

RELATIONSHIPS OF RYE AND SPECIES OF TRITICUM AND AEGILOPS  
TO COMMON WHEAT (TRITICUM AESTIVUM) AS INDICATED BY N-TERMINAL  
AMINO ACID SEQUENCING OF WHOLE GLUTADIN (PROLAMINE) PREPARATIONS.

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1977 AACC MEETING. PAPER N° 146.

Whole gliadin (prolamin) was prepared from wheat and other species by extraction with 55 % ethanol and precipitation with 0,2 M NaCl. The precipitate was dissolved in dilute acid and dialyzed against water. Amino acid sequencing of these prolamin preparations, which are mixtures of components, usually yielded several different amino acids at each position, but usually one was dominant. Comparison of the sequence corresponding to these dominant residues with the N-terminal sequence of alpha 2 - gliadin (Kasarda et al., Biochim. Biophys. Acta, 1974, 351, 290) showed that the alpha 2 - gliadin sequence must be characteristic of a major portion of the prolamine components of Triticum aestivum, Triticum dicoccoides, Triticum boeoticum, Triticum monococcum, Triticum urartu, Aegilops speltoides and Aegilops squarrosa indicating close relationship of these species. The prolamine preparation from rye (Secale cereale) had a distinctly different dominant sequence that was closely related to the gamma 3 - gliadin sequence reported by Bietz et al. (Cereal Food World, 1976, 21(8), 423).