

عنوان مقاله:

Effects of Thermal treatment on functional properties of flour and gluten free baking products

محل انتشار:

اولین کنگره بین المللی و بیست و چهارمین کنگره ملی علوم و صنایع غذایی ایران (سال: 1395)

تعداد صفحات اصل مقاله: 5

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خلاصه مقاله:

A great variety of physical techques is available for modification of performance flour that are used in gluten-free products. these methods include different milling systems, particle size classification and avariety of thermal treatments. The present study reviews heat techniques and indicates its effects ongluten free flours functionality. Promising strategies and processing parameters that might improve the incorporation and stabilization of gas in gluten-free dough are presented. By studying the literaturefrom 1990 to 2016 concluded that low heat process such as drying can modify starch granules,denature proteins, inactivate enzymes, reduce microbial load and even improve taste and aroma. These changes can improve flour suitability for production gluten-free products. Thermal treatments are alsosusually necessary in flours with high fat content, such as oat or whole grain flours, especially wholerice flours with the aim of inactivating enzymes which can developed rancidity such as lipases and lipoxygenases. Referring to the fact that these changes depends on the treatment conditions, such astemperature and moisture, hydrothermal treatments are mainly classified in two groups: thoseperformed below gelatinization temperature, preserving the integrity of starch granules; and those treatments done above gelatinization temperature and therefore irreversibly destroyed the molecules and starch granule. For bread and other bakery products ,a delayed gelatinization may also extend theperiod of loaf expansion, increase the volume of breads and enhance their quality. HMT (heatmoisture-treatment) flours and starches also have a high emulsifying ability, which can improve air keeping in doughs and increase the bread tendency. However, the studies on the addition of these flours in breads are not same. Thus, .further studies on the effect of the moisture thermal treatment on gluten-free flour and formulations could be useful

کلمات کلیدی:

physical treatment, thermal, flour, free gluten, bread

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