



Concord, MA 01742-9101

October 24, 2006

Ms. Patricia Daniels
Director, Supplemental Food
Programs Division
Food and Nutrition Service, USDA
3101 Park Center Drive, Room 528
Alexandria, VA 22302

OCT 24 2006

I-50

RE: Docket No. 0584-AD77; WIC Food Packages Rule

Dear Ms. Daniels:

Welch's is a cooperative of over 1300 grower-owners and the world's leading producer of grape juice. We are an active provider in USDA's Special Supplemental Nutrition Program for Women, Infants and Children (WIC) nationwide. We support USDA's goal to revise WIC food packages to better reflect nutrition science and dietary recommendations. We are concerned, however, that there will be unintended consequences if USDA goes final with all of the provisions in its proposed rule¹ to drastically cut 100% juice in WIC packages. Accordingly, we respectfully submit these comments for your consideration.

USDA proposes cuts in the WIC allowances for 100% juice and other commodities to achieve cost neutrality for USDA's proposal to include fruits and vegetables in the program. In proposing these changes, USDA considered a report by the Institute of Medicine ("IOM"), WIC Food Packages: Time for a Change (2006). Welch's agrees with USDA and the IOM report that the WIC program should encourage greater consumption of *whole* fruits and vegetables, consistent with the new Dietary Guidelines for Americans and the FDA dietary guidance statement. Welch's is pleased that fruits and vegetables will be added to the WIC Food Packages. However, we respectfully submit that drastic cuts in 100% juices are not the best means to achieve the goal of increased consumption of fruits and vegetables overall or the most optimal WIC packages.

We agree that juice (like other foods) should not be over-consumed. The WIC program should promote the consumption of nutrient-rich and phyto-nutrient-rich 100% juices

¹ "Special Supplemental Nutrition Program for Women, Infants, and Children (WIC): Revisions in the WIC Food Packages," 71 Fed. Reg. 44,784 (Aug. 7, 2006).

in appropriate amounts to complement, not replace, whole fruits and vegetables. We agree with some of USDA's proposed juice cuts, which are consistent with the recommendations of the American Academy of Pediatrics ("AAP"). The proposed rule, consistent with the IOM Report, calls for the elimination of juice for infants 4 through 5 months old, and we agree that this is appropriate under the AAP guidelines. Rather than completely eliminating 100% juice for infants 6-11 months, USDA should maintain the modest amount of juice allowed in the current package (96 ounces monthly), as it represents a daily amount that is even below the amount AAP guidelines suggest is appropriate for this age (4-6 ounces).

For children 1-4.9 years old, we agree that the current WIC juice allocation (9.6 ounces daily) is high. The proposed rule calls for a reduced maximum allowance of 128 ounces, intending to provide children of this age about 4 ounces per day. While Welch's would certainly support a revised package allowance of 192 ounces which would provide children with an appropriate 6 ounces per day, we wish to acknowledge the fiscal constraints and instead can accept a revised package of 144 fl. oz. which would provide *all* children receiving the package with a minimum of 4 ounces, taking authorized container sizes into account. This amount is consistent with the AAP guidelines, and it would help ensure that children receive their daily value for vitamin C and other micronutrients.

For women receiving packages V-VII we recommend increases to the juice allowances given that vitamin C shortfalls are expected to increase for many participants. In short, for packages II and IV to VII, while we think it appropriate to reduce the current allowance in most cases, we think that USDA's 100% juice cuts are too severe. (See Appendix A). Concerns about over-consumption should not lead to drastic reductions in allowances for 100% juice. The right balance must be struck to achieve the optimum result.

The Role of 100% Juices

The majority of Americans do not consume the recommended amounts of fruits and vegetables in their diets. While fruit and vegetable vouchers will assist in closing the fruit and vegetable consumption gap for WIC participants, 100% juices should continue to play a vital role in WIC participants' diets to assist in further closing that gap. 100% juices will provide important sources of nutrients and phytonutrients and will complement and add variety to fruit and vegetable consumption.

USDA is working as part of a National Partnership, led by the Produce for Better Health Foundation ("PBH") and the Centers for Disease Control, to increase American's consumption of fruits and vegetables. The goal is to reposition consumers' attitudes towards fruits and vegetables from "I should" to "I want to." One of the core messages in this effort emphasizes that all product forms count towards getting more fruits and vegetables in our diet – fresh, frozen, canned, dried and 100% juice. How will USDA effectively partner with PBH to broadly communicate this message if

USDA's WIC packages do not support that all forms, including 100% juice, count toward getting more fruits and vegetables into our diets?

The preamble to the proposed rule states that the American Academy of Pediatrics "notes that juice does not provide any added nutritional benefit beyond that of whole fruit." 71 Fed. Reg. at 44,802. In fact, 100% juices can provide a much-needed variety of nutrients and phytonutrients that are not often represented in the whole fruits consumed. For example:

- Just 4 ounces of Welch's 100% Grape Juice made from Concord grapes counts as a ½ cup serving of phytonutrient rich purple fruit. The Produce for Better Health Foundation reports that purple and blue fruits and vegetables are significantly underrepresented in the American diet, representing only 3% of all fruits and vegetables consumed.²
- The most commonly consumed fruits, apples and bananas, do not provide an adequate intake of vitamin C, which 100% juice can provide. In fact, the reductions to the 100% juice allowances for packages V, VI and VII are expected to increase the percentage of participants predicted to receive inadequate levels of vitamin C intake (see IOM report Appendix D).
- The 2005 Dietary Guidelines Advisory Committee Report, the scientific foundation of the 2006 Dietary Guidelines for Americans, states that "Fruit juices provide substantial contributions of several vitamins and minerals in higher amounts than do whole fruits." Appendix G-2, p. 33. With the exception of fiber, these include vitamin C, potassium, and magnesium. The Report also states, "The fruit juices most commonly consumed by older children and adults provide more vitamin C, folate, and potassium in portions usually consumed than do the commonly eaten fruits." Part D, p. 16. Calcium and potassium were identified as priority nutrients for women in the proposed WIC rule, and potassium was identified as a priority nutrient for young children. See 71 Fed. Reg. at 44,788

For determining reductions in other commodities, it is not clear how USDA has considered whether there is a real need (e.g., to close the gap on needed nutrients) or whether those commodities have unhealthy attributes such as saturated fat and cholesterol. See IOM Report, at p. 82, Table 3-2; 71 Fed. Reg. at 44,789, Exhibit B.

Lack of Scientific Link to Obesity

One justification for cutting 100% juice is its purported link to obesity. In fact, the preponderance of the scientific evidence does not support a link between 100% juice consumption and overweight status in children or adults. Many recent research studies have examined the potential relationship between 100% juice consumption and body weight. Among the studies which are specific to 100% juice consumption, most

² NPD Group, "State of the Plate: Study on America's Consumption of Fruits and Vegetables," Produce for Better Health Foundation (Apr. 2003).

find no association between overweight status and the daily consumption of up to 12 ounces of 100% juice. (See, e.g., Attachment B).³

In April 2006, an analysis of the Department of Health and Human Services' NHANES database was presented at the Experimental Biology 2006 meeting. This analysis showed positive health and diet associations for those children consuming 100% juice versus those who did not. Children who drank 100% juice had healthier overall diets than non-juice consumers and consumed more total fruits, fiber and key nutrients such as vitamin C, potassium, magnesium and folate. The juice consumers also had significantly lower intakes of total fat, saturated fat and sodium. According to the researchers, the group of 100% juice consumers also had equal or lower bodyweights and body mass indexes ("BMI") than non-juice consumers, adding to the scientific evidence which shows that 100% play a role in a healthful diet and are not associated with being overweight.

We do agree that the current juice allowance for WIC package IV in particular encourages greater consumption of juice than is recommended for this age. We propose, however, that drastic cuts to below the recommended consumption levels are not the best means to encourage consumption in moderation. We recommend that juice allowances provide all children with 4-6 ounces of 100% juice per day, the amount recommended as appropriate for this age.

Trade-offs

100% juices provide a readily available nutritional option for WIC participants who often face constraints for transportation, storage, and time. Juice does not have the limited shelf life and preparation demands of fresh produce and can simply be a great way to get *more* fruits and vegetables in the diet.

Moreover, a severe reduction in 100% juice could lead to the substitution of lower-cost sweetened juice and non-juice beverages that do not have the nutritional benefits of 100% juice and that do have a strong link to obesity and other health problems. For example, many parents have positive experiences introducing babies to 100% juice. Eliminating juice for babies 6-11 months could lead parents to substitute cheaper sweetened beverages, an unhealthy alternative. Alternatively, if USDA simply eliminates 100% juice from WIC packages for babies 6-11 months, parents could feed too much juice to their infants. The optimal policy is to provide a healthy amount of 100% juice in the WIC package and to provide nutritional education to promote proper consumption and healthy choices.

³ On this point, the IOM report was tenuous, stating: "*Some evidence suggests that reducing consumption of sweet drinks, including pure juice, may be helpful in managing the body weight of preschool children.*" (p. 116) (emphasis added). However, the IOM report also noted that the task of the Committee was only to evaluate "one component of the WIC program, the food packages that are supplied to participants, and determine if revisions were needed." (p. x). In designing an optimal WIC program, the key role of nutritional education should be considered to address any concerns about juice without foregoing its significant benefits.

Importance of WIC's Educational Function

Nutritional education has been a key service of the WIC program. The education of WIC participants as to the proper role of 100% juices as part of a healthy diet is an important program component. WIC can help participants to understand:

- 100% juices are an excellent way to add a variety of nutrients and phytonutrients into the diet.
- 100% juices (consumed in moderation) are an excellent way to complement, not replace, whole fruit and vegetable intake
- Differences between 100% juices and sweetened beverages and their very different roles in a healthy balanced diet.
- 100% juices have a shelf life to serve participants daily for the full duration of the monthly food package.

The appropriate consumption of 100% juice has not been linked to obesity. To severely reduce the amount of juice in the WIC food packages inappropriately suggests that juice is "bad" and increases one's risk for obesity or diabetes. This sends the wrong message to the public, and it is a missed opportunity to educate consumers in an area fraught with confusion.

The WIC packages should place a priority on whole fruit and vegetable consumption, while encouraging the moderate consumption of juices to complement, not replace, whole fruit and vegetable consumption. Appropriate levels of juice in the package allow an opportunity to counsel against over-reliance on juice and alert participants about the difference between 100% juice and sweetened beverages. The food packages must encourage participants to look at foods for the health and nutritional benefits they provide (e.g. variety of phytonutrients, supplemental micronutrients) in addition to delicious taste and energy calories. Participants can learn which juices may best supplement their family's fresh fruit and vegetable consumption. It is critical for the WIC program to educate participants that "more matters" when it comes to fruit and vegetable consumption, and that fresh, frozen, canned, dried, and 100% juices all count towards overall daily fruit and vegetable consumption.

