



附图 1 山西小麦品种低分子量麦谷蛋白聚类分析

Supplementary Fig. 1 Cluster diagram of low-molecular-weight glutenin of Shanxi wheat germplasm resources

附表1 山西小麦品种信息
Supplementary Table 1 Information of Shanxi wheat varieties

名称 Name	审定类别 Approved types	审定年份 Approved years	LMW-GS亚基类型 Subunit types of LMW-GS
晋麦1Jinmai1	北部旱地品种NDV	1973	<i>Glu-A3a</i> , <i>Glu-A3b</i> , <i>Glu-A3d</i> , <i>Glu-B3b</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i>
晋麦5Jinmai5	中部旱地品种MDV	1973	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3d</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i>
晋麦11Jinmai11	南部水地品种SIV	1980	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3d</i> , <i>Glu-B3g</i>
晋麦12Jinmai12	中部水地品种MIV	1980	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i>
晋麦16Jinmai16	南部旱地品种SDV	1982	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3b</i> , <i>Glu-B3d</i> , <i>Glu-B3g</i>
晋麦17Jinmai17	北部旱地品种NDV	1982	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i>
晋麦18Jinmai18	中部水地品种MIV	1983	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i>
晋麦19Jinmai19	中南部水地品种MSIV	1983	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i>
晋麦20Jinmai20	南部水地品种SIV	1984	<i>Glu-A3a</i> , <i>Glu-A3c</i> , <i>Glu-A3d</i> , <i>Glu-B3d</i> , <i>Glu-B3i</i>
晋麦21Jinmai21	南部旱地品种SDV	1985	<i>Glu-A3a</i> , <i>Glu-A3d</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i> , <i>Glu-B3j</i> , <i>ω-secalin</i>
晋麦22Jinmai22	南部旱地品种SDV	1985	<i>Glu-A3c</i> , <i>Glu-B3g</i> , <i>Glu-B3d</i> , <i>Glu-B3i</i>
晋麦23Jinmai23	南部旱地品种SDV	1985	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-B3g</i> , <i>Glu-B3j</i> , <i>ω-secalin</i>
晋麦24Jinmai24	中部旱地品种MDV	1987	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i>
晋麦25Jinmai25	北部水地品种NIV	1988	<i>Glu-A3a</i> , <i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-B3i</i>
晋麦27Jinmai27	南部旱地品种SDV	1989	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3a</i> , <i>Glu-B3b</i> , <i>Glu-B3g</i>
晋麦28Jinmai28	中部旱地品种MDV	1989	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3a</i> , <i>Glu-B3b</i> , <i>Glu-B3g</i>
晋麦29Jinmai29	中部旱地品种MDV	1989	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3d</i> , <i>Glu-B3g</i>
晋麦30Jinmai30	南部水地品种SIV	1990	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i>
晋麦31Jinmai31	南部旱地品种SDV	1990	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3d</i> , <i>Glu-B3g</i>
晋麦32Jinmai32	南部水地品种SIV	1990	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i>
晋麦33Jinmai33	南部旱地品种SDV	1990	<i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i>
晋麦35Jinmai35	南部水地品种SIV	1990	<i>Glu-A3b</i> , <i>Glu-A3d</i> , <i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i>
晋麦36Jinmai36	南部旱地品种SDV	1991	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i>
晋麦37Jinmai37	南部旱地品种SDV	1991	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3d</i> , <i>Glu-B3g</i>
晋麦38Jinmai38	中部旱地品种MDV	1991	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i>
晋麦39Jinmai39	中部旱地品种MDV	1991	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i>
晋麦40Jinmai40	中部旱地品种MDV	1991	<i>Glu-A3a</i> , <i>Glu-A3b</i> , <i>Glu-A3d</i> , <i>Glu-B3d</i> , <i>Glu-B3g</i>
晋麦41Jinmai41	南部水地品种SIV	1992	<i>Glu-A3a</i> , <i>Glu-A3b</i> , <i>Glu-A3d</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i> , <i>Glu-B3j</i> , <i>ω-secalin</i>
晋麦42Jinmai42	中南部旱地品种MSDV	1992	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3e</i>
晋麦43Jinmai43	中部旱地品种MDV	1992	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3f</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i>
晋麦44Jinmai44	中部旱地品种MDV	1992	<i>Glu-A3a</i> , <i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3e</i> , <i>Glu-B3g</i>
晋麦45Jinmai45	中部水地品种MIV	1993	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-B3g</i> , <i>Glu-B3j</i> , <i>ω-secalin</i>
晋麦46Jinmai46	中部旱地品种MDV	1994	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i>
晋麦47Jinmai47	南部旱地品种SDV	1995	<i>Glu-A3a</i> , <i>Glu-A3d</i> , <i>Glu-A3c</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i>
晋麦48Jinmai48	中部水地品种MIV	1995	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3d</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i>
晋麦49Jinmai49	南部水地品种SIV	1996	<i>Glu-A3a</i> , <i>Glu-A3b</i> , <i>Glu-A3d</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i> , <i>Glu-B3j</i> , <i>ω-secalin</i>
晋麦50Jinmai50	南部旱地品种SDV	1996	<i>Glu-A3a</i> , <i>Glu-A3b</i> , <i>Glu-A3d</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i>
晋麦51Jinmai51	中部旱地品种MDV	1996	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3d</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i> , <i>Glu-B3j</i> , <i>ω-secalin</i>
晋麦52Jinmai52	中部水地品种MIV	1996	<i>Glu-A3b</i> , <i>Glu-A3e</i> , <i>Glu-A3f</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i>
晋麦53Jinmai53	中部旱地品种MDV	1996	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i>
