

Effect of different drying methods on physico-chemical and functional properties of flour produced from sprouted whole wheat grain

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The effect of different drying methods on physico-chemical and functional properties of sprouted wheat flour was analyzed in this study. For this research, the controlled germination of wheat was performed at 27-30°C temperature and 85 per cent relative humidity for 30-36 h immediately after soaking for a period 10-12 h. The samples were dried using recirculatory tray drying (TD), vacuum drying (VD) and microwave drying (MD). The results of proximate analysis, amylose content, α -amylase activity and crystallinity of sprouted wheat flour obtained from TD, VD and MD varied significantly ($P < 0.05$) and VD sample showed higher α -amylase activity (9.40 units/mg) and crystallinity (22.49%) with low amylose content (20.32%). The VD samples exhibited higher L^* (82.89) and b^* (18.82) value with reduced a^* value (3.38). The functional properties like rheological behaviour (G' and G''), water absorption index and water soluble index also varied significantly ($p < 0.05$) among samples with improved nature in VD samples.

Key Words : Sprouting, Drying, Crystallinity, Amylose content, α -amylase activity

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