The Need for Container Flexibility

The proposed regulation for Food Package IV, the "Children's" package for ages one to five, prescribes a maximum of 128 ounces of juice. This will lead to significant under-redemption of the juice prescription. Presently, 7 CFR 266.10 stipulates 276 ounces of single strength juice and 288 ounces of reconstituted juice. These are multiples of 46 and 48, respectively. Single strength juice in 46 ounce containers is the authorized container in 47 states, excluding Mississippi, which only authorizes aseptic concentrates, as well as California and Nevada, which solely authorize 64 ounce containers. Forty nine states authorize concentrates (frozen and shelf stable) that reconstitute to 48 ounces; the exception is Mississippi. Territorial and Native

American programs are typical with most states for ready to drink single strength and concentrate authorizations:

Meaningful juice allowances depend on container flexibility. We urge USDA to consider maximum juice prescriptions that consider the authorized container sizes. The proposed 100% juice allowance for package IV at 128 ounces is intended to provide young children with the minimum recommended daily amount of about 4 ounces. However, since the vast majority of states authorize only 46 and 48 ounces containers, participants in these states will not receive this minimum amount, resulting in monthly under-redemptions of 36 and 32 ounces, respectively. We proposed as alternative juice allowance of at least 144 ounces which ensures that all package IV participants receive the minimum 4 ounces per day.

Welch's currently is authorized to provide 100% juices in shelf-stable bottled, canned or concentrate form, as part of the WIC food packages in 48 states, nearly all of the 33 Native American Programs, and six Federal Territories. Welch's offerings for WIC include 64- and 46-ounce ready-to-serve purple and white grape juice; as well as six varieties of frozen purple, white and white grape based blended concentrates, and eight flavors of shelf-stable concentrates, which reconstitute to 48 ounces.

Two states to date have opted to authorize 64 ounce container sizes. We would propose that maintaining the smaller container sizes of 46-48 ounces is consistent with a policy designed to encourage moderate consumption of juice that provides an excellent complement to whole fruit and vegetable consumption.

Sincerely,

Government Relations

Welch's

ATTACHMENT A:
USDA Cuts in 100% Juice⁴ and Proposed Alternatives

WIC Food Packages: Maximum Monthly Allowances for 100% Juice by Food Package

WIC Current Rule

WIC Current Rule

AAP Guidelines

Welch's

	WIC Current Rule	WIC Current Rule	AAP Guidelines	Welch's
Food Package II: 100% Juice allowance (Vitamin C rich juice)	96 fl oz (about 3.2 ounces per day)	no juice	120-180 fl oz. (4-6 ounces per day) (~2:1-3:2 ounces per day)	96 fl oz
Eligibility	4-11 months.	6-11 months	6-11 months	dependent upon authorized container sizes
Food Package IV 100% Juice allowance (Vitamin C rich juice)	288 fl oz (about 9.6 ounces per day)	128 fl oz. (about 4.3 ounces per day)	120-180 fl oz. (4-6 ounces per day)	144 fl oz (~4.3-4.8 ounces per day)
Eligibility	1 through 4.9 years	1 through 4.9 years	dependent upon authorized container sizes	
Food Package V 100% Juice allowance (Vitamin C rich juice)	288 fl oz (about 9.6 ounces per day)	144 fl oz. (about 4.8 ounces per day)		192 fl. oz. (~6.4 ounces per day)
Eligibility	Pregnant and Breastfeeding	Pregnant and Partially Breastfeeding		
Food Package VI 100% Juice allowance (Vitamin C rich juice)	192 fl oz (about 6.4 ounces per day)	96 fl oz. (about 3.2 ounces per day)		144 fl. oz (~4:3-4:8 ounces per day)
Eligibility	Nonbreastfeeding: postpartum.	Postpartum: Mothers not breastfeeding,		dependent upon authorized container sizes
Food Package VII 100% Juice allowance (Vitamin C rich juice)	288 fl oz (about 9.6 ounces per day)	144 fl oz. (about 4.8 ounces per day)		192 fl. oz. (~6.4 ounces per day)
Eligibility	Breastfeeding/No Formula:	Postpartum: Breastfeeding: Mothers up to 12 months:		

⁴ See Proposed Rule, 71 Fed. Reg. at 44,801-02.

ATTACHMENT B:
Highlights of Scientific Research on 100% Juice Consumption and its Potential Impact on Bodyweight

There are some general misconceptions about the appropriateness of 100% fruit juices as part of the diet, especially children's diets. The truth is that scientific research does not support a link between 100% fruit juice consumption and overweight status in children or adults.

A number of recent research studies have been conducted that look at a possible relationship between 100% juice consumption and its potential impact on body weight. Of the studies which are specific to 100% juice consumption and overweight status, most find no connection with consumption up to 12 ounces per day.

Highlights from recent studies can be found below (and does not include the research data presented at the Experimental Biology 2006 meeting; that information is provided separately).

Alexy U, Sichert-Hellert W, Kersting M, Manz F, Schoch G. Fruit juice consumption and the prevalence of obesity and short stature in German preschool children: results of the DONALD Study. Dortmund Nutritional and Anthropometrical Longitudinally Designed. J Pediatr Gastroenterol. Nutr. 1999;29:343-349.

Designed to look at a possible association between excessive consumption of fruit juice (more than 12 ounces per day) and short stature and obesity, data were collected and evaluated on 205 children 3-5 years of age from the DONALD study. Of the 38 children who consumed more than 12 ounces daily, as shown on at least one of their three food diaries, none were obese or short, even though the juice supplied as much as 19 percent of calories. The researchers concluded, "Even children with repeatedly excessive fruit juice consumption over three years were neither obese nor short, and their growth velocity was normal." They also state that they agree with others that any single food in excess can be detrimental but that "people must learn that a single food (e.g., fruit juice) is not healthy or unhealthy, but that the total composition of a diet must be balanced."

Dennison, BA, Rockwell, H., Baker, S. Excess Fruit Juice Consumption by Pre-school-aged Children is Associated with Short Stature and Obesity. Pediatrics. January 1997. 99:15-22.

In this cross-sectional study of 168 children, fruit juice consumption among children (two year olds and five year olds) was evaluated over seven days with mean consumption being 5.9 ounces (2 year olds) and 5.0 ounces (5 year olds). The researchers stated that 10 of the 19 children who drank 12 ounces or more daily had BMIs greater than 75th percentile. They similarly found that 47 out of 149 children who drank less than 12 ounces per day had similarly high BMIs. **The researchers do not suggest that children quit drinking juice; rather, they state that until more definitive research is done, it seems prudent for parents and caregivers to limit juice to no more than 12 ounces daily. Those who consumed the most 100% juice also had lower intakes of total fat, saturated fat and cholesterol than those who did not drink juice. Moreover, the researchers acknowledge that this cross-sectional study does not demonstrate causality and that further study in this area is warranted.**

Dennison, BA, Faith, M., Edmunds, L., Stratton, H. Fruit Juice Intake Predicts Increased Adiposity Among Low-Income Children. NAASO: The Obesity Society. Abstract. October 17, 2005. (unpublished study)

In this recent abstract, the researchers stated that they studied children's dietary intakes along with parental feeding practices, attitudes, and effects of parental nutrition counseling. The 2,081 individuals interviewed were participating in the Special Supplemental Nutrition Program for Women, Infants and Children. The researchers found a prospective association between intake of fruit juice and increased adiposity, especially for children who were already overweight or at risk for overweight. Parental reports of offering more fruits servings were associated with a decreased risk of adiposity vs. an increased risk found with each increased fruit juice serving among those with BMI's in the 85th percentile or greater. The researchers report that "excess" fruit juice consumption -- apparently 12 oz. or more per day -- may promote increases in adiposity, especially among children who are already overweight or at risk of overweight. **Based on this abstract the analysis is absent regarding juice consumption among normal weight children in this age group (age 1-5 years).**

Kloeber AS. Fruit juice consumption not related to growth among preschool-aged children enrolled in the WIC program. J Am Diet Assoc. September 2001; 101:9:996.

This letter-to-the-editor provides details of a study that evaluated 100% fruit juice consumption and growth indicators using subjects in an Atlanta (GA) Women, Infants and Children's (WIC) program. All of the study participants were low-income and predominantly minority children who drank anywhere from 0-128 ounces of juice per day; mean intake was 24 ounces per day. Growth parameters were compared between children who drank 12 ounces or less juice per day versus those who drank more. **When correlating fruit juice intake with various growth indicators, the program directors stated that they found no statistically significant relationship between juice consumption, obesity and short stature.**

Newby PK, Peterson KE, Berkey CS, Leppert J, Willett WC, Golditz GA. Beverage consumption is not associated with changes in weight and body mass index among low-income preschool children in North Dakota. J Am Diet Assoc. July 2004; 104:7:1086-1094.

Data on dietary and growth parameters for 1,345 children were provided by the North Dakota Women, Infants and Children's (WIC) Program for this study that analyzed beverage consumption and obesity parameters. In this analysis, mean consumption of fruit juice (10.8 ounces per day for girls and 10.6 ounces per day for boys) was more than double that reported for children age 2 to 18 years from the 1994-96 and 1998 Continuing Survey of Food Intakes by Individuals which found a mean consumption of 4.6 ounces per day. The researchers also found that in this WIC population, close to 50% of the children consumed 12 ounces or more fruit juice per day. However, the results of the regression analysis found no association between 100% fruit juice intake and weight changes. Although the researchers were not able to control for other major risk factors for obesity, such as parental BMI, physical activity, and television viewing, they postulate that "perhaps children who are more physically active drink more beverages, and thus if we were able to include measures of physical activity (or inactivity) in our models we would better understand associations between beverage intake and weight change." **"Our results are consistent with other prospective studies that have found that fruit juice is not related to childhood obesity....Current scientific evidence does not support a positive association between fruit juice and milk consumption and obesity; hence, they may still be recommended to children in reasonable amounts because they are an important source of nutrients and energy."**

Rampersaud GC, Bailey LB, Kauwell GP. National survey beverage consumption data for children and adolescents indicate the need to encourage a shift toward more nutritive beverages. J Am Diet Assoc. January 2003; 103:97-100.