晋麦54Jinmai54	南部旱地品种SDV	1997	<i>Glu-A3a</i> , <i>Glu-A3b</i> , <i>Glu-A3d</i> , <i>Glu-B3d</i> , <i>Glu-B3g</i>
晋麦56Jinmai56	南部水地品种SIV	1998	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-B3g</i> , <i>Glu-B3j</i> , <i>ω-secalin</i>
晋麦57Jinmai57	南部水地品种SIV	1998	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i>
晋麦58Jinmai58	中部水地品种MIV	1998	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3d</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i> , <i>Glu-B3j</i> , <i>ω-secalin</i>
晋麦59Jinmai59	中部旱地品种MDV	1998	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3d</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i>
晋麦60Jinmai60	南部旱地品种SDV	1999	<i>Glu-A3a</i> , <i>Glu-A3b</i> , <i>Glu-A3d</i> , <i>Glu-B3g</i> , <i>Glu-B3j</i> , <i>ω-secalin</i>
晋麦61Jinmai61	南部水地品种SIV	1999	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-B3g</i> , <i>Glu-B3h</i>
晋麦62Jinmai62	中部水地品种MIV	1999	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3d</i> , <i>Glu-A3f</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i> , <i>Glu-B3j</i>
晋麦63Jinmai63	南部旱地品种SDV	1999	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3d</i> , <i>Glu-A3f</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i>
晋麦65Jinmai65	南部水地品种SIV	2000	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i>
晋麦66Jinmai66	中部水地品种MIV	2000	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3d</i> , <i>Glu-A3f</i> , <i>Glu-A3g</i> , <i>Glu-B3e</i> , <i>Glu-B3g</i>
晋麦67Jinmai67	中部水地品种MIV	2000	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-B3g</i> , <i>Glu-B3i</i>
晋麦68Jinmai68	中部旱地品种MDV	2000	<i>Glu-A3a</i> , <i>Glu-A3b</i> , <i>Glu-A3d</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i>
晋麦70Jinmai70	中部旱地品种MDV	2001	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3f</i> , <i>Glu-A3g</i> , <i>Glu-B3g</i> , <i>Glu-B3j</i> , <i>ω-secalin</i>
晋麦71Jinmai71	南部水地品种SIV	2001	<i>Glu-A3b</i> , <i>Glu-A3c</i> , <i>Glu-A3d</i> , <i>Glu-A3f</i> , <i>Glu-B3g</i> , <i>Glu-B3j</i> , <i>ω-secalin</i>

晋麦72Jinmai72	南部水地品种SIV	2002	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3g, Glu-B3j, ω-secalin</i>
晋麦73Jinmai73	南部旱地品种SDV	2002	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3g, Glu-B3b, Glu-B3g, Glu-B3h</i>
晋麦74Jinmai74	南部水地品种SIV	2002	<i>Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3j, ω-secalin</i>
晋麦75Jinmai75	中部水地品种MIV	2002	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3b, Glu-B3g, Glu-B3h</i>
临丰615Linfeng615	南部旱地品种SDV	2002	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3g, Glu-B3b, Glu-B3g, Glu-B3h</i>
运引1号Yunyin1	中南部水地品种MSIV	2002	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3g, Glu-B3j, ω-secalin</i>
晋农207Jinnong207	中部水地品种MIV	2002	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3g, Glu-B3j, ω-secalin</i>
运麦1934Yunmai1934	南部水地品种SIV	2022	<i>Glu-A3b, Glu-A3c, Glu-B3b, Glu-B3g</i>
长6878Chang6878	中部旱地品种MDV	2002	<i>Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3i</i>
晋太170Jintai170	中部旱地品种MDV	2002	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3b, Glu-B3e, Glu-B3g, ω-secalin</i>
临优145Linyou145	南部水地品种SIV	2003	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3b, Glu-B3e, Glu-B3g</i>
临汾138Linfen138	南部水地品种SIV	2003	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-B3d</i>
长6154Chang6154	中部旱地品种MDV	2003	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3g, Glu-B3g, Glu-B3i</i>
河东TX-006HedongTX-006	南部旱地品种SDV	2003	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-B3d, Glu-B3g</i>
临丰3号Linfeng3	南部旱地品种SDV	2004	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3d, Glu-B3g</i>
晋太65Jintai65	中部水地品种MIV	2003	<i>Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3i</i>
临远3158Linyuan3158	南部水地品种SIV	2004	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3f, Glu-B3b, Glu-B3e, Glu-B3g</i>
临抗11号Linkang11	南部旱地品种SDV	2004	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-B3b, Glu-B3e</i>
泽优2号Zeyou2	中部旱地品种MDV	2004	<i>Glu-A3b, Glu-A3d, Glu-A3f, Glu-A3g, Glu-B3g, Glu-B3j, ω-secalin</i>
冬黑1号Donghei1	南部水地品种SIV	2004	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3b, Glu-B3g, Glu-B3h</i>
运黑28号Yunhei28	南部水地品种SIV	2004	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3g, Glu-B3j, ω-secalin</i>
冬黑10号Donghei10	中部旱地品种MDV	2004	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3g</i>
临优2018Linyou2018	南部水地品种SIV	2005	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3g, Glu-B3j, ω-secalin</i>
临优2069Linyou2069	南部水地品种SIV	2005	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3d</i>
晋春3号Jinchun3	北部旱地品种NDV	1974	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3g, Glu-B3a, Glu-B3g</i>
晋春13Jinchun13	北部水地品种NIV	1996	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3g, Glu-B3a, Glu-B3g</i>
晋春15号Jinchun15	北部水地品种NIV	2004	<i>Glu-A3a, Glu-A3b, Glu-A3g, Glu-B3a, Glu-B3c, Glu-B3g</i>
运早2335Yunhan2335	南部旱地品种SDV	2005	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-B3g</i>
