

**Table S1.** Homology comparison of the representatives of LMW-GS genes between Glu-A3 and Glu-B3 loci (% ,irrespective of the sequence length).

Gene S/N	A3-1	A3-2	A3-3	A3-4	A3-5	A3-6	A3-7	A3-8	A3-9
GluB3-1	76.4	73.9	76.0	76.2	73.4	81.8	71.2	78.3	79.5
GluB3-2	80.5	75.1	82.2	79.7	74.4	84.7	71.2	81.7	80.4
GluB3-3	79.7	75.0	82.2	78.6	74.4	83.0	71.7	80.8	79.1
GluB3-4	67.2	86.6	68.4	66.9	86.0	77.1	84.7	86.8	70.1
GluB3-5	79.4	74.0	81.7	78.9	73.4	81.7	71.5	80.4	78.4
GluB3-6	79.5	74.9	82.3	78.4	74.2	71.7	81.1	81.1	78.6
GluB3-7	77.9	84.4	80.6	78.2	84.4	83.8	81.8	85.2	77.6
GluB3-8	80.1	88.1	82.8	80.8	87.8	87.1	99.1	89.0	79.8
GluB3-9	81.5	86.3	83.9	83.0	85.9	83.8	94.0	86.6	81.9
GluB3-10	80.0	79.1	80.1	79.9	78.5	82.0	78.1	80.1	79.9
GluB3-11	77.7	80.0	77.9	77.8	79.3	79.1	79.8	81.3	78.4

The representatives are the first allelic variant of 9 GluA3 and 11 GluB3 genes.

**Table S2.** Homology comparison of the representatives of LMW-GS genes between Glu-A3 and Glu-D3 loci (% ,irrespective of the sequence length).

Gene S/N	A3-1	A3-2	A3-3	A3-4	A3-5	A3-6	A3-7	A3-8	A3-9
GluD3-1	80.3	88.5	81.3	79.9	88.2	86.3	99.2	89.4	77.2
GluD3-2	84.8	90.9	84.4	83.8	90.4	100	86.5	91.4	80.1
GluD3-3	84.3	86.8	84.6	83.0	86.4	88.3	83.2	87.0	80.2
GluD3-4	82.7	94.5	82.4	82.1	94.1	91.6	87.2	94.5	80.8
GluD3-5	79.5	87.1	81.7	80.2	87.1	85.4	86.2	87.3	79.1
GluD3-6	82.2	90.0	82.0	81.8	89.6	86.6	85.2	88.2	79.9
GluD3-7	84.5	88.2	84.4	84.2	87.7	89.2	84.1	86.3	81.1
GluD3-8	80.6	89.5	79.9	80.0	89.2	87.8	86.0	88.4	80.2
GluD3-9	80.0	89.2	79.6	79.3	89.1	87.7	85.7	88.1	79.6
GluD3-10	75.7	77.4	76.0	75.2	77.6	77.3	77.7	78.9	75.1

The representatives are the first allelic variant of 9 GluA3 and 10 GluD3 gene.

**Table S3.** Homology comparison of the representatives of LMW-GS genes between Glu-A3 and Glu-D3 loci (% ,irrespective of the sequence length).

Gene S/N	B3-1	B3-2	B3-3	B3-4	B3-5	B3-6	B3-7	B3-8	B3-9	B3-10	B3-11
GluD3-1	72.3	67.6	68.9	59.0	72.0	69.3	68.9	99.7	95.1	73.6	74.7
GluD3-2	73.7	70.9	71.1	61.1	75.3	73.3	68.1	86.0	83.8	77.8	74.5

GluD3-3	95.6	96.1	95.8	76.9	95.9	95.8	88.1	69.7	69.3	96.9	88.2
GluD3-4	70.5	68.4	67.7	66.7	72.1	70.0	67.9	88.9	87.4	72.7	73.7
GluD3-5	88.2	88.1	89.1	95.7	87.6	88.5	95.5	82.3	81.1	88.7	96.6
GluD3-6	84.6	85.8	85.1	86.3	84.5	84.7	85.6	85.7	83.6	85.4	85.8
GluD3-7	88.8	89.0	88.1	78.1	89.0	88.2	84.7	84.9	83.0	89.6	84.6
GluD3-8	77.1	76.3	75.6	76.6	77.1	75.6	75.8	79.1	78.2	74.7	76.8
GluD3-9	77.1	76.4	75.7	76.1	77.1	75.7	75.3	78.9	78.0	74.5	76.7
GluD3-10	85.3	86.5	86.5	95.7	85.2	86.6	95.5	81.4	80.2	86.6	93.6

The representatives are the first allelic variant of 11 GluB3 and 10 GluD3 genes.