The researchers used national survey data (1994-96, 1998 Continuing Survey of Food Intakes by Individuals) to evaluate intake of 100% fruit juices intakes to compare with the American Academy of Pediatrics' (AAP) recommendations on fruit juice consumption. The researchers

found that mean intakes of 100% juice were within AAP recommendations for all age groups from six months to 18 years (a total of 5,559 children's data were included in the analysis). Other than the importance of discouraging anything other than breast milk, infant formula and water before a child is six months old, the researchers stated, **"There is no conclusive evidence to suggest that in most cases, intake of 100% fruit juice should be restricted in children and adolescents...."** **"For the majority of children and adolescents...promotion of moderate intakes of 100% fruit juice as part of a healthful and varied diet is consistent with public health recommendations for increasing fruit and vegetable intake to optimize health and reduce risk for chronic disease."**

Skinner JD, Carruth BR. A longitudinal study of children's juice intake and growth: the juice controversy revisited. J Am Diet Assoc. April 2001. 101: 432-437.

This study of 72 children (including those enrolled in a long-term longitudinal study) evaluated beverage intake (including 100% juice) and growth parameters over four years, when study participants in the study were ages 24-72 months. Although some of the juice intakes at single interviews showed a higher number of children consuming 12 ounces or more juice per day than did the longitudinal mean, growth parameters did not indicate any overweight in these children. Analysis of the data found there were no statistically significant associations between 100% juice intake and children's height, weight and body mass index. **"In contrast to the Dennison et al study, results of this study consistently showed no relationship between children's intake of 100% juice and any measure of overweight...."** **"One hundred percent juices are acceptable, affordable, and nutritious beverages that do not compromise children's growth."**

Skinner, JD, Carruth, BR, Moran, J, Houck, K, and Coletta, F. Fruit Juice Intake Is Not Related to Children's Growth. Pediatrics. Vol. 103 No. 1 January 1999, pp. 58-64.

Data for this research was derived in part from an ongoing longitudinal study as well as dietary interviews with a total of 105 children. The purpose of the data analysis was to evaluate if excess fruit juice intake (12 ounces or greater) was associated with short stature and obesity in preschool children. The researchers assessed growth parameters and 100% fruit juice intake in children between 24 to 36 months. Growth parameters of children consuming 12 ounces or more per day of 100% fruit juice were compared with those consuming less than 12 ounces per day. **The researchers concluded that there were no statistically significant differences in children's height, body mass index, or ponderal index related to fruit juice intake between those consuming more or less than 12 ounces daily.** "The consistent lack of relationship between children's fruit juice intake and growth parameters in our study does not support previous recommendations to limit the intake of 100% juice to less than 12 ounces/day."

USDA. Is Fruit Juice Dangerous for Children? Nutrition Insights. USDA Center for Nutrition Policy and Promotion. March 1997.

Using statistics from the 1994-96, 1998 Continuing Survey of Food Intakes by Individuals, USDA staff evaluated the appropriate data sets and found that there was no relationship between 100% fruit juice consumption and body mass index (BMI). This analysis of the diets of 830 children was done in response to a study by Dennison et al that suggested excessive juice consumption was linked with obesity and short stature. **In fact, the USDA analysis found that children who drank the most 100% juice (12 ounces or more) were actually taller, with lower BMIs than those who drank less.** This USDA document concludes: "Fruit juice consumption in quantities recommended in the Dietary Guidelines for Americans is advantageous for healthy children."

Weish JA, Cogswell ME, Rogers S, Rockett H, Mei Z, Grummer-Strawn LM. Overweight among low-income preschool children associated with the consumption of sweet drinks: Missouri, 1999-2002. Pediatrics. 2005;115(2): e223-9.

This study was designed to examine the association between sweet drink consumption and overweight among preschool children using dietary records from 10,904 children who were 2-3 years of age. The source of the data was the Missouri Pediatric Nutrition Surveillance System and Missouri Demonstration Project. Researchers recorded only the number of occasions the children consumed sweet beverages and not specific details of the amounts consumed (sweet drinks included 100% juices, fruit drinks, and sodas). **The study concluded that "with fruit juice only, we found no significant associations for at-risk or normal/underweight children."** Among children who were overweight, the association with overweight was positive, but **"the results were of only borderline significance."**



Sacramento, CA 95834-1901

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I-51

Patricia Daniels, Director
Supplemental Food Programs Division
Food and Nutrition Service
United States Department of Agriculture
3101 Park Center Drive, Room 528
Alexandria, Virginia 22303

REF Docket ID Number 0584-AD77-WIC Food Package Rule

Dear Ms. Daniels:

On behalf of Dairy Council of California, I thank you for the opportunity to provide comments on **Docket ID Number 0584-AD77-WIC Food Package Rule**. Dairy Council of CA is a not-for-profit nutrition education organization, whose primary goal is to enhance the health and well-being of children and adults by enabling individuals to make healthful food and lifestyle choices. Our organization, funded by the dairy industry in California, supports major nutrition education initiatives and nutrition research programs.

Through constant monitoring, we identify emerging trends in the health, nutrition and education fields. As a result, our programs reflect advances in research and the most current health recommendations. As a case in point, our programs were recently revised to align with the 2005 Dietary Guidelines for Americans and USDA's MyPyramid food guidance system.

Many local WIC programs have utilized Dairy Council of CA nutrition education materials over the years. With approximately 1.37 million participants in California, they are a priority audience for our organization.

The revisions proposed for the WIC Food Package program, a USDA Food & Nutrition Service supplementary feeding program, are the most significant since 1974. We understand they are intended to bring the package into closer alignment with current nutrition science and national dietary guidelines and we support that intent. In a broad sense, updating the food package to include more fruits, vegetables and whole grains in the diets of children and women is positive. There are specific details of the package, however, that concern us:

- While the milk and dairy product food group is the only one provided by WIC at the full Dietary Guidelines level, the overall amounts of milk and cheese allotted in the proposed WIC food packages represent a decrease from the previous package. Consumption survey data indicates that dairy foods contribute 72% of the dietary calcium in Americans' diets.¹ Milk and dairy foods were found by the Dietary Guidelines Committee to be major contributors of **calcium** and substantial contributors for **vitamin A**, **potassium** and **magnesium**. A 2004 Institutes of Medicine report found that the diets of children enrolled in WIC were low in vitamin E, fiber, and **potassium** and women were lacking **calcium**, **magnesium**, **vitamin A**, vitamin C and folate. Thus, these nutrient deficiencies could become *more* severe in populations served by WIC as the new proposal actually *decreases* the provisions for milk and the unique nutrient package it provides.
- We find the strict limits placed on approved substitutions for milk are not consistent with current recommendations. While we understand and support calls for a broader range of foods to meet cultural preferences, we're concerned that the parameters outlined regarding milk substitutions are not in the best interest of WIC participants and do not reflect current, well-established science. The 2005 Dietary Guidelines Advisory Committee Report stated that milk alternatives within the milk food group, such as yogurt and lactose-free milk, are the easiest and most reliable way for those sensitive to lactose to derive the health benefits associated with milk and milk products. Yet the following WIC-based recommendations have been made:
 - Tofu or fortified soy-based beverages are considered acceptable substitutions for milk-sensitive women and some children, yet the use of reduced-lactose and lactose-free milks, frontline choices according to the Dietary Guidelines Committee, are not clearly defined by USDA.
 - The health benefits afforded by the unique package of nutrients in milk and dairy products cannot be fully replaced by soy alternatives. The research shows that calcium from soy beverages is only absorbed at 75% the efficiency of that from cow's milk.²
 - We further understand that changes to the overall WIC food package must be cost-neutral. We question the likelihood that allowing soy products would be a less expensive alternative than allowing yogurts (particularly when purchased in larger containers), lactose-treated milks and cheese.

¹ "Dairy: The Ultimate Calcium Source"; Gerrior SL, et al. Nutrient content of the US food supply, 1990-2000. Home Economics Research Report No. 56. USDA, Center for Nutrition Policy and Promotion, Nov. 2004.

² "Bioavailability of the calcium in fortified soy imitation milk, with some observations on method," Heaney, RP, Dowell, MS, Rafferty, K, Bierman, J., AJCN: 71(5): 1166-9, May 2000.

- The proposed rule does not allow yogurt as a milk substitution despite the recommendations of a 2004 Institutes of Medicine report, "WIC Food Packages: Time for a Change," which does endorse yogurt as a viable alternative.
- The amount of cheese that is allowed for substitution of milk has decreased, despite the fact that cheese is generally better tolerated by lactose maldigestors and is well accepted by many ethnic populations who have a higher incidence of lactose maldigestion. This would be a particular concern for the Hispanic population, who favor the taste of cheese; that population segment represents 78% of all WIC participants in California.
- Neither cheese nor yogurt are allowed as a protein food options, yet both are good sources of high quality protein and compare favorably from a cost standpoint to other protein sources allowed (beans, canned fish, eggs, peanut butter).
- The limitations on the use of cheese and yogurt in the package actually serve to limit rather than expand choice.

The reduction in the milk provision coupled with restrictions to milk substitutions could well make it more difficult for women and children to meet their nutrient needs, cultural preferences and personal tastes. We fear that an unintended consequence of the proposed changes to the WIC package might be an overall reduction in the consumption of milk and cheese, and therefore the nutrients found in dairy products.

We at Dairy Council of CA would encourage the USDA to reconsider the provisions for milk and dairy products in the WIC package. We support guidelines that *maximize* the availability of a wide variety of dairy options. Milk and dairy products are naturally nutrient-dense foods that deliver key nutrients in a wide range of good-tasting products. These products are likewise a cost-effective food purchase. Such flexibility would in fact more fully bring the WIC package into agreement with the 2005 Dietary Guidelines for Americans. Modifications that would achieve this include:

- Making lactose-reduced and -free milks, rather than soy products, the preferred alternatives for regular milk for those who are lactose maldigestors
- Making yogurt, a nutrient-rich and well-tolerated product, an option for at least partial substitution for regular milk and/or an alternative protein source

- Permitting more substitution of cheese for fluid milk and/or as an alternative protein source; cheese is a well-accepted dairy product for many diverse ethnic populations and is readily available in lower fat versions.

We at Dairy Council of CA realize that updating the WIC food package is an enormous undertaking and we commend your efforts thus far. We sincerely appreciate the opportunity to comment on the proposed changes. If you have any questions, please feel free to contact me at 916.263.3560.