长6359Chang6359	中部旱地品种MDV	2005	<i>Glu-A3a, Glu-A3b, Glu-A3c, Glu-A3d, Glu-B3g</i>
长麦5079Changmai5079	中部水地品种MIV	2005	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3g</i>
长6452Chang6452	中部水地品种MIV	2005	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3g, Glu-B3g, Glu-B3i</i>
长4640Chang4640	中部旱地品种MDV	2005	<i>Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3i</i>
汾黑麦1831Fenheimai1831	中部水地品种MIV	2005	<i>Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3j, ω-secalin</i>
晋麦78号Jinmai78	南部旱地品种SDV	2006	<i>Glu-A3a, Glu-A3b, Glu-A3g, Glu-B3d, Glu-B3g</i>
晋麦79号Jinmai79	中部旱地品种MDV	2006	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3b, Glu-B3g, Glu-B3h</i>
晋麦80号Jinmai80	南部旱地品种SDV	2006	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3g, Glu-B3j, ω-secalin</i>
晋麦81号Jinmai81	南部水地品种SIV	2006	<i>Glu-A3b, Glu-A3d, Glu-B3d, Glu-B3g</i>
汾4846Fen4846	中部水地品种MIV	2006	<i>Glu-A3a, Glu-A3c, Glu-B3g</i>
汾4439Fen4439	中部水地品种MIV	2006	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-B3g, Glu-B3j, ω-secalin</i>
晋麦82号Jinmai82	南部水地品种SIV	2007	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3d, Glu-B3g</i>
临汾8050Linfen8050	南部水地品种SIV	2007	<i>Glu-A3b, Glu-A3c, Glu-B3g</i>
晋麦83号Jinmai83	南部水地品种SIV	2007	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3g, Glu-B3j, ω-secalin</i>
临汾6510Linfen6510	南部水地品种SIV	2007	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-B3d, Glu-B3g</i>
运早20410Yunhuan20410	南部旱地品种SDV	2007	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3g, Glu-B3j, ω-secalin</i>
长麦6686Changmai6686	中部水地品种MIV	2007	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3g, Glu-B3g, Glu-B3j, ω-secalin</i>
长7016Chang7016	中部旱地品种MDV	2007	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-A3g, Glu-B3b, Glu-B3e</i>
晋麦84号Jinmai84	南部水地品种SIV	2008	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3j, ω-secalin</i>
晋麦85号Jinmai85	南部旱地品种SDV	2008	<i>Glu-A3b, Glu-A3f, Glu-B3g, Glu-B3i</i>
晋太9923Jintai9923	中部水地品种MIV	2008	<i>Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3i</i>
晋麦86号Jinmai86	中部水地品种MIV	2008	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3f, Glu-B3b, Glu-B3h</i>
太5902Tai5902	中部水地品种MIV	2008	<i>Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3j, ω-secalin</i>
长麦6135Changmai6135	中部水地品种MIV	2008	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3f, Glu-B3b, Glu-B3e, Glu-B3g</i> <i>ω-secalin</i>
晋麦87号Jinmai87	南部旱地品种SDV	2009	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3f, Glu-B3b, Glu-B3g, Glu-B3h</i>
运早719Yunhan719	南部旱地品种SDV	2009	<i>Glu-A3b, Glu-A3c, Glu-B3g</i>
晋麦88号Jinmai88	南部旱地品种SDV	2009	<i>Glu-A3b, Glu-A3d, Glu-A3f, Glu-A3g</i>
山农129Shannong129	中部水地品种MIV	2009	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3g, Glu-B3j, ω-secalin</i>
太13606Tai13606	中部水地品种MIV	2009	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3b, Glu-B3e, Glu-B3g</i>
长麦5973Changmai5973	中部水地品种MIV	2009	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-B3g, Glu-B3j, ω-secalin</i>

长5222Chang5222	中部水地品种MIV	2009	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3g, Glu-B3j, ω-secalin</i>
长6388Chang6388	中部旱地品种MDV	2019	<i>Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3j, ω-secalin</i>
临远8号Linyuan8	南部水地品种SIV	2010	<i>Glu-A3a, Glu-A3c, Glu-B3d, Glu-B3j</i>
长麦251Changmai251	中部水地品种MIV	2011	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-A3g, Glu-B3e, Glu-B3g</i>
长6197Chang6197	中部旱地品种MDV	2017	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-A3g, Glu-B3g, Glu-B3j, ω-secalin</i>
长8744Chang8744	南部旱地品种SDV	2011	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3g, Glu-B3j, ω-secalin</i>
晋麦90号Jinmai90	南部旱地品种SDV	2011	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3d, Glu-B3g</i>
晋麦91号Jinmai91	南部旱地品种SDV	2011	<i>Glu-A3b, Glu-B3c, Glu-B3d, Glu-B3g</i>
运早805Yunhan805	南部旱地品种SDV	2011	<i>Glu-A3b, Glu-A3c, Glu-A3e, Glu-A3f, Glu-B3g</i>
晋麦92号Jinmai92	南部旱地品种SDV	2013	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-A3g, Glu-B3b, Glu-B3e, Glu-B3g</i>
晋太182Jintai182	中部水地品种MIV	2013	<i>Glu-A3a, Glu-A3b, Glu-A3g, Glu-B3g, Glu-B3j, ω-secalin</i>
长4853Chang4853	中部旱地品种MDV	2013	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3g, Glu-B3j, ω-secalin</i>
晋麦94号Jinmai94	南部水地品种SIV	2014	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3g, Glu-B3j, ω-secalin</i>
晋麦95号Jinmai95	南部水地品种SIV	2014	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-B3b, Glu-B3g, Glu-B3h</i>
晋麦96号Jinmai96	南部水地品种SIV	2014	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3c, Glu-B3g, Glu-B3h</i>
晋太102Jintai102	中部水地品种MIV	2014	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-B3j, ω-secalin</i>
晋麦97号Jinmai97	南部旱地品种SDV	2014	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3d, Glu-B3g</i>
晋麦98号Jinmai98	南部旱地品种SDV	2014	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-A3g, Glu-B3f</i>
