

Publication

About the origin of European spelt (*Triticum spelta* L.) : allelic differentiation of the HMW Glutenin B1-1 and A1-2 subunit genes

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

ID 99187

Author(s) Blatter, R.; Jacomet, S.; Schlumbaum, A.

Author(s) at UniBasel [Schlumbaum, Angela](#) ; [Jacomet, Stefanie](#) ;

Year 2004

Title About the origin of European spelt (*Triticum spelta* L.) : allelic differentiation of the HMW Glutenin B1-1 and A1-2 subunit genes

Journal Theoretical and Applied Genetics

Volume 108

Number 2

Pages / Article-Number 360-367

To investigate the origin of European spelt (*Triticum spelta* L., genome AABBDD) and its relation to bread wheat (*Triticum aestivum* L., AABBDD), we analysed an approximately 1-kb sequence, including a part of the promoter and the coding region, of the high-molecular-weight (HMW) glutenin B1-1 and A1-2 subunit genes in 58 accessions of hexa- and tetraploid wheat from different geographical regions. Six Glu-B1-1 and five Glu-A1-2 alleles were identified based on 21 and 19 informative sites, respectively, which suggests a polyphyletic origin of the A- and B-genomes of hexaploid wheat. In both genes, a group of alleles clustered in a distinct, so-called beta subclade. High frequencies of alleles from the Glu-B1-1 and Glu-A1-2 beta subclades differentiated European spelt from Asian spelt and bread wheat. This indicates different origins of European and Asian spelt, and that European spelt does not derive from the hulled progenitors of bread wheat. The conjoint differentiation of alleles of the A- and B-genome in European spelt suggests the introgression of a tetraploid wheat into free-threshing hexaploid wheat as the origin of European spelt.

Publisher Springer

ISSN/ISBN 0040-5752 ; 1432-2242

edoc-URL <http://edoc.unibas.ch/dok/A5252107>

Full Text on edoc Available;

Digital Object Identifier DOI 10.1007/s00122-003-1441-7

ISI-Number WOS:000188079400023

Document type (ISI) Article