Best regards,

Chief Executive Officer



OCT 23 2006

WENATCHEE, WASHINGTON 98807-2207

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Dryden
- Frank Lyall**
Lower Yakima Valley
- Barry Maitland**
Methow/Pateros
- Aaron Mathison**
Malaga
- Dennis Nicholson**
Peshastin/Leavenworth
- Allen Robison**
Chelan
- Maurice Sawyer**
Oroville
- Allan Schmidt**
Mid Yakima Valley
- Jim Small**
Entiat
- Lynn Smith**
Wenatchee/Sunnyslope
- Richard Thomason**
Brewster
- Kent Waliser**
Tri-Cities Area
- Larry Ward**
Monitor
- Brian Westerdahl**
*Bridgeport

Manager

* Board President
** Vice President

October 23, 2006

Patricia Daniels
Director, Supplemental Food Programs Division
Food and Nutrition Service, U. S. Department of Agriculture
3101 Park Center Drive, Room 528
Alexandria, VA. 22302

Subject: Docket ID No. 0584-AD77, WIC Food Packages Proposed Rule

Dear Ms. Daniels:

The Washington Growers Clearing House Association is a non-profit tree fruit grower trade association with approximately 2,200 Washington family farm tree fruit grower members.

The Washington Growers Clearing House Association strongly supports the inclusion of fruits and vegetables in the Special Supplemental Feeding Program for Women Infants and Children (WIC) at the levels recommended by the Institute of Medicine (IOM). (Ten dollars per women and eight dollars per child.)

Research clearly indicates that consuming the recommended portions of fruits and vegetables decreases the risk of obesity, heart disease, high blood pressure, and certain cancers, etc. It is surprising that the Women Infants and Children (WIC) program vouchers does not currently allow for the purchase of fruits and vegetables under this program.

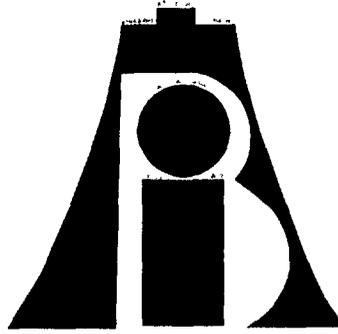
Including fruit and vegetables in the WIC program will encourage children and their future families to develop and maintain healthy eating habits. A good diet provides the opportunity for our youth to excel in their educational and future employment pursuits, giving them the opportunity for a healthy productive life in this stressful, highly competitive global economy.

States should not be given the authority to restrict or limit a participant's choices of fruits and vegetables. A wide variety of fresh, frozen, dried and canned fruits and vegetables should be available for all program participants.

The inclusion of fresh fruits and vegetables to WIC vouchers will better enable program participants to follow the valuable nutritional educational messages already provided by USDA and WIC, etc. Giving an individual the flexibility to choose which fruits and vegetables to consume will further increase the consumption of a healthy balanced diet.

Thank you for the opportunity to comment.

Manager



OCT 23 2006

INDEPENDENT BAKERS ASSOCIATION

• Washington, DC 20027 •

October 23, 2006

Ms. Patricia Daniels
Director, Supplemental Food
Programs Division
Food and Nutrition Service, USDA
3101 Park Center Drive, Room 528
Alexandria, VA 22302

RE: Docket No. 0584-AD77; WIC Food Packages Rule

Dear Ms. Daniels:

The Independent Bakers Association is a Washington, D.C. based national trade association of over 400 mostly family owned wholesale bakeries and allied industry trades. The Association was founded in 1968 to protect the interests of independent wholesale bakers from antitrust and anti-competitive mergers and acquisitions; pressure Congress to support market-oriented farm commodity programs; seek representation to consider federal labor, tax and environmental law.

A proposed rule published August 7, 2006 in the Federal Register, would revise regulations governing the Supplemental Nutrition Program for Women, Infants, and Children (WIC) to align the WIC food packages with the 2005 Dietary Guidelines for Americans and current infant feeding practice guidelines of the American Academy of Pediatrics. The revisions largely reflect recommendations made by the Institute of Medicine (IOM) of the National Academies in its Report "WIC Food Packages: Time for a Change." The following are comments submitted by the Independent Bakers Association.

IBA recommends a whole grain threshold for WIC eligible breads consistent with the recent Food Safety and Inspection Service (FSIS) recognition of **eight** grams of whole grain ingredient per label serving as eligible for a basic stamp from the Whole Grains Council. IBA believes the **eight** gram threshold endorsed by FSIS has advantages over the 16 gram threshold supported by the IOM. The **eight** grams of whole grain ingredient

per label serving standard will provide taste texture to the bread, making the product more enjoyable to the consumer, and thus encouraging further consumption.

IBA believes there needs to be modifications made to the weight specification for whole grain breads in the package. Although the weight specification of a "pound" or "two pounds" initially seems logical, it is not practical to use the pound as a standard weight specification when dealing with loaves of whole grain bread. Most whole grain breads are 24 ounces, and therefore IBA believes that the WIC whole grain specification should be "up to or equal to 24 ounces" for bread or bread substitutes.

The association will also seek a broader role for eligible breads to include whole grain breads other than just those that are wheat. Whole grain white breads, whole grain highly-enriched breads, and whole grain oat breads should be put forth as options in the revised package. Numerous flavors of whole grain bread have earned the basic stamp from the Whole Grains Council and these should also be included as options in the revised package. These include whole grain raisin breads, sunflower breads, cherry walnut breads, rye breads, pumpernickel breads, and oatmeal poppyseed breads. These whole grain breads should be made eligible to participants in the WIC Supplemental Nutrition Program.

Some of the nation's largest brands of bread introduced whole grain alternatives that retain the taste and texture of white bread, while also providing the added nutritional value of the whole grain. IBA believes WIC should encourage members of the baking industry to produce whole grain products, and thus help WIC's targeted population. The best way to do this is to add other whole grain products to the WIC food package in order to bring in various segments of the baking industry, as well as afford WIC program participants a wider selection of whole grain products.

IBA is pleased that whole grain products such as whole wheat tortillas are eligible to be substituted for whole wheat breads in the package. IBA believes that all whole grains should be included in the WIC program. These include whole brown rice, whole grain cornmeal, whole wheat durum flour, whole bulgur wheat, whole grain oats, whole grain barley flakes, whole wheat flour, and whole cracked wheat. Quinoa and amaranth should also be included in the program, as these grains are popular among immigrants. The need for a greater variety of whole grain products comes on the heels of numerous studies suggesting the added health benefits to a diet rich in whole grains.

IBA encourages an accommodation for folate fortification in the revised WIC food package due to the strong evidence supporting a correlation between whole grain consumption and a decrease in neural-tube deficiencies in fetuses. Research conducted by Margaret Honein of the Center for Disease Control and Prevention and colleagues shows the rate reduction in neural tube deficiencies since folate fortification was introduced by food and health authorities. In 2001, Honein and colleagues carried out a national research survey of birth certificate data for live births to women in 45 US states and the District of Columbia between the years 1990 and 1999. The study suggests that the birth prevalence of Neural-tube deficiencies (NTDs) reported on birth certificates decreased from 37.8 per 100 000 live births before folic fortification to 30.5 per 100 000 live births conceived after mandatory folic acid fortification was enacted in 1998 by the US Food and Drug Administration. This constitutes a 19 percent decline in NTDs.

In 2003, Godfrey P. Oakley Jr., of the Emory University Department of Epidemiology, Rollins School of Public Health, wrote an article entitled "Folate Deficiency is an 'Imminent Health Hazard' Causing a Worldwide Birth Defects Epidemic." Oakley cites research in his article conducted by Dr. David Wald of Barts Hospital and the London School of Medicine, which shows that fortification may also prevent 25% of heart attacks and strokes. Even if that percentage is slightly swelled, Oakley maintains that folate fortification may be saving even more lives from cardiovascular disease than it is preventing babies from having NTDs. Oakley concludes in his article, "It is an urgent responsibility for all who want children to be healthy, especially for professionals in birth defects research and clinical care, to build the political pressure for folic acid fortification."

In conclusion the Independent Bakers Association supports a reduction to an 8 gram threshold of whole grain ingredient per label, supports a 24 ounce weight specification for whole grains, seeks a broader role for eligible breads to include whole grain breads other than simply wheat breads in the revised WIC food package, and strongly recommends an accommodation in the package for folate fortification. I may be reached at the telephone number above or via email at npyle@attglobal.net. Thank you for this opportunity to address the proposed revision of the WIC food package.

Sincerely,

Government Relations
Independent Bakers Association

REFERENCES

Honein MA, Paulozzi LJ, Mathews TJ, et al. 2001. Impact of folic acid fortification of the US food supply on the occurrence of neural tube defects. *JAMA* 285: 2981-2986.

Oakley Godfrey P. 2003. Folate deficiency is an "imminent health hazard" causing a worldwide birth defects epidemic. Wiley-Liss, Inc. *Birth Defects Research (Part A)* 67:903-904.

Wald DS, Law M, Morris JK. 2002. Homocysteine and cardiovascular disease: evidence on causality from a meta-analysis. *Br Med J* 325: 1202.

OCT 26 2006

I-57

October 25, 2006

Ms. Patricia N. Daniels
Director, Supplemental Food Programs Division
Food and Nutrition Service
U.S. Department of Agriculture
3101 Park Center Drive, Room #528
Alexandria, VA 22302

Re: Docket ID Number 0584-AD77, Revisions in the WIC Food Packages.

Dear Ms. Daniels:

On behalf of the grower-members of the Apricot Producers of California representing the vast majority of California and U.S apricot production, I appreciate the opportunity to comment on the proposed revisions to the food packages provided through the Special Supplemental Nutrition Program for Women, Infants and Children (the "WIC Program").

The Apricot Producers of California strongly supports the efforts to provide the most nutritious WIC food packages possible. The WIC Program has been a very important and vital food assistance program for several years. Most of these proposed changes in the program will only make it better. However, there are two provisions in the proposed rules that we are opposed to. These are the prohibition on product packed in light syrup and a preference given for "fresh" fruits and vegetables.

In prohibiting apricots or any other fruit from being purchased in light syrup this proposed rule not only does not have any sound nutritional basis, but does not recognize the type of products that are available in the retail marketplace. Apricots packed in water are not a product that is readily available for retail sales. Water packed apricots are not available in the marketplace because the taste is completely unacceptable to most individuals. Only those with very specific dietary limitations purchase this product, and in a very limited amount.

Apricots packed in juice are a very limited pack, and does not have a significant difference in nutritional value than apricots packed in light syrup. Prohibiting the purchase of apricots packed in light syrup would severely limit the opportunity for program recipients to purchase nutritional apricots. Juice packed apricots are only available on a limited basis. As is the case with apricots packed in water, the reason for this is that most individuals find the taste of apricots packed in juice a taste that they do not like, and prefer apricots packed in light syrup.

