

Effect of einkorn bran sourdough on physicochemical and technological properties of einkorn pita bread

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This study evaluated the effect of sourdough made from spontaneously fermented einkorn bran on the flatbread quality (pita bread) and aimed to combine the advantages of both presence of LAB with that of whole-meal einkorn flour.

Sourdough was prepared using einkorn bran (Greek var Kaploutzas) as a starter, distilled water and whole-meal einkorn to obtain a final dough yield of 170. The sourdough was freeze-dried and used in the bread recipe at levels 0 (control-1), 5, 15, and 20%. In addition, another control pita bread (control-2) was prepared using commercial yeast (1.5%) as the leavening agent. The effect of sourdough addition on specific volume, crust colour, moisture and texture of the pita breads was monitored. Texture and moisture of the pita breads were analyzed during storage (4°C).

Pita breads with sourdough did not differ in their specific volume compared to control-1 but showed significantly lower volume than control-2. All breads showed higher hardness than control-2 bread after 24h of storage whereas control-1 showed the highest springiness and lower moisture content among the samples. Hardness was increased with storage whereas springiness and moisture content was decreased. The highest moisture loss rate was observed in control-1. Hardness was negatively correlated with specific bread volume whereas springiness was positively correlated. Springiness was found to be negatively correlated with the moisture content in all samples. The present findings suggested that the addition of sourdough affected not only the moisture content but also the texture and colour parameters of pita bread.

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