Studies on the Relationships Between the Physico-Chemical Properties of Wheat Flours and the Qualities of Fried Gluten B

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ABSTRACT

In this study , clear , bread-making , and Chinese twisted fritter-making flours were used as materials to determine their proximate compositions,and to analyze their farinographic, ex- tensigraphic,and alveographic properties. The flours were made into fried gluten balls by washing with water and subsequent frying. The sauce absorption,expansion volume,and sensory eva- luation scores of fried gluten balls were determined to invest- igate the relationships between the physico-chemical properties of wheat flours and the qualities of fried gluten balls , in order to be used as a reference of standardization of the flour qualities and automatic production of fried gluten balls. Considerate of the operation time for these instruments, the alveograph is the most suitable for the daily analysis of the qualities of flours . By regressional analysis and considering the real manufacturing situation of fried gluten balls, if the P value is larger than L value smaller than 113 mm,P/L value larger than 1.2, W value larger than 432×10-4 J , the fried gluten balls with better qualities can be obtained. In the experiments of gel permeation chromatography of Pro- teins extracted with SDS solution from different flours, it was shown that the alveographic properties of flours were signifi- cantly correlated to the molecular size of SDS-soluble protein. The more high-MW protein is, the larger P, P/L , and W values. These results shown that the MW of proteins is one of the fac- tors which can affect the physical properties of flours.

Keywords : Flours ; Physical Properties ; Gluten-washing ; Fried Gluten Ball

Table of Contents