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农学—研究报告

乌克兰普通小麦品种储藏蛋白分析

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摘要:

为了更好的利用乌克兰小麦品种资源，并了解引进品种的品质，采用SDS-PAGE和A-PAGE技术，对从乌克兰引进小麦材料的高分子量麦谷蛋白亚基(HMW-GS)和醇溶蛋白亚基的组成进行分析。结果表明，在16个普通小麦品种中，由Glu-1位点控制的高分子量亚基组合类型共有7种，最常见的是（1，7+8，5+10）占37.5%，其次是（1，2+12，6+8）和（1，7+9，5+10），各占18.75%，其中Glu-A1位点有3种等位变异，以1亚基为主（75%）；Glu-B1位点有3种等位变异，以7+8为主（43.75%）；Glu-D1位点有3种等位变异，以5+10为主（68.75%）。醇溶蛋白方面，从供试材料的6个位点中，共鉴定了33个不同的醇溶蛋白等位基因，41条迁移率不同的醇溶蛋白带纹，其中Gli-A1，Gli-B1和Gli-D1分别有6，5，5个等位基因；Gli-A2，Gli-B2和Gli-D2各有6，5，6个等位基因，优质亚基Gli-B1b出现频率较高（43.75%），这些材料有可能会成为比较有价值的品质改良中间材料。

关键词： 醇溶蛋白

Analysis of Storage Proteins in Ukrainian Common Wheat

Abstract:

In order to make better use of Ukrainian wheat varieties, understand the quality of introduced species, the HMW-GS and gliadin subunits compositions of 16 wheat cultivars from Ukraine were analyzed by SDS-PAGE and A-PAGE. The results showed that a total of seven subunit combinations were examined on Glu-1 loci, and (1, 7+8, 5+10) were the major combination type with frequencies of 37.5%, followed by combinations (1, 2+12, 6+8) and (1, 7+9, 5+10), the frequencies were 18.75%. Three kinds of HMW-GS on Glu-A1 were examined, the frequency of 1 was the highest (75%). There were three kinds of HMW-GS on Glu-B1, and subunits 7+8 were the major types with frequencies of 43.75%. Three types were detected on Glu-D1, and 5+10 appears more frequently (68.75%). Aspects of gliadin, 33 gliadin band patterns were encoded by Gli-1 locus and there were 41 protein bands with different mobility. 6, 5, 5 alleles were at Gli-A1, Gli-B1, Gli-D1, and there were 6 ,5, 6 alleles at Gli-A2, Gli-B2, Gli-D2. Good-quality gliadin alleles Gli-B1b was the most frequencies alleles (43.75%). Maybe these varieties can be used as a valuable material for breeding.

Keywords: gliadin subunits

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