1	S	S	S	S
UC1683	S	S	S	S
10014/7	S	S	S	S
RIL203 UC1110xCIMMYT2	S	S	S	S
RIL29 UC1110xCIMMYT2	S	S	S	S
Jagger	S	S	S	S
Thatcher	S	S	S	S
Fortuna	S	S	S	S
Choteau	S	S	S	S
Vida	S	S	S	S
MT0802	S	S	S	S
Duclair	S	S	S	S

MT1002	S	S	S	S
MT1016	S	S	S	S
MT1020	S	S	S	S
MT1027	S	S	S	S
MT1053	S	S	S	S
MTHW1060	S	S	S	S
MTHW1069	S	S	S	S
MT0861	S	S	S	S
MT0921	S	S	S	S
MT0945	S	S	S	S
CAP151-3	S	S	S	S
CAP34-1	S	S	S	S
MTHW0771	S	S	S	S
MT0415	S	S	S	S
MT0813	S	S	S	S
MTHW0867	S	S	S	S
Newana	S	S	S	S
Hi-Line	S	S	S	S
9263	S3	R	S	S
9223	S	S	S	S
9225	S	S	S	S
9228	S	S	S	S
9229	S	S	S	S
9232	S	S	S	S
9233	S	S	S	S
9245	S	S	S	S
9242	S	S	S	S
9240	S	S	S	S
9241	S	S	S	S
9246	S	S	S	S
9254	S	S	S	S
9256	S	S	S	S
9252	S	S	S	S
9248	S	S	S	S
9247	S	S	S	S
9249	S	S	S	S
9261	S	S	S	S
Berkut	S	S	S	S
9258	S	S	S	S
9259	S	S	S	S
9260	S	S	S	S
9253	S	S	S	S
AC BARRIE	S	S	S	S
Hilliard	S	S	S	S
Corrigin	S	S	S	S
Catodo Solid-1	S	S	S	S

Catodo Solid-2	S	S	S	S
IDO644 Solid-1	S	S	S	S
IDO644 Solid-2	S	S	S	S
IDO671 Solid-1	S	S	S	S
IDO671 Solid-2	S	S	S	S
WA8008 Solid-1	S	S	S	S
WA8008 Solid-2	S	S	S	S
Chewink	S	S	S	S
SRRN-6027	S	S	S	S
SRRN-6028	S	S	S	S
SRRN-6029	S	S	S	S
SRRN-6030	S	S	S	S
SRRN-6032	S	S	S	S
SRRN-6037	S	S	S	S
SRRN-6038	S	S	S	S
SRRN-6042	S	S	S	S
SRRN-6044	S	S	S	S
SRRN-6047	S	S	S	S
SRRN-6049	S	S	S	S
SRRN-6050	S	S	S	S
SRRN-6097	S	S	S	S
SRRN-6098	S	S	S	S
SRRN-6099	S	S	S	S
SRRN-6109	S	S	S	S
21HRWSN-2106	S	S	S	S
21HRWSN-2111	S	S	S	S
21HRWSN-2126	S	S	S	S
28SAWSN-3045	S	S	S	S
28SAWSN-3047	S	S	S	S
28SAWSN-3096	S	S	S	S
28SAWSN-3102	S	S	S	S
28SAWSN-3106	S	S	S	S
43IBWSN-1014	S	S	S	S
43IBWSN-1015	S	S	S	S
43IBWSN-1085	S	S	S	S
43IBWSN-1089	S	S	S	S
43IBWSN-1101	S	S	S	S
43IBWSN-1118	S	S	S	S
43IBWSN-1227	S	S	S	S
UI Platinum	S	S	S	S
LCS Altomo	S	S	S	S
LCS-Star	S	S	S	S

*Disagreements between PFT_KASP and UMN10 are highlighted in red font.

**R- presence of resistant allele; S- presence of susceptible allele in case of UMN10 and absence of allele for PFT_KASP, PFT_GSP and SGNH_GSP; H-presence of both resistant and susceptible alleles; S3- presence of non-functional PFT allele (S3 haplotype)