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HMW GS 标记辅助选育优质小麦新品系 Breeding New Wheat Lines with HMW GS Markers Assisted Selection

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中文关键词: [小麦](#) [高分子量谷蛋白亚基](#) [品质性状](#) [辅助选择](#)

英文关键词: [Wheat](#) [HMW](#) [GS](#) [Marker assisted selection](#) [Quality trait](#)

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中文摘要:

为加速优质小麦育种进程,将聚合杂交、HMW GS辅助选择与常规育种程序结合,在小麦品种烟农19、济麦20、郑优6号、百农66不同杂交组合F₂代进行HMW GS 标记辅助选择,经连续多代鉴定筛选,选育出14个含优质 HMW GS 或 HMW GS组合的小麦新品系。鉴定结果表明,14个新品系的蛋白质含量、沉降值、湿面筋含量、面筋指数、吸水率和面团稳定时间等主要品质指标较好,多个测试指标优于其亲本之一或双亲,其中新品系6245的上述品质指标均表现超双亲的特点;多数材料株高适中,对条锈病、白粉病、叶锈病等小麦主要病害具有较好的田间抗性,综合农艺性状较好,具有利用价值。证明利用HMW GS辅助选择进行优质小麦新品系的选育是有效的。

英文摘要:

To speed up the process of high quality wheat breeding, HMW GS marker assisted selection were adopted in separate generation (F₂) of different crosses with Yanyou 361, Jimai 20, Zhengyou 6 and Bainong 66. Fourteen high quality HMW GS lines were selected after continuous selection for a few generations. The agronomic and yield traits of selected lines were evaluated and showed that, all the selected 14 wheat lines had excellent combination of HMW GS, and the value of main quality characters, such as protein content, sedimentation value, wet gluten content, gluten index, water absorption and dough stability time, were high. Most traits of these lines were better than that of one or all of their parents, especially the quality traits above of new line 6245 were better than that of both parents. Most materials selected had proper height, excellent agronomic traits and resistances to the major diseases of wheat in field, such as stripe rust, powdery mildew and leaf rust, etc., which could be used in breeding. It was suggested that HMW GS markers assisted selection was effective for selecting new high quality wheat lines.

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