



Topical Research Meeting on Physics in Food Manufacturing

(P11) Development of multigrain pancake: Rheological evaluation of dough and pancake quality

S Gaikwad and Shalini Arya

Institute of Chemical Technology, India

The current invention deals with preparation of multigrain pancake. Within the grain science community, there is a widespread conviction that the rheological properties of dough have high impact on baking quality of the final baked bread. A rheological approach of dough prepared from multigrain flour (wheat, sorghum, chickpea, black gram and green gram) with additives like guar gum or GMS (glycerol monostearate) were studied. Linear viscoelastic behaviour i.e. storage modulus (G') and loss modulus (G'') were analysed by using rheometer whereas dough stickiness and cohesiveness or dough strength were performed on texture analyser. The prepared pancake was also evaluated for tensile properties (extensibility and tear force). It was determined that the dough samples exhibited shear-thinning behaviour. The highest elastic (G') and loss (G'') module were obtained for multigrain flour. The multigrain dough prepared with guar gum and GMS showed improvement in stickiness-cohesiveness properties (36.87g - 1.37mm/s) and (30.15 g - 1.23mm/s) respectively. Increased elasticity and viscoelastic characteristics of dough were helpful in rolling the dough by rolling pin which resulted into an improved texture of multigrain pancake as compared to the traditional process. The final obtained pancake with added additive was soft and extensible as indicated by the extensibility and tear force characterisation study. The study revealed the use of these flours with additives for preparation of pancake has improved its nutritional, economical and textural values.