The second provision in the proposed rules that we strongly oppose is the preference given to fresh fruits and vegetables. Our members produce apricots for the canned, frozen, dried, concentrate (nectar) and the fresh markets. During the harvest season,

which is very short for apricots, we support the purchase of fresh product. However, for most of the year, except for this very short fresh window, U.S. produced apricots are only available in one of the processed forms.

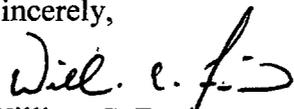
The preamble of the proposed rules addresses the potentially greater nutrient contribution of fresh produce. In the case of apricots, this is just not true. There have been studies done, (University of Illinois, Department of Food Science and Human Nutrition, December 1995), which show that canned apricots are equal to, or in some cases greater in nutritional value than fresh. Part of the explanation of this difference is the fact that the fruit is much more mature when canned and of different, more nutritious varieties. In the case of dried apricots, the nutrition is greater than fresh because of the concentration of the fruit.

By giving preference to fresh over all other forms of fruits, the proposed rule would reduce the amount of fruits purchase by recipients, not increase their consumption. Except for those limited amounts of fruits produced in the U.S. that are available year round, such as apples, the majority of fruits produced in the U.S. have rather short and limited harvest seasons. If recipients are not encouraged to purchase fruits in all forms, their choices will be severely limited and the amount of total fruit they purchase will be reduced.

The California apricot industry finds it extremely troublesome that at a time when nutrition is becoming such an important part of each discussion at USDA concerning all feeding programs, that issues such as fresh vs. processed or light syrup vs. fruit juice should play such a dominate role. The very primary goal should be that the final recipients in any USDA supported feeding program eat more fruits and vegetables that are canned, frozen, dried or fresh and that are produced in the U.S. Preference should not be given to any one form of fruit or vegetable. The packing medium for canned fruit should be that which is most widely accepted in the marketplace and would encourage the greatest consumption of fruit. Apricots are a very nutritious fruit in all forms and recipients should be encouraged to eat them in a way they prefer.

Thank you for the opportunity to comment on the proposed revisions to the WIC food packages. By incorporating the changes that we have suggested to the revisions that are proposed, the food packages will be more consistent with the Dietary Guidelines for Americans.

Sincerely,



William C. Ferrera
President

2300 RIVER PLAZA DRIVE / SUITE 110
SACRAMENTO, CA 95833
TELEPHONE 916 / 925-9131
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California Canning Peach Association

October 23, 2006

OCT 25 2006

I-58

Patricia N. Daniels
Director, Supplemental Food Programs Division
Food and Nutrition Service
U.S. Department of Agriculture
3101 Park Center Drive, Room 528
Alexandria, VA 22302

Re: Docket ID Number 0584-AD77, Revisions in the WIC Food Packages

Dear Ms. Daniels:

The California Canning Peach Association (CCPA) appreciates the opportunity to comment on the proposed revisions to the food packages provided through the Special Supplemental Nutrition Program for Women, Infants, and Children (the "WIC program"). Established in 1922, CCPA is the nation's oldest farm bargaining association. As a nonprofit farm cooperative, CCPA is owned and directed by its member-growers who produce approximately 80% of the cling peaches grown in California.

We fully support the efforts of FNS to enhance the food packages and provide nutritious options to recipients, and support the agency's efforts to ensure the food packages are more consistent with the Dietary Guidelines for Americans. However, we are concerned with two provisions in the proposed rule. In particular, CCPA opposes how the proposed rule would establish a preference for fresh fruits and vegetables and its prohibition on product packed in light syrup, which adds an insignificant amount of sugar.

Dietary Guidelines For Americans

The Dietary Guidelines for Americans have been updated numerous times since most of the current WIC program food packages were developed, most recently in 2005. As FNS knows, the guidelines have increasingly emphasized the importance of and need for more fruits and vegetables in the diets of Americans. The current guidelines recommend the consumption of two cups of fruit per day. (Dietary Guidelines for Americans, 2005 at 24.) Importantly, the Dietary Guidelines do *not* differentiate between fresh and canned product. In fact, it puts all forms of whole fruit on an equal footing by, for example, stating "consumption of whole fruits (fresh, frozen, canned, dried) rather than fruit juice is suggested to ensure adequate fiber intake." *Id.* (parenthetical in original). Moreover, in the discussion of carbohydrates the Dietary Guidelines recognize that small amounts of added sugar, such as that used in canned fruit, is appropriate and useful. This is due to the fact that "small amounts of sugars added to nutrient dense foods . . . may increase a person's intake of such foods by enhancing the palatability of these products, thus improving nutrient intake without contributing excessive calories." *Id.* at 36-37.



Fresh Preference Should Be Removed

The proposed rule would create a preference for fresh fruits and vegetables over canned product that should be eliminated from any final or interim rule FNS issues. The regulatory text is vague on this point, perhaps intentionally, but it is clear from tables outlining the maximum monthly allowances of supplemental foods that this would be the effect of the proposed rule. For example, in a footnote to Table 2, which outlines the monthly food allowances for several food packages, states “[p]rocessed (canned, frozen, dried) fruits and vegetables *may* be substituted for fresh fruits and vegetables.” *Proposed 7 C.F.R. § 246.10(e)(10) footnote 13* (emphasis supplied). Moreover, the preamble to the proposed rule notes that it “would allow processed . . . to be substituted when fresh product is limited and to accommodate participant preference.” (71 Fed. Reg. 44,797.) In other words, it appears that participants would receive vouchers for fresh product, and that the state administering agency would be authorized, but not be required, to allow the purchase of processed product.

For two important reasons the language framing fresh fruits and vegetables as the preferred option should be eliminated, and any final or interim rule issued by FNS should be clear that the cash value vouchers can be used for any form of produce – canned, frozen or fresh. First, distinguishing between canned and fresh is entirely inconsistent with the Dietary Guidelines for Americans, which encourages the consumption of fruits and vegetables in general regardless of whether they are canned or fresh. Second, establishing a fresh preference could frustrate true participant choice and in some cases result in fruits or vegetables not being purchased at all. For example, some fruits, like apples, are available in fresh form year round; others, like peaches, are not. If a state chooses to only issue vouchers for fresh product a participant who likes peaches but not apples would not be able purchase a canned product during times of the year when fresh is not available.

A statement in the preamble about the nutritional quality of produce also merits addressing. The preamble states that because of “potentially greater nutrient contribution from fresh produce, state agencies are encouraged to offer fresh produce to the extent possible.” (71 Fed. Reg. 44,798.) Such a broad statement such as this is unsupportable, and, in many cases, simply wrong. In fact, nutrient loss in fresh products may be more substantial than commonly perceived, as storage and preparation can result in significant nutrient losses prior to consumption, while canning often preserves nutrient value.

Like any food product, the decision on which type of fruit and which form to purchase is influenced by a number of different factors, such as price, quality, availability, etc. Without true choice a participant could forgo the fruits and vegetables intended to be included, and not receive the full benefit of the food package they have been prescribed. Eliminating the preference for fresh and allowing participants to determine the form they would like to purchase is the best way to ensure that the fruit and vegetable vouchers will be used effectively and efficiently.

Prohibition On Added Sugars Should Be Amended To Allow Fruit Packed in Light Syrup

The proposed rule would appear to prohibit the purchase of peaches canned in light syrup by limiting canned product to “[a]ny variety of canned fruits . . . juice pack or water pack without added sugars. . . .” *Proposed* 7 C.F.R. § 246.10(e)(12). This provision should be amended to clearly allow fruit packed in light syrup because: (1) as drafted it would drastically restrict the universe of canned fruit that could be purchased; (2) the nutritional difference between juice pack and light syrup is insignificant; and (3) such a restriction would be difficult – if not impossible – for authorized retailers to implement.

Limiting canned fruit to product packed in juice or water would significantly limit the amount of canned product that could be purchased by program participants. Water packed product has extremely limited distribution in the retail market. This is a small, niche product that is primarily utilized by the institutional health care industry for patients with unique nutritional needs. It is not common for traditional food retailers to carry water packed product, and we suspect that very few WIC authorized retailers stock canned fruit packed in water.

While juice pack product is more commonly available than water pack, the most readily available product is that packed in light syrup. While not stated, it appears that the prohibition on fruit packed in light syrup is intended as a way to limit the sugar content of products available for purchase through the program. The nutritional difference between juice pack and light syrup, however, is *de minimus*. For example, according to the USDA National Nutrient Database, peaches packed in juice (solids and liquids) have 12.84 grams of total sugar per ½ cup serving (125 g); while the same amount of peaches packed in light syrup (solids and liquids) have 16.63 grams of total sugars. The difference – not quite 4 grams – amounts to less than a teaspoon of sugar, accounting for not even 16 calories per serving. In addition to the information contained in the USDA National Nutrient Database, there are canned peaches packed in extra light syrup currently available in retail distribution with even fewer than 16 grams of total sugar per ½ cup serving.

Finally, this provision would unnecessarily complicate the WIC transaction at checkout. As you know, the WIC transaction is perhaps the most complicated transaction a store employee encounters, as it requires the cashier to ensure that the products and packaging size are WIC eligible. The proposed rule would add another burden to this process – requiring that the cashier knows whether the product has been packed without added sugars, a fact that may or may not be readily apparent on the label. This would add further difficulties to an already complicated process, requiring the cashier to make nutrition judgments on a product in addition to all of the other demands currently required.

CCPA requests that any final rule or interim rule issued by the agency clearly allow fruit packed in light syrup. This would ensure that participants have access to a wide variety of canned fruit and ensure that the WIC transaction can be completed efficiently. Most important, the

WIC Food Package Comment
October 23, 2006
Page 4

nutritional profile of fruit packed in light syrup is nearly identical to juice packed product, so there would be no noticeable or meaningful change the amount of total sugar supplied by this product.

Conclusion

Again, CCPA appreciates the opportunity to comment on the proposed rule. The agency should be commended for the proposed rule and how it would better align the food packages with the *Dietary Guidelines for Americans*. We believe that incorporating our suggested changes would further improve the proposed rule.

Sincerely,

A handwritten signature in black ink, appearing to read "Rich Hudgins", with a long horizontal flourish extending to the right.