太春3473Taichun3473	中部水地品种MIV	2014	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-B3d, Glu-B3g</i>
晋麦99号Jinmai99	南部旱地品种SDV	2015	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3g, Glu-B3i</i>
运早21-30Yunhan21-30	南部旱地品种SDV	2003	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3d, Glu-B3g</i>
良星67Liangxing67	南部水地品种SIV	2016	<i>Glu-A3b, Glu-A3f, Glu-B3g, Glu-B3j, ω-secalin</i>
运早137Yunhan137	南部旱地品种SDV	2016	<i>Glu-A3a, Glu-A3b, Glu-B3d, Glu-B3g</i>
太113Tai113	中部水地品种MIV	2016	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-B3g, Glu-B3j, ω-secalin</i>
晋作80Jinzuo80	中部水地品种MIV	2016	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-B3g, Glu-B3j, ω-secalin</i>
晋太114Jintai114	中部水地品种MIV	2016	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-B3g, Glu-B3j, ω-secalin</i>
长6794Chang6794	中部水地品种MIV	2016	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3g, Glu-B3j, ω-secalin</i>
长7080Chang7080	南部旱地品种SDV	2017	<i>Glu-A3b, Glu-A3c, Glu-B3d, Glu-B3i</i>
晋太1310Jintai1310	中部旱地品种MDV	2016	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-A3g, Glu-B3g, Glu-B3i</i>
长6990Chang6990	中部旱地品种MDV	2016	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-A3g, Glu-B3g, Glu-B3j, ω-secalin</i>
中麦247Zhongmai247	南部水地品种SIV	2016	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3g</i>
临早6号Linhan6	南部旱地品种SDV	2006	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3d, Glu-B3g</i>
临Y8161LinY8161	南部旱地品种SDV	2017	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-B3g, Glu-B3j</i>
中早110Zhonghan110	中部旱地品种MDV	2002	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-B3g, Glu-B3j</i>
吕早1608Lvhan1608	中部旱地品种MDV	2004	<i>Glu-A3c, Glu-A3d, Glu-A3e, Glu-A3f, Glu-A3g, Glu-B3g, Glu-B3i</i>
小黑麦76号Xiaoheimai76	北部水地品种NIV	1997	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-B3g, Glu-B3h</i>
鲁科298Luke298	南部水地品种SIV	2018	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-A3g, Glu-B3g</i>
晋太141Jintai141	中部旱地品种MDV	2017	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3f, Glu-B3g, Glu-B3j, ω-secalin</i>
晋太146Jintai146	中部水地品种MIV	2017	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-A3g, Glu-B3g, Glu-B3h</i>
太1305Tai1305	中部旱地品种MDV	2018	<i>Glu-A3b, Glu-A3c, Glu-B3j, ω-secalin</i>
太412Tai412	中部水地品种MIV	2017	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-B3j, ω-secalin</i>
运14观74Yun14guan74	南部水地品种SIV	2018	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3f, Glu-A3g, Glu-B3g, Glu-B3j</i>
尧麦16Yaomai16	南部旱地品种SDV	2011	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3g, Glu-B3i</i>
石农086Shinong086	南部水地品种SIV	2017	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3f, Glu-A3g, Glu-B3g</i>
翔麦23Xiangmai23	南部水地品种SIV	2017	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3g, Glu-B3j, ω-secalin</i>
临汾6410Linfen6410	南部旱地品种SDV		<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-B3d, Glu-B3g</i>
晋麦101Jinmai101	南部旱地品种SDV	2018	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3g, Glu-B3h, ω-secalin</i>
晋麦102Jinmai102	南部旱地品种SDV	2018	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3d, Glu-B3g</i>
晋太1515Jintai1515	中部旱地品种MDV	2019	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3f, Glu-A3g, Glu-B3g, Glu-B3j</i>
NC206	南部水地品种SIV	2009	<i>Glu-A3a, Glu-A3b, Glu-B3g, Glu-B3j, ω-secalin</i>
中麦175Zhongmai175	中部水地品种MIV	2007	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-B3g, Glu-B3h</i>
舜麦1718Shunmai1718	南部水地品种SIV	2011	<i>Glu-A3a, Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3h</i>
运早1512Yunhan1512	南部旱地品种SDV	2018	<i>Glu-A3b, Glu-A3f, Glu-A3g, Glu-B3g</i>
运早139-2Yunhan139-2	南部旱地品种SDV	2020	<i>Glu-A3a, Glu-A3b, Glu-A3g, Glu-B3g</i>
润麦2号Runmai2	南部旱地品种SDV	2016	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3d, Glu-B3g</i>
翔麦8156	南部旱地品种SDV	2017	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3g</i>
Xiangmai8156	南部旱地品种SDV	2017	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3g</i>
临早9号Linhan9	南部旱地品种SDV	2018	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-A3g, Glu-B3g, Glu-B3h</i>
沃麦323Womai323	南部旱地品种SDV	2018	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3d, Glu-B3g</i>
金麦919Jinmai919	南部旱地品种SDV	2018	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3d, Glu-B3g</i>

晋麦104Jinmai104	中部旱地品种MDV	2017	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3f, Glu-A3g, Glu-B3g, Glu-B3j</i>
长6789Chang6789	中部水地品种MIV	2018	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3f, Glu-A3g, Glu-B3j, ω-secalin</i>
临Y7287LinY7287	南部水地品种SIV	2018	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-B3g</i>
运旱1411-2 Yunhan1411-2	南部旱地品种SDV	2018	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3c, Glu-B3d, Glu-B3g</i>
晋麦9号Jinmai9	南部水地品种SIV	1974	<i>Glu-A3b, Glu-A3d, Glu-A3f, Glu-A3g, Glu-B3a</i>
晋春14Jinchun14	北部水地品种NIV	1999	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3f, Glu-A3g, Glu-B3a, Glu-B3g</i>
