超高压改性谷朊粉对面条加工品质的影响 Effect of Addition of Ultra-high Pressure Treated Wheat Gluten on the Quality of Noodle

姜绍通 钟昔阳 潘丽军 但现龙 马道荣

合肥工业大学

关键词： 超高压技术 谷朊粉 面条 加工品质

摘 要： 采用扫描电镜、差示扫描量热仪、感官评价结合质构仪、粉质仪分析，初步研究了超高压改性谷朊粉（室温下400MPa，处理10min）的变性机理，并探讨了添加超高压改性谷朊粉（室温下400MPa，处理10min）对面条加工品质的影响关系。结果表明：超高压改性谷朊粉增强了谷朊蛋白间的交联作用，变性峰值温度由117.02℃升至119.76℃。在0～3.5%添加量范围，超高压改性谷朊粉和未经超高压改性的普通谷朊粉对面粉湿面筋含量都有显著提高，对面条感官评分、拉断力、硬度产生较大影响，且在相同添加量下，超高压改性谷朊粉对面条品质提升更为显著（$p<0.05$）。超高压改性谷朊粉制作面条的最佳添加量为3%，在此添加量下，超高压改性谷朊粉对面粉的粉质特性增效作用强于未经超高压改性的普通谷朊粉。 The denaturalization mechanism of ultra-high pressure treated wheat gluten (room temperature, 400MPa,10min) was studied by scanning electron microscope and DSC, and the effects of ultra-high pressure treated wheat gluten and ordinary wheat gluten on the quality of noodle were investigated by sensory evaluation, texture analyzer and farinograph. The results indicated that ultra-high pressure treatment increased the crosslinked extent of wheat gluten and the temperature of denaturalized peak was changed from 117.02℃ to 119.76℃.Ultra-high pressure treated wheat gluten and ordinary wheat gluten could improve the wet gluten content of flour, and greatly influenced the noodle’s sensory evaluation score, breaking force and hardness under the addition amount from zero to 3.5%. The quality of noodles processed with ultra-high pressure treated wheat gluten was better than ordinary wheat gluten at the same addition amount ($p<0.05$), and the optimal addition amount of ultra-high pressure treated wheat gluten was 3%. Compared with ordinary wheat gluten, the farinograph property of flour added with 3% ultra-high pressure treated wheat gluten was also better.

查看全文（请使用Adobe Acrobat 6.0版本浏览） 返回首页 引用本文