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新疆小麦品种 *Glu A3*和 *Glu B3*位点等位变异的分布

Distribution of Allelic Variations of *Glu A3* and *Glu B3* Loci in Xinjiang Wheat Cultivars

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中文关键词: 新疆 小麦 *Glu A3* *Glu B3* 等位变异 分子检测

英文关键词: Xinjiang Wheat *Glu A3* *Glu B3* Allelic variations Molecular marker analysis

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中文摘要:

为给新疆小麦品质育种提供理论依据，利用 *Glu A3*、 *Glu B3*位点上的17个STS标记检测了185份新疆冬、春小麦品种 *Glu A3*和 *Glu B3*位点的等位变异。结果表明，新疆小麦品种以 *Glu A3c*、 *Glu B3a*和 *Glu B3j*亚基为主，其分布频率分别为64.86%、22.70%和17.84%。新疆冬、春小麦品种在 *Glu A3*位点上均以 *Glu A3c*亚基为主，分布频率分别为63.30%和67.11%；在 *Glu B3*位点上，新疆冬、春小麦品种分别以 *Glu B3j*和 *Glu B3a*为主，分布频率分别为22.02%和26.32%。新疆冬、春小麦农家品种亚基类型较少，冬小麦农家品种仅有5种类型（以 *Glu A3c*和 *Glu B3i*为主），春小麦农家品种有10种类型（以 *Glu A3c*和 *Glu B3d*为主）。引进品种和自育品种亚基类型丰富，冬小麦引进品种以 *Glu A3c*和 *Glu B3i*为主，分布频率为12.84%和6.42%；春小麦引进品种以 *Glu A3c*和 *Glu B3j*为主，分布频率为17.11%和6.58%。冬小麦自育品种以 *Glu A3c*和 *Glu B3j*亚基类型为主，分布频率为45.87%和18.35%；春小麦自育品种以 *Glu A3c*和 *Glu B3a*亚基类型为主，分布频率为36.84%和18.42%。

英文摘要:

To clarify the allelic variation of Xinjiang wheat cultivars in *Glu A3* and *Glu B3* loci, and to provide theoretical basis for wheat quality breeding, the allelic variations in *Glu A3* and *Glu B3* alleles were tested among a total of 185 Xinjiang winter and spring cultivars using 17 STS markers. Our results showed: Xinjiang wheat varieties gave priority to with *Glu A3c*, *Glu B3a* and *Glu B3j*, and the distribution frequency was 64.86%, 22.70% and 17.84%, respectively. Xinjiang winter and spring cultivars in *Glu A3* alleles were mainly *Glu A3c*, with the distribution frequency was 63.30% and 67.11%; meanwhile, in *Glu B3* alleles which were mainly *Glu B3j* and *Glu B3a*, with the distribution frequency was 22.02% and 26.32%, respectively. Subunits types among landrace cultivars were less than that in Xinjiang wheat cultivars, only 5 types (mainly*A3c* and*B3i*) were observed in winter wheat, and 10 types were obserbed in spring wheat (mainly*A3c* and*B3d*). Subunits types were rich in introduced and bred cultivars, introduced winter wheat cultivars were mainly*A3c* and*B3i*, and the distribution frequency was 12.84% and 6.42%, respectively; introduced spring wheat cultivars were mainly*A3c* and*B3j*, with the distribution frequency was 17.11% and 6.58%, respectively; bred winter wheat cultivars were mainly*A3c* and*B3j*, with the distribution frequency was 45.87% and 18.35%, respectively; bred spring wheat cultivars were mainly A3c and B3a, and the distribution frequency was 36.84% and 18.42%, respectively. The distribution frequency of inferior subunits were *Glu A3a*, *Glu A3e*, and *Glu B3j* in Xinjiang wheat cultivars was 5.41%, 7.03% and 17.84%, and for high quality subunits *Glu A3d* and *Glu B3*d is 10.27% and 10.81%, respectively; Which are lower than these of inferior subunits. In addition, 17 STS markers were found with good repeatability and stability, and could be quickly and effectively used as support tools in Xinjiang wheat quality improvement.

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