晋春16号Jinchun16	北部水地品种NIV	2009	<i>Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3j, ω-secalin</i>
晋春17号Jinchun17	中部水地品种MIV	2017	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-B3g</i>
运麦218Yunmai218	南部水地品种SIV	2006	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-B3d, Glu-B3g</i>
临Y8012LinY8012	南部水地品种SIV	2018	<i>Glu-A3b, Glu-A3d, Glu-A3f, Glu-A3g, Glu-B3g</i>
沃麦608Womai608	南部水地品种SIV	2018	<i>Glu-A3b, Glu-A3c, Glu-B3c, Glu-B3d</i>
运黑14207Yunhei14207	南部水地品种SIV	2018	<i>Glu-A3a, Glu-A3b, Glu-B3g, Glu-B3i, Glu-B3j, ω-secalin</i>
运黑161Yunhei161	南部水地品种SIV	2018	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3f, Glu-A3g, Glu-B3c, Glu-B3g</i>
运糯32Yunnuo32	南部旱地品种SDV	2018	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3f, Glu-B3g, Glu-B3h, Glu-B3i</i>
晋麦106Jinmai106	中部水地品种MIV	2019	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3f, Glu-A3g, Glu-B3g, Glu-B3j</i>
龙麦1号Longmai1	中部水地品种MIV	2019	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3g</i>
晋太1508Jintai1508	中部水地品种MIV	2019	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3f, Glu-B3g</i>
晋麦103Jinmai103	中部旱地品种MDV	2017	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3b, Glu-B3g</i>
太冬2503Taidong2503	中部水地品种MIV	2019	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-A3g, Glu-B3g, Glu-B3j, ω-secalin</i>
长5638Chang5638	中部水地品种MIV	2019	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3g, Glu-B3j, ω-secalin</i>
晋太1510Jintai1510	中部旱地品种MDV	2018	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3j</i>
太春101Taichun101	中部水地品种MIV	2018	<i>Glu-A3b, Glu-A3c, Glu-B3j, ω-secalin</i>
邯科4898Hanke4898	南部水地品种SIV		<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-B3c, Glu-B3d</i>
运旱618Yunhan618	南部旱地品种SDV	2010	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3g</i>
运旱115Yunhan115	南部旱地品种SDV	2011	<i>Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3g, Glu-B3j</i>
运旱102Yunhan102	南部旱地品种SDV	2014	<i>Glu-A3b, Glu-A3d, Glu-B3d, Glu-B3g</i>
运旱22-33Yunhan22-33	南部旱地品种SDV	2005	<i>Glu-A3b, Glu-A3c, Glu-B3g</i>
晋麦8号Jinmai8	中部旱地品种MDV	1973	<i>Glu-A3b, Glu-A3c, Glu-A3e, Glu-A3f, Glu-B3g, Glu-B3i, Glu-B3j</i>
鲁麦14Lumai14	南部水地品种SIV	1993	<i>Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3j, ω-secalin</i>
金丰3号Jinfeng3	南部水地品种SIV	2005	<i>Glu-A3c, Glu-A3g, Glu-B3i, Glu-B3j, Glu-B3g,</i>
长麦6789Changmai6789	中部水地品种MIV	2017	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-B3g, Glu-B3j, ω-secalin</i>
运9805Yun9805	南部水地品种SIV	2002	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3d, Glu-B3g</i>
临旱5325Linhan5325	南部旱地品种SDV	2019	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3b, Glu-B3g</i>
长5804Chang5804	中部旱地品种MDV	/	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3j, ω-secalin</i>
运旱1818Yunhan1818	南部旱地品种SDV	2023	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3d, Glu-B3g</i>
中麦110Zhongmai110	南部水地品种SIV	2019	<i>Glu-A3a, Glu-A3d, Glu-B3i, Glu-B3j</i>
中优9507Zhongmai9507	中部水地品种MIV	2001	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3g, Glu-B3j</i>
临汾139Linfen139	南部旱地品种SDV	2006	<i>Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3j</i>
中麦349Zhongmai349	南部水地品种SIV	2009	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3b, Glu-B3g</i>
舜麦612Shunmai612	南部旱地品种SDV	2008	<i>Glu-A3b, Glu-B3d, Glu-B3g</i>
泽优1号Zeyou1	南部旱地品种SDV	2002	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-B3b, Glu-B3g, Glu-B3h</i>
长麦3987Changmai3987	中部旱地品种MDV	2018	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3g, Glu-B3g, Glu-B3j, ω-secalin</i>
中优206Zhongyou206	中部水地品种MIV	2008	<i>Glu-A3b, Glu-A3c, Glu-B3g</i>
JM5295	南部旱地品种SDV	2017	<i>Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3d</i>
晋麦100Jinmai100	南部旱地品种SDV	2017	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3d, Glu-B3g</i>
鑫麦296Xinmai296	南部水地品种SIV	2014	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3g</i>
轮选167Lunxuan167	中部水地品种MIV	2014	<i>Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3j, ω-secalin</i>
永麦3Yongmai3	南部水地品种SIV	2008	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3g, Glu-B3i</i>
翔麦517Xiangmai517	南部旱地品种SDV	2017	<i>Glu-A3b, Glu-A3c, Glu-B3g</i>
忻6160Xin6160	中部水地品种MIV	2009	<i>Glu-A3b, Glu-A3c, Glu-B3j, ω-secalin</i>
长治5608Changzhi5608	中部水地品种MIV	2002	<i>Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3i, ω-secalin</i>
云麦766Yunmai766	南部水地品种SIV	2019	<i>Glu-A3b, Glu-A3c, Glu-B3i, Glu-B3j,</i>
临选2035Linxuan2035	南部水地品种SIV	2005	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3b, Glu-B3e, Glu-B3g</i>
临研151Linyan151	南部水地品种SIV	2019	<i>Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3h</i>
运麦2064Yunmai2064	南部水地品种SIV	2004	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3g, Glu-B3j, ω-secalin</i>
圣麦20Shengmai20	南部水地品种SIV	2019	<i>Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3j</i>
圣麦104Shengmai104	南部水地品种SIV	2019	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3g, Glu-B3j, ω-secalin</i>
