

3. „Influence of the polyphenolic components of dietary fibre preparations on the structure of gluten proteins and dough rheology” supervisor: assoc. prof. A. Miś, / PhD. A. Nawrocka

Growing awareness of the consumers concerning the health benefits of the consumption of pro-healthy products on human organism forces introduction of such products on the market. It has been proven that dietary fibre preparations of different botanical origin have pro-health effects. These preparations are rich in polysaccharides (dietary fibre) and antioxidants (phenolic acids, anthocyanins). Wheat bread is a basic element of European diet and therefore can be considered as a suitable carrier of valuable healthy compounds such as dietary fibre and antioxidants. However, supplementation of the bread dough by dietary fibre preparations decreases its sensory quality. Bread quality is strictly connected with structure of gluten proteins which determine rheological properties of the dough. Studies, in which dietary fibre preparations were used, have indicated that changes observed in the structure of gluten proteins were related to the fibre polysaccharides. However, studies conducted with using pure polysaccharides have shown that structural changes do not fully coincide with changes induced by dietary fibre preparations. Therefore, the aim of the proposed studies is to determine the effect of polyphenolic components of the dietary fibre preparations (phenolic acids and anthocyanins) on the structure of gluten proteins in model and gluten dough and rheological properties of the dough.