Effects of Long-term Storage on Quality of Wheat Packaged in No. 10 Cans

R. Green
Devin J. Rose
Lynn V. Ogden
Oscar A. Pike
oscar_pike@byu.edu

Follow this and additional works at: https://scholarsarchive.byu.edu/facpub

Part of the Food Science Commons, and the Nutrition Commons

Original Publication Citation

BYU ScholarsArchive Citation
Green, R.; Rose, Devin J.; Ogden, Lynn V.; and Pike, Oscar A., "Effects of Long-term Storage on Quality of Wheat Packaged in No. 10 Cans" (2005). Faculty Publications. 32.
https://scholarsarchive.byu.edu/facpub/32

This Poster is brought to you for free and open access by BYU ScholarsArchive. It has been accepted for inclusion in Faculty Publications by an authorized administrator of BYU ScholarsArchive. For more information, please contact ellen_amatangelo@byu.edu.
**ABSTRACT**

Sensory and select nutritional quality parameters of thirteen samples of hard red wheat (including 5 replicates) were evaluated. Samples, which were obtained from donors, were packaged in hermetically sealed No. 10 cans and aged up to 33 years and were stored at ambient temperatures. Can headspace oxygen ranged from 0 to 2%. Kernel moisture content ranged from 13.08% to 16.43%. Thiamin was measured according to Ndaw and others (2000) using an autoclave followed by takadiastase assay.

**RESULTS AND DISCUSSION**

**Wheat Kernel Analysis**

Wheat was ground at 4 ºC and 70% relative humidity with a hammer mill (20 mesh, cortical fraction). A subsample of flour was used to determine protein content, lightness/darkness, and overall acceptability. Lightness/darkness were not correlated with any of the sensory parameters. Flavor and overall acceptability did not show a decline with age. However, all wheat samples maintained >75% for all sensory parameters at 100% acceptability. Bread loaf volume and firmness ranged from 422 to 536 cc and 425 to 775 g, respectively, with significant decline after 8 years. Results indicate that there is no decline in bread loaf volume and firmness with sample age. Thiamin ranged from 3.74 to 5.50 µg/g, and bread loaf volume and firmness ranged from 422 to 536 cc and 425 to 775 g, respectively, with significant decline after 8 years. Results indicate that there is no decline in bread loaf volume and firmness with sample age. Thiamin was measured according to Ndaw and others (2000) using an autoclave followed by takadiastase assay.

**Baking Quality**


**REFERENCES**


**ACKNOWLEDGMENTS**

The authors appreciate the funding for this research provided by the Ford Foundation and the contributions of the following individuals: Alana Hafner, Angela Loutan, Nathan Lam, and Morgan Babbish. Presented at the Annual Meeting of the Institute of Food Technologists in New Orleans, LA 2005