Rich Hudgins
President & CEO

OCT 25 2006

I-59

October 25, 2006

Ms. Patricia N. Daniels
Director
Supplemental Food Programs Division
Food and Nutrition Service
U.S. Department of Agriculture
3101 Park Center Drive, Room 528
Alexandria, Virginia 22301

Re: Docket ID Number 0584-AD77, WIC Food Packages Rule

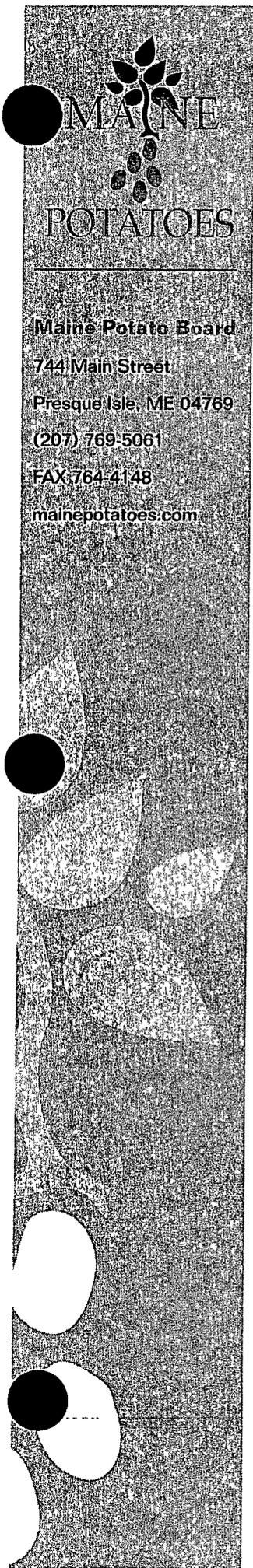
Dear Ms. Daniels:

The Maine Potato Board (MPB) would like to take this opportunity to submit comments to the USDA/FNS regarding the proposed revisions in the WIC Food Packages. We are responding to your request for comments in the Federal Register (Vol. 71, No. 151), dated August 7, 2006 [Docket No. 0584-AD77].

The MPB represents 400 potato growers in Maine. Our growers produce both seed potatoes and potatoes for consumption in a variety of forms. Annual production is estimated at 16,000,000 cwt. with a farm value of \$110 million, and total economic impact to Maine of over \$560 million.

The MPB supports the proposal to include fruits and vegetables in the WIC Program as long as all fruits and vegetables are eligible commodities. The NPC incorporates, by reference, the comments filed by the United States Potato Board which does extensive nutritional research on potatoes and promotes their consumption. The Board's comments are based upon expertise in the nutritional value of potatoes. Potatoes contain many of the essential vitamins and nutrients that are recommended by the Department's food pyramid and by your Agency and by the Institute of Medicine's Report entitled "WIC Food Packages: Time for a Change including potassium, fiber, vitamin C, and many B vitamins, including B6. In addition, the Food and Drug Administration's nutritional guidelines recognize these nutrient values for potatoes.

There is not an adequate factual basis utilizing available nutritional data, the needs of low income consumers and the issue of program cost, to exclude white potatoes from the WIC Program. The Agency states that "The proposed improvements to the WIC food packages can be made without increasing the projected costs." The Agency also focuses on the needs of low income populations. Yet the proposal excludes white potatoes which are one of the lowest priced high nutrient vegetables. The Agency states that the proposal "...would provide more participant choice and a wider variety of foods than the current food packages. The increased variety and choice will provide State agencies increased flexibility in prescribing culturally appropriate food packages." Yet the proposal excludes the most widely consumed vegetable, white



potatoes, which are used in diverse cultures in a variety of food preparations. Potatoes are available to consumers throughout the year, are easily stored, and can be prepared and served multiple ways along with various other commodities. The Agency cites the wide availability of white potatoes as a reason for exclusion based upon consumption of "starchy vegetables." "Starch" is not a term that is an appropriate descriptive word and is vague for purposes of this proposal. In addition to "starch" being vague, the FDA has approved numerous health claims that can be made for potatoes. In an FDA published Consumer Magazine article the FDA states: "Starch is back, along with fiber and all the other good-for-you nutrients in whole grains, legumes, and the once lowly potato. They are all good sources of today's nutritional darling complex carbohydrates." Finally, the Agency currently allows for the purchase of fruits and vegetables under the WIC program at farmers' markets. According to the Agency website: "In fiscal year 2005, 2.6 million WIC participants received farmers' market benefits. A variety of fresh, nutritious, unprepared, locally grown fruits, vegetables, and herbs may be purchased with FMNP coupons. Each State agency develops a list of fresh fruits, vegetables and herbs that can be purchased with FMNP coupons." As far as we know, white potatoes are not excluded from this program.

We therefore urge that white potatoes be included as eligible commodities in the final rule.

Sincerely,



Donald E. Flannery
Executive Director

Cc: Maine Potato Board



OCT 31 2006

October 31, 2006

I-60

Patricia Daniels, Director
Supplemental Food Programs Division
FNS, USDA
3101 Park Center Drive Room 528
Alexandria, VA 22302

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Monty Kilburn
Devansoy

Paul Lang
Natural Products, Inc.

Aaron Skyberg
SK Food International

Scott Stevens
WhiteWave Foods

Comments on RIN 0584-AD77 Special Supplemental Nutrition Program for Women, Infants and Children (WIC): Revisions to the WIC Food Packages

The members of the Soyfoods Association of North America (SANA) support the WIC Program and its goal of providing essential nutrients to children as well as to pregnant, breastfeeding and non-breastfeeding women at nutritional risk. SANA represents the interests of soybean farmers, soy processors, and manufacturers of soy foods.

USDA's bold move to provide WIC participants with a wide variety of foods will certainly enhance the programs effectiveness in meeting their nutritional needs and helping to prevent public health problems. As the USDA Food and Nutrition Service (FNS) reviews comments on the WIC food packages, SANA would like to comment on the following items:

1. The inclusion of calcium-set tofu, fortified soy-based beverages ("soymilk"), and canned legumes in the WIC food packages.
2. Opposition to medical documentation requirement for Package IV.
3. The use of the term soy beverage.
4. The proposed nutrient standards for fortified soy-based beverages ("soymilk").
5. Consumption of fortified soy-based beverages ("soymilk").
6. Cost of adding tofu and fortified soy-based beverages ("soymilk") as substitutes for liquid milk, and substituting canned legumes for dry legumes.
7. The calcium content and bioavailability in fortified soy-based beverages ("soymilk").
8. Timing and integrity of final WIC food package changes



1. The inclusion of calcium-set tofu, fortified soy-based beverages (“soymilk”) and canned legumes in the WIC food packages.

SANA recognizes the importance of having foods that are nutritionally and culturally appropriate for WIC participants. In the twenty-three years since the WIC packages were designed, the country has experienced dramatic population shifts in terms of ethnic and racial diversity, as well as changing attitudes toward consumption of soy foods. SANA applauds USDA for including calcium-set tofu, fortified soy-based beverages (“soymilk”) and canned legumes into WIC food packages to accommodate WIC participants with cultural food preferences.

Ounce for ounce, fortified soy-based beverages (“soymilk”) and calcium-set tofu provide economical, healthy sources of protein, calcium, fiber and other important nutrients without increasing cholesterol and saturated fat content of participant’s diets. By allowing women and children from ages one to four the option to choose fortified soy-based beverages (“soymilk”) and calcium-set tofu instead of liquid milk, the WIC program better serves a diverse population. Allowing women and children to substitute canned beans, including soybeans, for dry legumes provides more flexibility in the WIC food packages. In addition, soy foods help the Federal government fulfill its commitment to ensure that all WIC participants have access to high quality, nutritious foods that boost growth, development and health.

We applaud USDA for considering: recent national trends in the popularity, acceptance, and consumption of soy foods; data on the nutritional profile of calcium-set tofu and fortified soy-based beverages (“soymilk”); and information on the contribution of saturated fat from animal products and the development of atherosclerosis in children and adults; in making decisions about adding soy foods to the WIC food package. In addition to considering nutritional deficiencies, we applaud USDA for considering the contribution of WIC foods to dietary components typically consumed in excess such as saturated fat, cholesterol, sodium, and calories in designing packages. SANA appreciates that the USDA took into account the Institute of Medicine’s (IOM) recommendation that, “Including foods in the WIC packages that are commonly consumed and widely available, accommodate[s] cultural preference, and encourages WIC participation.”¹ Fortified soy-based beverages (“soymilk”) and calcium-set tofu are healthy protein replacements for liquid milk and milk products.

Figure 1, *Racial/Ethnic Profile of the WIC Population* illustrates how the proportions of ethnic groups including Asians or Pacific Islanders, Hispanic, and African American WIC participants have grown 37 percent from 1992 to 2004.² SANA believes it is important to

¹ Federal Register/Vol. 71 No. 1512/Monday, August 7, 2006/Proposed Rule, page 44825.

² Ibid. page 44825.



recognize these racial and ethnic populations and accommodate their customs towards different food types. By offering a variety of foods, WIC food packages reach a wider section of the population.

With this in mind, SANA appreciates USDA including calcium-set tofu and fortified soy-based beverages ("soymilk") in WIC packages. SANA agrees that, "allowing tofu and soy beverages ("soymilk") as substitutes for milk may help ensure adequate calcium intake by individuals who do not or cannot consume milk." "These products are culturally preferable to milk with some groups and may be consumed by individuals with [milk allergies] and lactose maldigestion."³ Cow's milk allergy is estimated to affect between 2% and 5% of infants and children.⁴ SANA agrees this rationale ensures WIC participants who suffer from severe lactose maldigestion, dairy allergies, or avoid milk because of cultural, religious, or additional reasons for avoiding milk, such as vegan diets, continue to receive the appropriate amount of calcium outlined by the *2005 Dietary Guidelines*. Early introduction of soy also gives a growing number of children a nutrient-dense alternative for those who have food allergies, lactose intolerance, or religious or cultural requirements for a special diet. This helps all children work towards eating a balanced diet. Calcium-set tofu and fortified soy-based beverages ("soymilk") have been found to provide comparable amounts of absorbable calcium as cow's milk.⁵

SANA is pleased USDA included fortified soy-based beverages ("soymilk") and calcium-set tofu in *Package IV—Children 1 through 4 years*. By allowing children soy products as a substitute for liquid milk, USDA is helping children with certain medical conditions and cultural or religious preferences secure adequate calcium intake during formative years; however, the requirement for medical documentation presents an unnecessary and unjustified barrier for these children to participate.

In addition, SANA agrees with the rationale for the USDA's inclusion of canned legumes which states, "[Allowing canned beans] accommodates participant preference and may encourage consumption because canned beans can be prepared more quickly than dried beans."⁶ For non-dairy users, this additional source of calcium contributes to the required amount.

³ Ibid. page 44828.

