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Quality of white rice retail packaged in No. 10 cans for long-term storage

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ABSTRACT
Various white rice products are available for retail sale in No. 10 cans, packaged for long-term storage in anticipation of a natural disaster or other emergencies. Little information is available regarding the quality of such products. This study was designed to examine the quality of oven-dried rice and the packaging quality. The objective of this research was to evaluate and compare the quality of several white rice products commercially packaged for long-term storage, available at the retail level.

Ten brands of rice (7 long-grain white rice, 2 parboiled white rice, 1 instant white rice) were obtained from eight different retail distributors in four states. Observations included: headspace oxygen, can seam quality, Hunter color, sensory attributes, flavor, aroma, freshness, and shelf life. A 50-member consumer panel evaluated sensory attributes.

RESULTS AND DISCUSSION

Headspace Oxygen, Can Seam, and Water Activity

Headspace oxygen values were measured in the following order: regular milled rice, parboiled, instant, and the largest a* and b* values. The instant brand had a lower a* value and a larger b* value compared to the regular milled rice.

Sensory Evaluation

Sensory analysis was conducted using a 9-member panel. The results showed that the aroma, flavor, and overall acceptability were significantly different among the brands.

CONCLUSIONS

Variation in the quality of packaging of white rice products available at the retail level suggests that manufacturers need to ensure proper packaging and to retain product quality during long-term storage. Consumers should be aware of potential differences in product quality among brands regarding the adequacy of packaging and the accuracy of label declarations.

REFERENCES

Halling ME, VanNoy ND, Ogden LV, Pike OA. Quality of white rice retail packaged in No. 10 cans for long-term storage. Department of Nutrition, Diets and Food Science, Brigham Young University, Provo, UT 84602.

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ARCHIVAL MATERIALS

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