On the Study of the Relationship between Current Time Response of Dough Mixer and Processing Conditions

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ABSTRACT

This research studied the relatioship between processing conditions and the current time response of dough mixer. A personal computer was used to monitor the current of the motor of dough mixer during processing. Change of common processing variables such as water content, protein content, motor speed, salt and sugar, and dough weight resulted in different patterns of current time response. High reproducibility of the current time response has been observed. An attempt was made to process signals of the current time response for better differentiation between differnt patterns of current time response using different mathematical tools, such as time average, Fourier transform and regression. In order to correlate change of physical properties of dough to corresponding current time response, reheological properties of dough(elastivity, viscosity , etc.) were measured at different stages of dough processing. Althoug strong correlations between reheological properties of douhg and current time reponse was not observed, an early stage detection of error in dough composition was found to be possible.

Keywords : Current time ; Dough mixer ; Dough

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