⁴ U.S Food and Drug Administration, Center for Safety and Applied Nutrition, The Threshold Working Group. Approaches to Establish Thresholds for Major Food Allergens and for Gluten in Food, Table II-2 Allergen Prevalence in the U.S. Accessed at <http://www.cfsan.fda.gov/~dms/alrgn2.html#ij> on October 11, 2006.

⁵ Zhao Y; Martin BR, Weaver CM. Calcium bioavailability of calcium carbonate fortified soymilk is equivalent to cow's milk in young women. *J Nutr.* 2005 Oct;135(10):2379-82.

⁶ Federal Register op. cit. page 44829.



Overall, the proposed substitutions for calcium-set tofu, fortified soy-based beverages (“soymilk”) and canned legumes help the WIC food packages become more flexible, effective, and health promoting. SANA recognizes that WIC is administered federally through state grants, and we believe that meeting the goals for the *Dietary Guidelines* requires flexibility in healthy food choices dictated by the clients’ needs and preferences. The proposed rule would allow states to more efficiently and effectively meet the needs of their diverse populations.

2. Opposition to medical documentation requirement for Package IV.

SANA is pleased the USDA included fortified soy-based beverages (“soymilk”) and calcium-set tofu in Package IV—children 1 through 4 years; **however, SANA strongly disagrees with the USDA’s required medical documentation for these alternative sources of calcium and requests removal of such a requirement.** By allowing children soy products as a substitute for liquid milk, the USDA is helping children with health issues related to milk consumption and cultural or religious preferences obtain adequate calcium intake during formative years. A study in the *American Journal of Clinical Nutrition* confirms that soy products are consumed by 90% of healthy Asian children, with 95% of these children consuming soy food before 18 months of age. The use of tofu during weaning was preferred by many Asian mothers because of its availability, soft consistency, high palatability, and high nutritional value.⁷

SANA strongly recommends that medical documentation be removed as a requirement in *Package IV*. USDA includes fortified soy-based beverages (“soymilk”) as a substitute for cow’s milk in the *Food Guide Pyramid for Young Children, 1999*. In addition, the *2005 Dietary Guidelines* state that non-dairy, calcium-containing alternatives should be used by individuals who choose to avoid all milk products. The medical requirement unnecessarily restricts access to these dietary options. A study of food allergic children found that of offending food identified in 34 of 41 cases, cow’s milk was the most frequently reported cause (32%), followed by peanuts (29%), eggs (18%), tree nuts (6%) and soy (1%).⁸ This leads SANA to question the necessity of medical documentation for soy products, but not for other common food allergens, such as milk and eggs.

SANA disagrees with the advice in the IOM report that “soy products (i.e., tofu, soy-based beverage [“soy milk”]) are not allowed as substitutions for milk in the children’s package except when prescribed in writing by a Recognized Medical Authority (RMA). Nutrition

⁷ Quak SH, Tan SP. Use of soy-protein formulas and soyfood for feeding infants and children in Asia. *Am J Clin Nutr.* 1998;68:1444S-1446S.

⁸ Nowak-Wegrzyn A, Conover-Walker MK, Wood RA. Food-allergic reactions in schools and preschools. *Arch Pediatr Adolesc Med.* 2001;155:790-5.



education may be needed to help parents or guardians guard against nutritional risk if they offer their child substitutes for milk.”⁹ The IOM report does not cite or provide medical evidence or scientific references to support this statement. On the contrary, consuming fortified soy-based beverages (“soymilk”) and calcium-set tofu during childhood has been shown to promote growth and boost bone health of children world wide.^{10,11} Fortified soy products (tofu, fortified soy-based beverages [“soymilk”]) are good sources of high quality protein, calcium, vitamin A, vitamin D, riboflavin and phosphorus, as well as many other vitamins and minerals such as iron. Additionally, soy products contain no cholesterol and are low in saturated fat.

Furthermore, WIC is a program for low-income women, infants and children. Women participating in the program may or may not have access to medical care. Women that prefer not to have their child consume dairy products for cultural, religious, or other reasons, may not be able to afford either the expense, inconvenience, or burden of a doctor’s visit. Unfortunately, the medical documentation requirement may lead to the repercussion of a child not consuming any calcium-containing products. This would be a dire consequence, particularly in an age group when receiving the proper nutrition for growth and development is crucial.

3. The use of the term soy beverage.

The Soyfoods Association of North America (SANA) regrets that USDA has chosen to use the term soy beverage when referring to “soymilk.” The “soymilk” terminology was first used in 1896 by Henry Trimble in the *American Journal of Pharmacy*.¹² In 1910, Li Yu-ying, established the first soy dairy and received a patent for soymilk in Great Britain.¹³ Three years later, he received a patent for soymilk in the United States and by 1917 soymilk was produced by J. A. Chard Soy Products in New York City. By 1950, soymilk appeared on grocery shelves bottled for national distribution by Vitasoy, and sales of the product known as “soymilk” have steadily increased. The chart below¹⁴ demonstrates the significant growth of soymilk in the United States, as consumers recognize its health benefits and seek

⁹ Institute of Medicine, Food and Nutrition Board, Committee to Review WIC Packages. *WIC Food Packages: Time for a Change*. Washington: The National Academies Press, 2006, page 98.

¹⁰ Zhao Y, Martin BR, Weaver CM. Calcium bioavailability of calcium carbonate fortified soymilk is equivalent to cow’s milk in young women. *J Nutr*. 2005;135:2379-82.

¹¹ Weaver CM, Plawecki KL. Dietary calcium: adequacy of a vegetarian diet. *Am J Clin Nutr* 1994; 59(suppl):1238S-41S.

¹² Trimble H. Recent literature on the soja bean. *American J. of Pharmacy*. 1896;68:309-13.

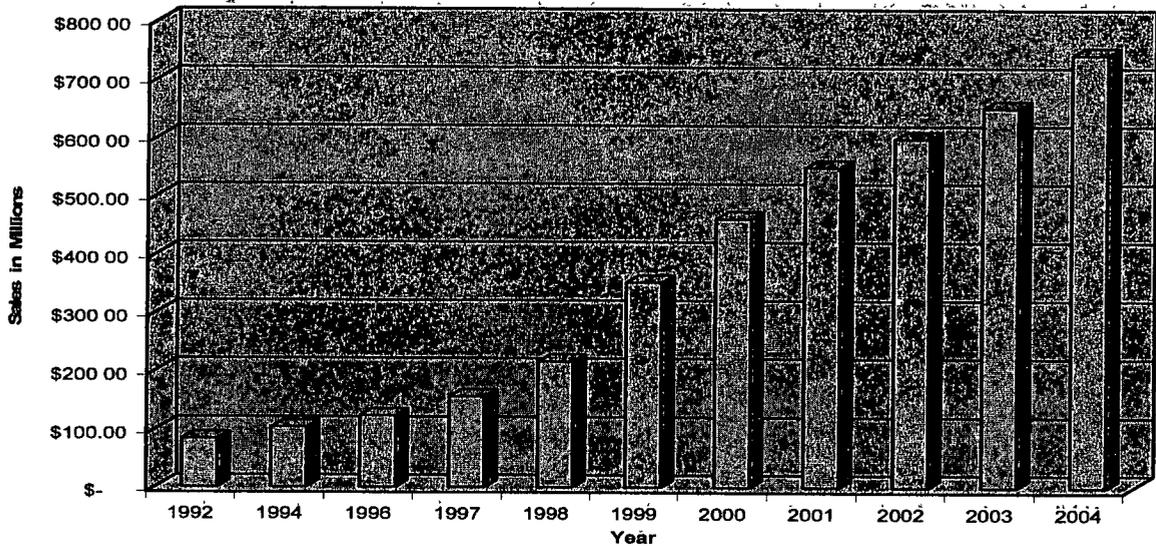
¹³ Piper CV, Morse WJ. The soy bean with special reference to its utilization for oil, cake and other products. *U.S.D.A. Bulletin* No. 439. Dec. 22, 1916. p. 9; Horvath, A.A. 1927. The soybean as human food. Chinese Government Bureau of Economic Information, Booklet Series, No. 3. p. 47.

¹⁴ Compiled from data in *Soyfoods: The U.S. Market 2005*, published by Soyatech, Inc. and SPINS.



nutritious alternatives to dairy products because of allergies, intolerances, cultural, or religious practices.

Soymilk Sales in the U.S. 1992-2004



The earliest reference to “soymilk” was in 1665 by Domingo Fernández de Navarrette who served as a Dominican missionary in China.¹⁵ One hundred years later (1790), there was a reference to “soymilk” by a missionary in Vietnam.¹⁶ The use of TetraPak packaging permitted “soymilk” to be sold without refrigeration which led to a spread of this product throughout Asia, Australia, Europe, as well as the United States. Asian countries, especially Japan, Singapore, Thailand, Malaysia, and Taiwan, universally use the term “soymilk.”

SANA believes if the term “soy-based beverage” is used, WIC participants born in the U.S. and in many of the countries where the term “soymilk” is prevalent will be confused and, perhaps, misled by this unfamiliar term. USDA has used the term, “soymilk” in many previous documents and should be consistent in using this term in the proposed rules for revisions in the WIC food packages. The nutritional composition of “soy milk” was listed in the 1977 *Home and Garden Bulletin* 208.¹⁷ In the 1986, USDA Agriculture Handbook No. 8-16, the authors acknowledge that “soymilk” is produced commercially in the United States and they include a page of nutritional values (including 2.75% protein) for SOYMILK, Fluid. The current National Nutrient Database for Standard Reference has several entries for “soy

¹⁵ Navarrete DF. A Collection of Voyages and Travels. London: Published by the author, 1665, pp. 251-52.

¹⁶ Loureiro J. The Flora of Cochin China, Vol. 2, Lisbon, Portugal, 1790, pp. 441-42.

¹⁷ U.S. Department of Agriculture, Agricultural Research Service Consumer and Food Economics Research Division. *Home and Garden Bulletin* 208: Soybeans in Family Meals, June 1974.



milk fluid,” “soy milk fluid chocolate flavor,” and “soy milk fluid and calcium-fortified.”¹⁸ Clearly, USDA has recognized the commercial use of the term “soymilk” which would be the common and usual name WIC recipients would encounter.

4. The proposed nutrient standards for fortified soy-based beverages (“soymilk”).

While SANA applauds USDA for including fortified soy-based beverages (“soymilk”) as a substitute for liquid milk in WIC food packages for children and women who can not or do not drink milk and need a nutritious source of calcium, we have strong concerns about the proposed nutrient requirements for fortified soy-based beverages (“soymilk”) to be authorized for purchase by WIC participants. SANA understands the nutrient requirements were determined using whole milk as a benchmark, but the nutrient levels are not consistent with nutritional concerns of the program or calcium-fortified products in the marketplace.

