

FR 3118 at 3132). Further, FDA stated that it did not expect olestra consumption to have a significant effect on the absorption of Coumadin, the most commonly prescribed form of coumarin (61 FR 3118 at 3132). As part of the 1996 final rule, FDA required olestra-containing foods to be compensated with 8 micrograms vitamin K<sub>1</sub>/g olestra so that consumption of vitamin K-compensated foods will have no net effect on vitamin K status (61 FR 3118 at 3167). FDA also concluded in 1996 that any change in vitamin K status due to consumption of vitamin K-compensated olestra would likely be within the normal range of dietary variation (61 FR 3118 at 3147). The comments do not provide the agency with any evidence that vitamin K-compensated olestra would cause changes in vitamin K status beyond the normal range of dietary variation or that olestra would affect the absorption of coumarin derivatives. Thus the agency has no basis to require labeling directed to those individuals using coumarin derivatives to control blood clotting.

(Comment 24) A comment from Frito-Lay to the current petition as well as comments from P&G, Frito-Lay, and academia to the 1996 final rule stated that the phrase "other nutrients" should be eliminated from the label because the health benefits associated with consumption of fruits and vegetables have not been specifically attributed to carotenoids and consumer perception studies show that consumers are confused as to its meaning. One comment added that current evidence does not show that inhibition of carotenoid absorption has any nutritional significance. One comment stated that this phrase creates a misperception of a lack of safety and serves no purpose because carotenoids are neither specifically mentioned nor added back. P&G and Frito-Lay both reported that data from consumer studies show that the phrase "other nutrients" is not informative and may be misinterpreted.

A comment from academia to the 1996 final rule criticized the focus group study submitted by P&G, stating that the participants were not adequately informed about the depletion of blood carotenoids and the evidence relating low blood carotenoids to risks of serious major health outcomes; therefore, this comment concluded that the results of the focus group study are "specious."

FDA agrees that the phrase "other nutrients" should be eliminated from the label statement. Information from consumer perception studies shows that the label's contextual statement about

"some vitamins and other nutrients" tends to mislead consumers and the contextual information is not necessary to understand that olestra-containing foods do not contribute significant amounts of vitamins A, D, E, and K to the diet.

In the 1996 final rule, FDA did not require a specific statement on carotenoids because doing so could falsely imply that their decreased absorption is known to be of significance (61 FR 3118 at 3161). FDA determined in the 1996 final rule that the data and information available to the agency do not establish any identifiable nutritional or prophylactic benefits for carotenoids, with the exception of their provitamin A effects (61 FR 3118 at 3149). Thus, FDA does not agree that the results of the focus group studies are "specious" because participants were not informed of possible health consequences of decreased levels of blood carotenoids.

(Comment 25) A comment from CSPI to the current petition asserted that the olestra label statement should indicate that olestra consumption may reduce the absorption of carotenoids and that carotenoids may protect against certain chronic illnesses. Alternatively, the comment stated that FDA should require fortification of olestra-containing foods with the relevant fat-soluble carotenoids. The comment asserted that olestra's effect on carotenoid levels is a material consequence that may result from customary consumption and that the olestra label statement would be misleading without a statement about carotenoid loss. The comment cited P&G's two 8-week studies as well as two published articles describing human studies<sup>62</sup> conducted with sucrose polyester and asserted that all of these studies showed substantial decreases in serum carotenoids associated with olestra consumption. CSPI quotes statements from the two published studies conducted with sucrose polyester indicating that the effects of sucrose polyester on carotenoids are undesirable. CSPI also quotes from an invited commentary on one of the

<sup>62</sup> One of the articles cited by CSPI is described in section VI.A (Ref 34). The other article cited by CSPI describes two studies (Ref. 37). The first study was a double-blind, placebo-controlled crossover study in which subjects received, through margarine, zero or 12.4 g of sucrose polyester per day for 4 weeks. The second study was a double-blind, placebo-controlled parallel comparison study in which subjects received, through margarine, zero or 3 g of sucrose polyester per day for 4 weeks. Both studies measured the effect of the treatments on plasma carotenoid concentration. The article does not include information (such as specifications) to determine the similarity between the sucrose polyester tested and olestra.

studies. The commentary states that the deleterious effects of sucrose polyester should be studied further before it is widely available for long-term consumption (Ref. 38). CSPI also stated that there is growing evidence that carotenoids provide a health benefit, citing studies reviewed by Dr. Graham Colditz at the 1998 FAC meeting and three other research articles submitted to the docket by another comment (Refs. 39 through 41). CSPI added that consumers need information concerning carotenoid absorption because they cannot monitor depletion of their carotenoids, and detection of health changes caused by carotenoid depletion may occur only after irreversible damage has taken place. Finally, CSPI stated that the agency should base its decision on the potential nutritional effects of daily consumption of olestra, as documented by the preapproval clinical studies.

Similarly, in its comments to the 1996 final rule, CSPI suggested that the phrase "other nutrients" should be expanded to advise consumers that olestra has been shown to decrease blood levels of carotenoids. The comment also stated that the label statement should include statements about the types of conditions that carotenoids may help prevent, such as cancer and blindness. The comment reported that the majority of carotenoid experts contacted by CSPI agreed that depletion of carotenoids is likely to pose hazards or risk of harm to health. The comment also cites the 1995 edition of the "Dietary Guidelines for Americans" issued on January 2, 1996, jointly by the Department of Agriculture and the Department of Health and Human Services. CSPI stated that the guidelines say that antioxidants such as carotenoids are of interest because they may have a beneficial role in reducing the risk of cancer and certain other chronic diseases. CSPI asserts that if evidence of carotenoids' value in protecting health is sufficient to warrant such a statement by the Department of Health and Human Services, it should be sufficient for FDA to inform consumers that olestra depletes carotenoids. CSPI also argued that depletion of carotenoids is a side effect that the public cannot monitor and the public needs information on side effects in order to decide whether to buy olestra-containing foods.

In contrast to CSPI's comments, a comment to the 1996 final rule specifically opposed use of the words "causing cancer or blindness" on the label statement because the words put olestra in the category of cigarettes and expressed the opinion that olestra did