Effects of long-term storage on quality of retail-packaged pinto beans

C. M. Larson
A. R. Sloan
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

BYU ScholarsArchive Citation
Larson, C. M.; Sloan, A. R.; Ogden, Lynn V.; and Pike, Oscar A., "Effects of long-term storage on quality of retail-packaged pinto beans" (2005). Faculty Publications. 63.
https://scholarsarchive.byu.edu/facpub/63

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 scholarsarchive@byu.edu, ellen_amatangelo@byu.edu.
Abstract

There is interest in storing low-moisture foods for long periods of time for use in disasters or for long-term storage on quality. The objective of this research was to investigate the quality of retail-packaged pinto beans stored at ambient temperatures up to 32 years. Fifteen samples of pinto beans packaged in No. 10 cans, held at ambient temperatures up to 32 years. Sample numbers of the same age, but different lots were compared.

Methods

Fifteen samples (and duplicates from the same lot of sensory evaluation) were prepared at 1, 11, 17, 20, 25, and 30 years of age. In addition, fresh beans were prepared for control purposes. The samples were prepared in triplicate at each stage.

Sensory Evaluation

Sensory evaluation was performed by 22 trained consumers. The samples were presented in duplicate, with each duplicate being presented in a randomized order. The panelists were trained to evaluate the sensory attributes of the samples in a standardized manner.

Protein Digestibility

Protein digestibility was determined using a method described by Chirife et al. (1982). The method involved the measurement of nitrogen content in the samples, using the Kjeldahl method.

Results and Discussion

Beans stored for up to 32 years had significantly lower protein digestibility compared to fresh beans. The trend was similar for beans stored for up to 25 years, but the difference was not statistically significant.

Conclusions

Beans stored for up to 32 years had significantly lower protein digestibility compared to fresh beans. The trend was similar for beans stored for up to 25 years, but the difference was not statistically significant.

References


Acknowledgements

The authors acknowledge the financial support provided by the Sixth Phase of the USDA Cooperative State Research, Education and Extension Service (CSREES) project (Project #97-37104-5253).