晋麦107Jinmai107	中部旱地品种MDV	2019	<i>Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3j, ω-secalin</i>
品育8155Pinyu8155	南部旱地品种SDV	2019	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-A3b, Glu-B3j</i>

冬黑1206Donghei1206	南部旱地品种SDV	2019	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3g, Glu-B3j, ω-secalin</i>
太紫6336Taizi6336	中部水地品种MIV	2019	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3g</i>
早优6号Hanyou6	南部旱地品种SDV	2017	<i>Glu-A3b, Glu-A3c, Glu-B3d, ω-secalin</i>
晋麦10Jinmai10	南部水地品种SIV	1974	<i>Glu-A3b, Glu-A3c, Glu-B3d, Glu-B3g</i>
晋麦89Jinmai89	南部水地品种SIV	2011	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3j, ω-secalin</i>
晋麦6号Jinmai6	中部旱地品种MDV	1973	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-B3a, Glu-B3g</i>
经麦6425Jingmai6425	中部旱地品种MDV	2022	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-B3b, Glu-B3g, Glu-B3h</i>
紫优5号Ziyou5	南部水地品种SIV	2020	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3j, ω-secalin</i>
紫麦8555Zimai8555	南部旱地品种SDV	2021	<i>Glu-A3b, Glu-A3c, Glu-B3b, Glu-B3g, Glu-B3h</i>
临麦5311Linmai5311	南部水地品种SIV	2021	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-A3f, Glu-A3g</i>
太615Tai615	中部水地品种MIV	2021	<i>Glu-A3b, Glu-A3g, Glu-B3g, Glu-B3j, ω-secalin</i>
长麦3809Changmai3809	中部水地品种MIV	2021	<i>Glu-A3b, Glu-A3d, Glu-B3g</i>
长7170Chang7170	中部旱地品种MDV	2021	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3b, Glu-B3e, Glu-B3g</i>
临农4357Linnong4357	南部水地品种SIV	2021	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3g</i>
晋麦109Jinmai109	南部水地品种SIV	2021	<i>Glu-A3b, Glu-A3c, Glu-B3g</i>
早糯901Zaonuo901	南部水地品种SIV	2022	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3g</i>
临黑187Linhei187	南部水地品种SIV	2021	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3j, ω-secalin</i>
临旱20Linhan20	南部旱地品种SDV	2021	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3b, Glu-B3g, Glu-B3h</i>
尧麦30Yaomai30	南部水地品种SIV	2021	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-B3b, Glu-B3e, Glu-B3g</i>
尧麦31Yaomai31	南部水地品种SIV	2021	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-A3g, Glu-B3b, Glu-B3e,</i>
昊麦66Haomai66	南部水地品种SIV	2021	<i>Glu-A3b, Glu-A3c, Glu-B3b, Glu-B3g, Glu-B3h</i>
晋麦4号Jinmai4	///	///	<i>Glu-A3b, Glu-A3c, Glu-B3g</i>
晋春5号Jinchun5	南部水地品种SIV	2018	<i>Glu-A3b, Glu-B3g, Glu-B3j, ω-secalin</i>
梧麦168Wumai168	中部水地品种MIV	2009	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3g</i>
科紫6061Kezi6061	中部水地品种MIV	2006	<i>Glu-A3b, Glu-A3c, Glu-B3b, Glu-B3g, Glu-B3h</i>
圣麦131Shengmai131	南部水地品种SIV	2020	<i>Glu-A3b, Glu-A3c, Glu-B3d</i>
河东乌麦526Hedongwumai526	南部水地品种SIV	1998	<i>Glu-A3b, Glu-A3c, Glu-B3g</i>
晋麦105Jinmai105	南部旱地品种SDV	2019	<i>Glu-A3b, Glu-A3c, Glu-A3b, Glu-B3g</i>
临糯88Linnuo88	南部旱地品种SDV	2018	<i>Glu-A3b, Glu-A3c, Glu-B3g</i>
晋麦108Jinmai108	南部旱地品种SDV	2020	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-A3g</i>
晋麦34Jinmai34	中部旱地品种MDV	1990	<i>Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3i</i>
晋太1503Jintai1503	中部旱地品种MDV	2021	<i>Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3h</i>
济麦4075Jimai4075	南部水地品种SIV	2021	<i>Glu-A3b, Glu-A3c, Glu-B3g</i>
翔麦519Xiangmai519	南部旱地品种SDV	2021	<i>Glu-A3b, Glu-A3c, Glu-B3b, Glu-B3g, Glu-B3h</i>
尧麦33Yaomai33	南部水地品种SIV	2022	<i>Glu-A3b, Glu-A3c</i>
临旱19Linhan19	南部旱地品种SDV	2021	<i>Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3h, ω-secalin</i>
并麦1号Bingmai1	中部水地品种MIV	2021	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3g, Glu-B3i</i>
鲁原502Luyuan502	南部水地品种SIV	2011	<i>Glu-A3b, Glu-A3c, Glu-B3b, Glu-B3g, Glu-B3h</i>
大白麦Dabaimai	平定Pingding		<i>Glu-A3f, Glu-A3b, Glu-B3d</i>
小红皮Xiaohongpi	娄烦Loufan		<i>Glu-A3b, Glu-A3c, Glu-B3b, Glu-B3g, Glu-B3h</i>
牛趾甲Niuzhijia	离石Lishi		<i>Glu-A3b, Glu-A3c, Glu-B3a, Glu-B3g</i>
红粒麦Honglimai	离石Lishi		<i>Glu-A3c, Glu-A3g, Glu-B3a, Glu-B3g</i>
绛州红Jiangzhouhong	汾阳Fenyang		<i>Glu-A3b, Glu-A3c, Glu-B3a, Glu-B3g</i>
假红麦Jiahongmai	汾阳Fenyang		<i>Glu-A3c, Glu-B3a, Glu-B3g</i>
牛趾甲Niuzhijia	中阳Zhongyang		<i>Glu-A3b, Glu-A3c, Glu-B3a, Glu-B3g</i>
四月黄Siyuehuang	孝义Xiaoyi		<i>Glu-A3b, Glu-A3c, Glu-B3a, Glu-B3g</i>
三月黄Sanyuehuang	介休Jiexiu		<i>Glu-A3c, Glu-A3g, Glu-A3f, Glu-A3g, Glu-B3g</i>
白芒糙Baimangcao	长治Changzhi		<i>Glu-A3a, Glu-A3b, Glu-B3g</i>
有芒大红薯 Youmangdahongjing	武乡Wuxiang		<i>Glu-A3a, Glu-A3b, Glu-A3g, Glu-B3g</i>
竹秤青Zhuchengqing	沁县Qinxian		<i>Glu-A3a, Glu-A3b, Glu-B3d, Glu-B3g</i>
红秃麦Hongtumai	屯留Tunliu		<i>Glu-A3a, Glu-A3b, Glu-A3g, Glu-B3a, Glu-B3g</i>
白秃麦Baitumai	屯留Tunliu		<i>Glu-A3b, Glu-A3c, Glu-B3a, Glu-B3g</i>
白秃麦Baitumai	吉县Jixian		<i>Glu-A3a, Glu-A3b, Glu-A3g, Glu-B3d, Glu-B3g</i>
红秃麦Hongtumai	吉县Jixian		<i>Glu-A3f, Glu-A3g, Glu-B3a, Glu-B3g</i>
叶蚰麦Yequmai	高平Gaoping		<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3d</i>
红皮冬麦Hongpidongmai	崞县Guoxian		<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
白山疙瘩Baishangeda	晋城Jincheng		<i>Glu-A3b, Glu-A3c, Glu-B3a, Glu-B3d, Glu-B3g</i>
