4.6 No Differences Found In The Composition Of Conventional, rbST-Free And Organic Milk

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A new scientific study by Vicini et al. published in the July issue of the prestigious Journal of the American Dietetic Association (JADA) reports the results of the first in-depth survey study comparing retail milk for quality, nutritional value and levels of different milk hormones, including bovine somatotropin (bST). The study that we published found that there were "no meaningful differences" in the composition of milk with the three different label claims.

Prompted by the recent trend in misleading food labeling based on dairy cow management, the study looked specifically at three label claims: conventional milk, recombinant bovine somatotropin (rbST)-free milk and organic milk.

While minor differences were observed in milk composition for the three labels, the differences were not "biologically meaningful." The coauthors of the study concluded that label claims "were not related to any meaningful differences in the milk compositional variables measured." The only difference among conventional, rbST-free and organic milk is price, according to the study, with milk labeled rbST-free or organic selling for anywhere from $1 to $4 more per gallon than conventional milk.

Because absence-claim labels can imply that the milk labeled rbST-free or organic is safer or better than conventional milk, the published report emphasizes the importance of consumers being mindful about how product labels impact the food they purchase, that purchase decisions should be based on science and not on perceptions created by retail marketing, which can be misleading.

This peer-reviewed paper is important because it will help health care professionals respond effectively to consumer questions and perceptions about different milk-label claims. Specifically, the study revealed the following:

Quality: Antibiotics were not detectable in any milk samples. This is a not surprising result since milk containing antibiotics is not permitted to enter the food system. Bacterial counts were less for conventionally labeled milk compared with organic or rbST-free milk, but the differences were small and not significant.

Nutrient Composition: Protein concentration was greater in organic milk compared to either conventional or rbST-free milk, which both had similar protein content. Again, the difference is not significant, and protein in milk accounts for little of the recommended protein intake for humans. There were no differences in milk fat, lactose or solids among the three label types.

Hormone Levels: There were no differences in concentration of bST in milk regardless of label type. Concentrations of IGF-1(insulin-like growth factor-1) in milk were similar in conventional and rbST-free-milk, both were slightly higher in comparison to organic milk. Concentration of the steroid hormone progesterone was greater in organic milk compared to conventionally labeled milk or milk labeled rbST-free. Conventionally

labeled milk had less estradiol compared to organic and rbST-free milk with concentrations of estradiol in samples labeled organic and rbST-free being the same. Milk samples for the study were obtained from all 48 contiguous states, though some states did not have rbST-free milk, and some did not have organic milk samples pasteurized by the more conventional, lower-temperature methods. Samples were obtained during a three-week period, and states with larger populations and greater milk production were oversampled.

Reference for the study:
Vicini J, T Etherton, P Kris-Etherton, J Ballam, S Denham, R Staub, D Goldstein, R Cady, M McGrath, & M Lucy. Survey of retail milk composition as affected by label claims regarding farm-management practices. J Am Diet Assoc. 2008;108:1198-1203.
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