

CORDIA POLYSACCHARIDES: A NOVEL HYDROCOLLOID ADDITIVE IN DOUGH AND BREAD FORMULATION

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Freeze dried cordia polysaccharides (CP) were obtained from *Cordia myxa* (L.) fruits adopting hot water extraction method. Current study was aimed to estimate the effect of CP on pasting, mixing and baking properties of hard wheat flour by replacing 0, 3, 5, 10% w/w (flour weight basis). Rapid Visco-analyzer (RVA) data indicated a significant ($p \leq 0.05$) difference in pasting properties for each increasing CP concentration, with the highest peak (1227cp) and final (961cp) viscosities observed for 10% replacement. Dough mixing properties were assessed through Brabender Farinograph. More farinographic water absorption (%) and mixing tolerance index (MTI) were recorded with subsequent higher CP replacement percentages. However, dough stability was negatively affected. Pan bread was baked according to the straight dough method and volume was measured using rapeseed displacement method. The highest loaf volume (cm³) and specific volume (cm³/g) was represented by the bread with 0% CP. Bread textural analysis was made by texture analyzer in terms of hardness (g), springiness (mm), cohesiveness (g), chewiness (g) and resilience. Contrary to 0% bread the highest hardness was presented by loaf having 10% CP with a value of 28.94g. In conclusion, CP greatly influenced the investigated properties of wheat flour indirectly by controlling water mobility, or by direct interactions with flour components. However, further studies are needed at molecular level to unveil the exact nature of 'hydrocolloid-ingredient interactions'.

Keywords: *Cordia myxa*, pasting, farinograph, bread texture

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