氧化劑與麵粉種類對土司麵包體積的影響

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摘 要

本研究以美國硬紅春麥 (hard red spring wheat) 單一麥種碾磨，且參考灰分含量依不同提粉率 (71、69及64%) 取得之麵粉 (A、B及C) 作為材料。首先選取三種氧化劑(ascorbic acid、 azodicarbonamide與glucose oxidase)，分別以四種劑量(25, 50, 100及200 mg/kg) 添加於高提粉率之麵粉樣品(A)，測定其麵糰 Farinograph、Extensograph 物性及製成土司後之體積，以選取最適之氧化劑及添加量。其次，以此最適氧化劑及添加量添加於中、低提粉之麵粉率樣品(B和C)，測定其麵糰Farinograph、Extensograph 物性、土司體積及官能品評，以了解氧化劑對不同提粉率之麵粉樣品之麵糰物性及土司體積的影響，期望可作為提高麵粉利用率與烘焙加工之參考。 在麵粉基本組成及麵糰 Farinograph 和 Extensograph 物性分析方面，結果顯示隨提粉率之升高，其粗蛋白與灰分含量呈增大之趨勢；麵糰 Farinograph 物性中之吸水量、彈性指數和及線時間亦呈增加的趨勢，但擴展時間、離線時間、穩定度與軟化指數呈減少的趨勢；麵糰 Extensograph 物性中之延展性呈增加的趨勢，抗張力與面積呈減少的趨勢。 在最適氧化劑及添加量方面，發現添加100 mg/kg glucose oxidase 之麵粉其土司體積最大，而且隨 glucose oxidase 的添加，其麵糰 Farinograph 物性中擴展時間、離線時間、穩定度及軟化指數有增加的趨勢，且皆對提粉率愈高之麵粉影響愈明顯；麵糰 Extensograph 物性之抗張力亦呈增加的趨勢，但延展性則呈減少的趨勢；土司體積亦明顯增加。綜合研究結果得知，適當劑量之 glucose oxidase可明顯改善高提粉率麵粉之麵糰物性穩定性，且可提高土司體積與總體接受性。

關鍵詞 : 麵糰物性 ; 土司體積 ; 氧化劑 ; 土司 ; 麵粉

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