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Original Publication Citation
Gnadt, TA; Ogden, Lynn V.; and Pike, Oscar A., “Quality of dehydrated whole egg packaged in No. 10 cans.” Poster presentation. Annual Meeting of the Institute of Food Technologists in Chicago.

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Gnadt, T.A.; Ogden, Lynn V.; and Pike, Oscar A., "Quality of dehydrated whole egg packaged in No. 10 cans" (2003). All Faculty Publications. 68.
https://scholarsarchive.byu.edu/facpub/68

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Quality of dehydrated whole egg packaged in No. 10 cans

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ABSTRACT

Defatted egg solids in and more shelf-life without significantly affecting most functional properties. The line checked for dried dehydrated whole egg in military ration, emergency water preservation and personal storage. In this research, both products are analyzed for changes in the major functional properties. The major factors analyzed were color, water activity, water activity and sensory properties. The results of this research indicated that defatted egg solids are more shelf-stable than dehydrated whole egg. The sensory properties of defatted egg solids were significantly different from those of dehydrated whole egg. The results of this research indicated that defatted egg solids are more shelf-stable than dehydrated whole egg. The sensory properties of defatted egg solids were significantly different from those of dehydrated whole egg.

INTRODUCTION

During the development of whole egg dehydration procedures, many studies focused on product quality and shelf life of dried egg (Lowther and Feilding 1988). However, there have been major advances in the production and packaging of dehydrated whole egg (Gnadt and Colwell 1999). However, there is a lack of research on dehydrated egg product quality, in style of the current use of whole dehydrated egg in military rations, emergency relief efforts and personal food storage. Because the product shelf life is not necessarily the same as the overall acceptability of the product, the sensory properties of defatted egg solids were significantly different from those of dehydrated whole egg. The sensory properties of defatted egg solids were significantly different from those of dehydrated whole egg.

RESULTS AND DISCUSSION

Headspace oxygen, can seam and water activity

Headspace oxygen ranged from 0.2 to 18.8% with 5 of 10 brands having > 2% oxygen. Headspace oxygen did not correlate with can seam quality, oxygen reduction method, powder color or hermetic seals. All cans were acceptable (data not shown). The majority of cans were noted good. Water activity ranged from 0.10 to 0.42. The minimum recommended water activity of unpreserved dried egg is 0.10 (Gnadt and Rahnmo 1999). However, 5 of 10 brands had a mean water activity above this critical point.

Sensory analysis and color

Modest scores for overall acceptability ranged from 3.5 to 6.3 with significant differences between brands (Fig. 9). Appearance, flavor and texture scores were determined using a 9-point hedonic scale. The lowest scores for all parameters were D. As would be expected, lighter product was scored higher by consumer panelists as compared to overall acceptability but had 18% headspace oxygen, suggesting quality would deteriorate over time. The authors appreciate the funding for this research provided by Ira Fulton and the contributions of the following colleagues.

CONCLUSIONS

The sensory quality of dehydrated egg products is available in a ready-to-use in No. 10 cans varies widely. Buyers should be aware of product variability between brands of dehydrated whole egg and should be selective when purchasing dehydrated whole egg.

REFERENCES


ACKNOWLEDGEMENTS

The authors appreciate the funding for this research provided by Ira Fulton and the contributions of the following colleagues. This work was supported by Ira Fulton and the contributions of the following colleagues. This work was supported by Ira Fulton and the contributions of the following colleagues. This work was supported by Ira Fulton and the contributions of the following colleagues.


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