红叶蚰Hongyegu	晋城Jincheng		<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3g, Glu-B3i</i>
气死风Qisifeng	安邑Anyi		<i>Glu-A3a, Glu-A3d, Glu-B3a, Glu-B3g</i>

红和尚Hongheshang	洪洞Hongtong	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
西安麦Xi'anmai	洪洞Hongtong	<i>Glu-A3b, Glu-A3c, Glu-B3a, Glu-B3g</i>
啉麦Penmai	临汾Linfen	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
白壳红Baikeshong	解虞Xieyu	<i>Glu-A3b, Glu-A3c, Glu-B3a, Glu-B3g</i>
红小麦Hongxiaomai	解虞Xieyu	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3a, Glu-B3g</i>
金裹银Jinguoyin	解虞Xieyu	<i>Glu-A3f, Glu-A3g, Glu-B3a, Glu-B3g</i>
游白兰Youbailan	稷山Jishan	<i>Glu-A3b, Glu-A3c, Glu-B3d, Glu-B3g</i>
白线麦Baixianmai	闻喜Wenxi	<i>Glu-A3c, Glu-A3g, Glu-A3f, Glu-B3g</i>
白梗麦Baigengmai	闻喜Wenxi	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
白火麦Baihuomai	运城Yuncheng	<i>Glu-A3g, Glu-B3a, Glu-B3g</i>
白三月黄Baisanyuehuang	永济Yongji	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
玉兰麦Yulanmai	天镇Tianzhen	<i>Glu-A3c, Glu-A3f, Glu-B3a, Glu-B3b, Glu-B3c, Glu-B3g</i>
紫麦Zimai	阳高Yanggao	<i>Glu-A3b, Glu-A3c, Glu-A3g, Glu-B3d</i>
大同小麦Datongxiaomai	大同Datong	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3g, Glu-B3g</i>
齐穗麦Qisuimai	浑源Hunyuanyuan	<i>Glu-A3b, Glu-B3g, Glu-B3i</i>
大红麦Dahongmai	繁峙Fanshi	<i>Glu-A3b, Glu-B3c, Glu-B3g, Glu-B3i</i>
火烧头Huoshatou	朔县Shuoxian	<i>Glu-A3a, Glu-A3b, Glu-B3g</i>
定兴寨小麦 Dingxingzhaixiaomai	忻县Xinxian	<i>Glu-A3b, Glu-A3g, Glu-B3g, Glu-B3i</i>
白山麦Baishanmai	夏县Xiaxian	<i>Glu-A3b, Glu-A3c, Glu-B3d, Glu-B3g</i>
大灰麦Dahuiimai	平遥Pingyao	<i>Glu-A3b, Glu-A3c, Glu-B3g</i>
白山疙瘩Baishangeda	晋城Jincheng	<i>Glu-A3a, Glu-A3b, Glu-B3g, Glu-B3h</i>
土麦Tumai	黎城Licheng	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3a, Glu-B3g</i>
白芒糙Baimangcao	沁县Qinxian	<i>Glu-A3b, Glu-A3d, Glu-A3e, Glu-A3f, Glu-B3d, Glu-B3g</i>
红秃麦Hongtumai	长治Changzhi	<i>Glu-A3a, Glu-A3b, Glu-B3a, Glu-B3g</i>
疙瘩麦Gezhoumai	洪洞Hongtong	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
红壳红Hongkehong	曲沃Quwo	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3a, Glu-B3g</i>
豹麦Baomai	曲沃Quwo	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
红碧Hongbi	运城Yuncheng	<i>Glu-A3e, Glu-A3f, Glu-B3a, Glu-B3g</i>
和尚头白宿麦 Heshangtoubaisumai	五台Wutai	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-B3a, Glu-B3g</i>
高阳白麦Gaoyangbaimai	忻县Xinxian	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3g, Glu-B3i</i>
古城营Guchengying	太原Taiyuan	<i>Glu-A3b, Glu-A3c, Glu-B3d, Glu-B3g</i>
白火麦Baihuomai	临猗Linyi	<i>Glu-A3f, Glu-B3g, Glu-B3i</i>
杨中红山麦 Yangzhonghongshanmai	临猗Linyi	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
泉社红火麦 Quanshehonghuomai	临猗Linyi	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
杨中白山疙瘩 Yangzhongbaishangeda	临猗Linyi	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
红疙瘩麦Honggedamai	芮城Ruicheng	<i>Glu-A3b, Glu-A3f, Glu-B3a, Glu-B3g</i>
水麦Shuimai	运城Yuncheng	<i>Glu-A3b, Glu-A3f, Glu-B3a, Glu-B3g</i>
红线麦Hongxianmai	夏县Xiaxian	<i>Glu-A3b, Glu-A3c, Glu-B3d, Glu-B3g</i>
小秃麦Xiaotumai	平遥Pingyao	<i>Glu-A3c, Glu-B3a, Glu-B3g</i>
白芒红Baimanghong	阳泉Yangquan	<i>Glu-A3b, Glu-A3c, Glu-B3d, Glu-B3g</i>
白壳白Baikeshong	平遥Pingyao	<i>Glu-A3c, Glu-A3d, Glu-B3a, Glu-B3g</i>
红芒糙Hongmangcao	左权Zuoquan	<i>Glu-A3b, Glu-A3f, Glu-B3g</i>
和尚头Heshangtou	太谷Taigu	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-B3a, Glu-B3g</i>
日本小麦Ribenziaomai	孝义Xiaoyi	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
大红袍Dahongpao	中阳Zhongyang	<i>Glu-A3a, Glu-A3b, Glu-B3a, Glu-B3g</i>
有芒灯笼红 Youmangdenglonghong	交城Jiaocheng	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-B3a, Glu-B3g</i>
紫梗茬Zigengcha	闻喜Wenxi	<i>Glu-A3a, Glu-A3b, Glu-B3a, Glu-B3g</i>
小红皮Xiaohongpi	临汾Linfen	<i>Glu-A3a, Glu-A3b, Glu-B3a, Glu-B3g</i>
小红麦Xiaohongmai	吕梁Lvliang	<i>Glu-A3b, Glu-A3c, Glu-B3b, Glu-B3g, Glu-B3h</i>
宿麦Sumai	孝义Xiaoyi	<i>Glu-A3c, Glu-B3g</i>
和尚头Heshangtou	左权Zuoquan	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3g</i>
秃小麦Tuxiaomai	灵石Lingshi	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>

小芒麦Xiaomangmai	离石Lishi	<i>Glu-A3f, Glu-B3d, Glu-B3g</i>
大冬小麦Dadongxiaomai	汾阳Fenyang	<i>Glu-A3f, Glu-B3d, Glu-B3g</i>
白芒麦Baimangmai	平顺Pingshun	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3g</i>
竹秆青Zhuganqing	高平Gaoping	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
白芒红Baimanghong	高平Gaoping	<i>Glu-A3a, Glu-A3b, Glu-B3g, Glu-B3i</i>
白关东Baiguandong	洪洞Hongtong	<i>Glu-A3b, Glu-A3c, Glu-B3d, Glu-B3g</i>
火里烧Huolishao	洪洞Hongtong	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
芒麦Mangmai	洪洞Hongtong	<i>Glu-A3b, Glu-A3c, Glu-B3a, Glu-B3g</i>
白芒麦Baimangmai	万荣Wanrong	<i>Glu-A3f, Glu-B3d, Glu-B3g</i>
有芒山疙瘩Youmangshangeda	解虞Xieyu	NAN
红碧Hongbi	解虞Xieyu	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-B3d, Glu-B3g</i>
杨中三月黄 Yangzhongsanyuehuang	临猗Linyi	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
白山麦Baishanmai	临猗Linyi	<i>Glu-A3f, Glu-B3g</i>
