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Variability of storage proteins in wheat

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Grain wheat proteins deposited in endosperm are divided into two main groups: albumins, and globulins (salt soluble fraction) and the gliadin and glutenins (gluten fraction). Gluten proteins are connected to viscoelastic properties of dough which play important role in bread making quality, biscuits, cakes and other food products. Storage proteins are genetically determined by Gli-1, Gli-2, Glu-1 loci. In the world wheat cultivars existing large polymorphisms of gliadin and glutenin alleles as well as variability of gliadin and glutenins composition of wheat species. The storage proteins are different toward molecular mass, amino acid content and amino acid composition. Wheat proteins are source of essential amino acids which in combination with proteins of legumes, oil seeds or animal products exhibit excellent nutritional complementarity for human nutrition. The proteins of wheat have a nutritionally important role as a source of the protein and amino acid for nutrition of populations in the developing and developed regions of the world. However, wheat products are also connected with appearance of allergies and intolerances (respiratory problems, coeliac disease). For sustaining wheat production and quality with reduced inputs of agrochemicals are necessary creating cultivars with enhanced quality for specific end-uses, example for biofuels and human nutrition.

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