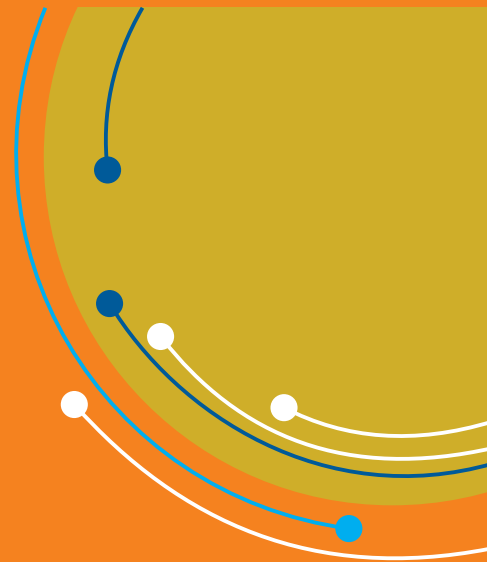



Development and Optimization of Corn Products



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Corn plays a key role in world's nutrition by acting as valuable food source due to minerals, vitamins, proteins and starch in its grains. Corn flour offers potential to make gluten free chapattis which are inexpensive. Chapatti is the customary unleavened flat bread made all over the Indian subcontinent and part of the Middle East. Hydrocolloids can be used in the preparation of gluten free foodstuffs. Hydrocolloids belong to group of biopolymers extensively used in food technology. Corn chapatti has poor textural and pasting

properties which results in less consumption of corn chapatti and this problem can be minimized by emulsifiers, hydrocolloids or gums. Addition of hydrocolloids to chapatti that is rich in starch which itself is thickening agent, strongly affects the rheological performance of chapatti food gums addition up to 5% facilitate tough absorption at oil interface, this increasing emulsion permanency. The present research was designed to prepare corn chapattis, cookies, breads and muffins with improved sensory properties.

Corn flour offers potential to make gluten free chapattis which are inexpensive. Chapattis having xanthan gum showed better pasting properties and texture optimization than chapattis containing carboxymethylcellulose and Gum Arabic. 98.5% corn flour with addition of 1.5% Xanthan gum got the highest score, had soft texture and was best among all other combinations giving highest overall acceptability. Breads, cookies and muffins were also developed with addition of corn flour in different ratios in wheat flour. Breads developed with addition of 20% corn flour produced maximum overall acceptability. Cookies developed with 30% substitution of wheat flour with corn yielded maximum overall acceptability while Muffins developed with 20% corn provided best results in terms of overall acceptability.



Corn cookies



Corn chapatti



Corn breads



Corn muffins