大红芒Dahongmang	左云Zuoyun	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-B3d, Glu-B3g</i>
小白麦Xiaobaimai	大同Datong	NAN
大白麦Dabaimai	平定Pingding	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-A3f, Glu-B3g, Glu-B3i</i>
白线麦Baixianmai	安邑Anyi	NAN
长芒白壳Changmangbaike	临县Linxian	NAN
白秃麦Baitumai	石楼Shilou	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-B3b, Glu-B3g</i>
白蚂蚱麦Baimazhamai	永济Yongji	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3d, Glu-B3g</i>
四强小麦Siqiangxiaomai	永济Yongji	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-B3d, Glu-B3g</i>
大浦山麦Dapushanmai	风陵渡Fenglingdu	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3d, Glu-B3g</i>
六棱麦Liulengmai	永济Yongji	<i>Glu-A3b, Glu-A3c, Glu-B3d, Glu-B3g</i>
老白条子Laobaitiaozi	永济Yongji	NAN
黄无芒老麦 Huangwumanglaomai	石楼Shilou	<i>Glu-A3b, Glu-B3d, Glu-B3g</i>
四川白Sichuanbai	河津Hejin	<i>Glu-A3a, Glu-A3b, Glu-B3a, Glu-B3g</i>
四月黄Siyuehuang	河津Hejin	<i>Glu-A3a, Glu-A3b, Glu-B3d, Glu-B3g</i>
白条麦Baitiaomai	永济Yongji	NAN
红兰麦Honglanmai	临猗Linyi	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
老条子麦Laotiaozimai	临猗Linyi	<i>Glu-B3d, Glu-B3g</i>
三月黄Sanyuehuang	河津Hejin	<i>Glu-A3a, Glu-A3b, Glu-B3d, Glu-B3g</i>
山阳雪Shanyangxue	永济Yongji	<i>Glu-A3a, Glu-A3b, Glu-B3c, Glu-B3g</i>
百岁红里被地麦 Baisuihonglibeidimai	河津Hejin	<i>Glu-A3b, Glu-B3a, Glu-B3g</i>
老蔓麦Laomanmai	永济Yongji	<i>Glu-A3a, Glu-A3d, Glu-B3a, Glu-B3g, Glu-B3h</i>
回头草Huitoucao	永济Yongji	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
平遥小白麦Pingyaoxiaobaimai	平遥Pingyao	<i>Glu-A3b, Glu-B3g</i>
牛趾甲Niuzhijia	中阳Zhongyang	<i>Glu-A3c, Glu-B3a, Glu-B3g</i>
红芒麦Hongmangmai	沁县Qinxian	NAN
红芒麦Hongmangmai	沁县Qinxian	<i>Glu-A3a, Glu-B3g</i>
红和尚头Hongheshangtou	寿阳Shouyang	<i>Glu-A3b, Glu-A3c, Glu-B3a, Glu-B3g</i>
白麦Baimai	榆次Yuci	<i>Glu-A3a, Glu-A3d, Glu-B3a, Glu-B3g</i>
红和尚头Hongheshangtou	寿阳Shouyang	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-B3a, Glu-B3g</i>
红芒麦Hongmangmai	黎城Licheng	<i>Glu-A3a, Glu-A3b, Glu-A3d, Glu-B3a, Glu-B3g, Glu-B3h</i>
笨麦Benmai	临汾Linfen	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-B3a, Glu-B3g</i>
白山麦Baishanmai	临猗Linyi	NAN
大红麦Dahongmai	左云Zuoyun	<i>Glu-A3b, Glu-A3e, Glu-A3f, Glu-B3g</i>
碧玉麦Biyumai	襄汾Xiangfen	NAN
大白麦Dabaimai	阳曲Yangqu	<i>Glu-A3c, Glu-B3a, Glu-B3g, Glu-B3h</i>
和尚头Heshangtou	崞县Guoxian	<i>Glu-A3c, Glu-B3a, Glu-B3g</i>
和尚头Heshangtou	崞县Guoxian	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-B3a, Glu-B3b, Glu-B3g</i>
白芒麦Baimangmai	榆次Yuci	<i>Glu-A3c, Glu-B3a, Glu-B3g</i>
大白麦Dabaimai	平定Pingding	<i>Glu-A3e, Glu-A3f, Glu-B3g, Glu-B3i</i>
白袍麦Baipaomai	离石Lishi	<i>Glu-A3b, Glu-A3c, Glu-A3d,</i>
竹秆青Zhuganqing	黎城Licheng	<i>Glu-A3b, Glu-A3c, Glu-B3g</i>

红线麦Hongxianmai	沁县Qinxian	<i>Glu-A3a, Glu-A3b, Glu-B3a, Glu-B3g</i>
红皮宿麦Hongpisumai	五台Wutai	<i>Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3i</i>
古城莠Guchengying	大同Datong	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-B3b, Glu-B3d, Glu-B3g</i>
小红麦Xiaohongmai	大同Datong	<i>Glu-A3a, Glu-A3b, Glu-B3a, Glu-B3g</i>
红线麦Hongxianmai	忻州Xinzhou	<i>Glu-A3b, Glu-A3c, Glu-B3g</i>
无芒老麦Wumanglaomai	永和Yonghe	<i>Glu-A3a, Glu-A3b, Glu-B3a, Glu-B3g</i>
大芒麦Damangmai	寿阳Shouyang	<i>Glu-A3b, Glu-A3c, Glu-B3a, Glu-B3g</i>
红线麦Hongxianmai	离石Lishi	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
白芒糙Baimangcao	吕梁Lvliang	<i>Glu-A3b, Glu-B3g, Glu-B3i</i>
洪洞麦Hongtongmai	洪洞Hongtong	<i>Glu-A3b, Glu-B3g, Glu-B3i</i>
和尚头Heshangtou	临汾Linfen	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
气死风Qisifeng	安邑Anyi	<i>Glu-A3b, Glu-A3c, Glu-B3g, Glu-B3i</i>
红毛麦Hongtuomai	长治Changzhi	<i>Glu-A3b, Glu-A3c, Glu-A3d, Glu-B3a, Glu-B3g</i>
滩麦Tanmai	运城Yuncheng	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
南里三月黄Nanlisanyuehuang	临猗Linyi	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
脚头双炮火麦 Qingtoushuangpaohuomai	晋城Jincheng	<i>Glu-A3b, Glu-A3c, Glu-B3a, Glu-B3g</i>
无芒四月黄 Wumangsiyuehuang	洪洞Hongtong	<i>Glu-A3b, Glu-A3c, Glu-A3f, Glu-B3a, Glu-B3g</i>
单炮火麦Danpaohuomai	运城Yuncheng	<i>Glu-A3b, Glu-A3c, Glu-B3g</i>
普乐头三月黄 Puleτουςanyuehuang	万荣Wanrong	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
有芒四月黄 Youmangsiyuehuang	运城Yuncheng	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
芒火麦Manghuomai	运城Yuncheng	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
金裹银Jinguoyin	临汾Linfen	<i>Glu-A3f, Glu-B3a, Glu-B3g</i>
早麦Zaomai	芮城Ruicheng	<i>Glu-A3b, Glu-A3d, Glu-A3f, Glu-A3g, Glu-B3d, Glu-B3i</i>
杨中三月黄 Yangzhongsanyuehuang	运城Yuncheng	<i>Glu-A3b, Glu-A3c, Glu-B3d, Glu-B3g</i>

SDV: 南部旱地品种; SIV: 南部水地品种; NDV: 北部旱地品种; NIV: 北部水地品种; MDV: 中部旱地品种; MIV: 中部水地品种;
MSDV: 中南部旱地品种; MSIV: 中南部水地品种; “///”: 无记录

SDV: Southern dryland variety; SIV: Southern irrigated variety; NDV: Northern dryland variety; NIV: Northern irrigated variety; MDV: Middle dryland variety; MIV: Middle irrigated variety; MSDV: Middle and southern dryland variety; MSIV: Middle and southern irrigated variety. "///":

No records