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Quality of dehydrated whole egg packaged in No. 10 cans
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ABSTRACT
Dehydration reduces egg mass and in sooner-shell life without significantly altering most functional properties. This has allowed for the development of dehydrated whole egg in a variety of food products and is a good example of product and personal choice. It also demonstrates that between these products are similar in functionality, the major vary in terms of product quality and cost after purchase. The purpose of this study was to investigate the quality of several brands of dehydrated whole egg commercially available in No. 10 cans.

Eight brands of dehydrated whole egg were obtained from food retailers. All but 1 brand were labeled as having a low oxygen environment. A 50-member panel evaluated appearance, aroma, flavor, texture, and overall acceptability using a 9-point hedonic scale. Sensory evaluation and color

RESULTS AND DISCUSSION
Headspace oxygen ranged from 0.28 to 18.8%, with 5 of 8 brands having > 2% oxygen (Fig. 1). Headspace oxygen did not correlate with can oxygen quality, oxygen reduction method, powder color or headspace scent. All cans were acceptable (data not shown). The majority of cans were rated 4 or higher. Water activity ranged from 0.30 to 0.42. The maximum recommended water activity of unpreserved dried eggs is 0.30 (Labuza and Rahman 1999), but 5 of 8 brands had a mean water activity above this critical value of 0.30 (Table 2).

Sensory analysis and color

A significant difference in cooked product color was observed (Fig. 2). Two brands (D and E) were visibly brown in the dry solid state as well as after reconstitution and cooking.

CONCLUSIONS
The sensory quality of dehydrated whole egg is available in retail sales 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.

Manuscripts need to adhere to good manufacturing practices and should ensure the product has an acceptable oxygen environment for up to 10 years. The observed correlation between sensory acceptability and water activity was negative. The negative correlation between water activity and overall acceptability score (Fig. 5) suggests the importance of controlling water activity during production of dehydrated egg. Likewise, the negative correlation between water activity and Hunter L* color (Fig. 7) indicates the critical role of nutrition in processing and rehydrating dried egg. Finally, the positive correlation between Hunter L* values and overall acceptability in Fig. 6 is encouraging. An increased emphasis on quality standards will improve future consumer satisfaction.

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