

Title Thermal properties of gluten proteins of two soft wheat varieties
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Abstract

The thermal properties of gluten proteins from two soft wheat varieties showing different rheological properties, “Amazonas” and “Sorraia”, were studied by differential scanning calorimetry. Three endothermic peaks were found in all gluten proteins fractions, exception to “Amazonas” gliadins. In this case, the third endotherm is absent. Transition temperature, transition enthalpy and activation energy of the transition reaction were determined. Since gluten development is caused by the breakage and reformulation of sulphur bridges, the higher the energy needed to perform denaturation the more difficult will be the interaction between gliadins and glutenins. “Amazonas” wheat needs more energy to onset and to develop the transition. So, it is to be expected that the interactions among the protein fractions will become more difficult and consequently the gluten will appear as a weaker one. Multivariate analysis of the results indicates that the gliadin fraction seems to be the most responsible for the lower bread baking ability shown by “Amazonas” wheat.