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Relationship between Baking Quality and Proportion of SDS-insoluble Gluten in Wheat Flour

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The relationship between loaf volume and the proportion of SDS-insoluble gluten in wheat flour was studied using *N*-ethylmaleimide (NEMI) as a modifying reagent. Loaf volume responded to NEMI and was maximum at 10 ppm NEMI in the absence of yeast food. SDS-insoluble gluten had the same response. Therefore, it was concluded that the loaf volume was positively related to the proportion of SDS-insoluble gluten. With excess NEMI (100 ppm), a substantial amount of SDS-insoluble gluten was observed in the doughs. This was accompanied by a decrease in loaf volume.

relative viscosity of the ethanol-insoluble fraction (glutenin). This re
excess NEMI caused a decrease in the molecular size of glutenin, p
radical mechanism, leading to the decrease in SDS-insoluble glute
deterioration of the baking quality of wheat flour. On the other han
NEMI may determine the proportion of SDS-insoluble gluten and l

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