A) Minimum protein nutrient requirement for WIC authorization.

SANA has concerns about the proposed minimum 8 grams of protein required for fortified soy-based beverages (“soymilk”) to be authorized for the WIC program because there are no calcium-fortified soymilks on the national market that meet this 8 gram protein requirement.

a. *Fortified soy-based beverages (“soymilk”) in the marketplace offer equivalent calcium to non- dairy drinkers.*

Fortified soy-based beverages (“soymilk”) provide an equivalent amount of calcium as fluid milk which is a key ingredient for WIC participants. Setting a level of protein that will require fortification of currently available fortified soy-based beverages (“soymilk”) is not justified for a milk substitute identified for its calcium contribution and could result in many of the WIC participants, for whom this soy-based beverage (“soymilk”) substitute was identified, not having these beverages available. The Institute of Medicine recognized that the ethnic composition of the 2002 WIC population totaled 61.8 percent, including 20.2 percent African American, 3.5 percent Asian/Pacific Islanders and 38.1 percent Hispanic.¹⁹ USDA further noted that participants representing these ethnicities have grown significantly from 1992 to 2004. These statistics suggest that a large proportion of the WIC population could

¹⁸ U.S. Department of Agriculture, Agricultural Research Service, USDA Nutrient Data. Laboratory. 2006. USDA National Nutrient Database for Standard Reference, Release 19. Found at: <http://www.nal.usda.gov/fnic/foodcomp/search/>.

¹⁹ Institute of Medicine, Food and Nutrition Board, Committee to Review WIC Packages: op cit., Figure 1-3, p. 1-9



fail to obtain the adequate calcium needed because they do not consume fluid milk for cultural and other reasons.

b. *Protein is not a priority nutrient.*

SANA supports USDA's use of the IOM priority nutrients that are lacking in the diet of WIC participants when adding foods to the packages, and is delighted USDA also focused on nutrients in excess supply in the diets of American children and adult women. The IOM designated a nutrient as a priority if it met one of three criteria: 1) the prevalence of dietary inadequacy was non-trivial, 2) the mean intake of the nutrient is below the Adequate Intake, or 3) there is a recognized nutrition-related health priority.²⁰ When following these criteria, the **IOM did not find protein to be a priority nutrient for WIC participants.** In fact, for the pregnant, lactating, and non-breastfeeding postpartum women category, protein was found to be a "nutrient with low levels of inadequacy," meaning the current levels of protein WIC participants receive are adequate or above adequate.²¹ In addition, the IOM's suggestion for reducing the maximum amount of eggs allowed in the WIC food packages uses rationale that states, "Protein is no longer a priority nutrient."²²

Furthermore, the *2005 Dietary Guidelines for Americans* do not list protein as a nutrient of concern for adults, children, adolescence, or specific population groups.²³ In fact, both *MyPyramid* and *The Dietary Guidelines* acknowledge that ½ cup of tofu (1 ounce) or one egg (1 ounce) is an appropriate choice from the Meat Group and that 1 cup of fortified soy-based beverages ("soymilk") or 1 cup of milk is an appropriate choice from the Milk Group.

Because protein is not deemed a priority nutrient by the IOM or the *2005 Dietary Guidelines for America*, **SANA asks that the USDA reconsider the nutrient standards for authorization of a soy-based beverage ("soymilk") and reduce the minimum nutrient requirement of protein from 8 grams per cup to 6.25 grams (labeled as 6 grams) of protein per 8 ounces, a level authorized by the FDA for a food to carry the health claim, "25 grams of soy protein a day, as part of a diet low in saturated fat and cholesterol, may reduce the risk of heart disease."**

c. *Reformulating products raises the cost to WIC participants.*

²⁰ Federal Register op. cit. page 44787.

²¹ Ibid. page 44788.

²² Ibid. page 44789.

²³ U.S. Department of Health and Human Services and U.S. Department of Agriculture. *Dietary Guidelines for America 2005, Chapter 2: Adequate Nutrients Within Calorie Needs*, accessed at: <http://www.health.gov/dietaryguidelines/dga2005/document/html/chapter2.htm>.



To assume that new products be developed and distributed for only 10% of the WIC population who USDA estimates might use these “specially” fortified beverages and who would not be equally distributed across the U.S. is not feasible or justifiable. One of the key requirements for WIC is availability. Overall, fortified soy-based beverages (“soymilk”) enjoy widespread distribution. Using SANA’s recommendation to establish the protein requirement for fortified soy-based beverages (“soymilk”) at the 6.25 gram level (labeled as 6 grams) per 8 ounce serving will have the beneficial result of allowing WIC participants ready access to fortified soy-based beverages (“soymilk”) in a variety of product formats (e.g., shelf stable and refrigerated) and a variety of branded and non-branded products across the nation.

B) Other nutrients specified in the nutrient standard for fortified soy-based beverages (“soymilk”).

USDA has specified a long list of nutrients in the nutrient standard that fortified soy-based beverages (“soymilk”) must meet to be authorized for the WIC food packages. SANA supports the inclusion of nutrients that are specified in the FDA nutrient standard for fluid milk (i.e., vitamin A, vitamin D), as identified by USDA, but opposes including other nutrients for which fluid milk has not been included in the WIC package. The inclusion of dairy products in the WIC package has been to increase the calcium levels, and USDA identifies calcium as a primary reason to include fortified soy-based beverages (“soymilk”).

SANA questions the reason for including additional nutrients, such as potassium, at levels just slightly above levels naturally found in most fortified soy-based beverages (“soymilk”) currently on the market. The addition of such nutrients, such as potassium at a level of 349 mg, in the soy-based beverage (“soymilk”) minimum nutrient standard to establish equivalency with whole milk does not seem justified. If potassium was an important nutrient for milk substitutes, cheese, with a potassium content of 37 mg per 1-1/3 ounces (a serving size equivalent to 8 ounces of milk), would not be an eligible substitute for milk, unless fortified.²⁴

Furthermore, the IOM recommended and USDA proposed an addition of fruits and vegetables to the WIC food packages to increase the priority nutrients such as potassium. It does not seem justified to require a serving of fortified soy-based beverages (“soymilk”) to be fortified with potassium to reach a level of 349 mg when that level is twice the

²⁴ U.S. Department of Agriculture, Agricultural Research Service, USDA Nutrient Data. Laboratory. 2006. USDA National Nutrient Database for Standard Reference, Release 19. Found at: <http://www.nal.usda.gov/fnic/foodcomp/search/> on October 11, 2006.



potassium level in one serving of a medium apple (148 mg of potassium).²⁵ Most fortified soy-based beverages (“soymilk”) currently contain approximately 250-300 mg of potassium. **SANA urges USDA to lower the minimum potassium requirement in authorized fortified soy-based beverages (“soymilk”) to 250 mg per 8 ounce serving.**

Other priority nutrients such as iron were not specified, but fortified soy-based beverages (“soymilk”) provide approximately 1-2 mg of iron per serving. Yet, liquid whole milk does not contain iron. In summary, the specific category of foods in the WIC food package or school meal patterns, such as milk should provide a common set of nutrients, such as calcium, vitamin A, and vitamin D, but a secondary set of nutrients will naturally differ.

5. Consumption of fortified soy-based beverages (“soymilk”).

SANA agrees with the USDA’s assumption that 10% of women will request fortified soy-based beverages (“soymilk”) and these individuals are most likely not to be current dairy consumers. AC Nielsen Homescan data for 2003 and the FNS evaluation of the 2002 WIC prescription dataset provide an adequate basis for the 10% estimate.²⁶

SANA also agrees with the USDA’s statement that, “...it is appropriate to assume a WIC participant preference for soy beverage (“soymilk”) is at or near the upper range of estimates of soy beverage (“soymilk”) consumption in the U.S. as a whole.”²⁷

SANA agrees that more up-to-date data would reduce uncertainties regarding the costs of the WIC food packages. SANA realizes that, should the assumed percentage of WIC participants who choose fortified soy-based beverages (“soymilk”) in actuality be closer to 5% or 15 % of the WIC population, there are potential cost implications. However, SANA applauds the USDA for holding firm to the IOM’s recommendation for soy-based beverage (“soymilk”) substitution, stating, “The IOM cites high rates of lactose maldigestion and low rates of cultural acceptability of milk among African American and Asian women as important factors in the decision to introduce substitutes for milk.”²⁸

SANA also believes that because the WIC food packages have been made “less sensitive to dairy price fluctuations,” by reducing the maximum amount of milk available in each food package and by reducing the total amount of milk that can be substituted, any potential cost

²⁵ Ibid. Accessed at: <http://www.nal.usda.gov/fnic/foodcomp/search/> on October 11, 2006.

²⁶ Federal Register, op. cit. page 44847.

²⁷ Ibid. page 44847.

²⁸ Ibid. page 44847.



implications for allowing soy-based beverage (“soymilk”) substitutes have been well considered and pose an unlikely threat.²⁹

SANA believes including fortified soy-based beverages (“soymilk”) as an alternative for fulfilling calcium needs greatly benefits those who USDA has identified are not users of milk or cheese. The revisions take into account the changing diversity of WIC users, some of whom are lactose intolerant or have allergies to bovine protein, others who choose fortified soy-based beverages (“soymilk”) for health or religious reasons. Therefore, including fortified soy-based beverages (“soymilk”), as referenced in the *Dietary Guidelines for Americans* will contribute to the health of all Americans.

6. Cost of adding calcium-set tofu and fortified soy-based beverages (“soymilk”) as substitutes for liquid milk, and canned legumes as a substitute for dry legumes.

SANA commends the USDA for proposing WIC food packages that are cost neutral without jeopardizing the goal of meeting the nutritional needs of diverse populations. When considering the numerous changes and allowed substitutions aimed to make the WIC packages more flexible and better equipped to serve an assorted population, the USDA should be congratulated on developing proposed WIC food packages that remain cost neutral.

SANA agrees with USDA’s economic analysis which considered the cost of fortified soy-based beverages (“soymilk”) and calcium-set tofu as substitutes for cheese and cow’s milk in context of costing the whole WIC food package for a specific age category. In addition, the cost analysis reported in the IOM report, *WIC Food Packages: Time for a Change*, found that fortified soy-based beverages (“soymilk”) and tofu were the lowest cost alternatives to milk in the WIC packages. USDA does recognize the volatile nature of the prices for dairy products as well as soy products in this proposal.

SANA appreciates that allowing calcium-set tofu and fortified soy-based beverages (“soymilk”) as substitutes for liquid milk has cost implications. However, we applaud the USDA for concluding that, 1) “The estimated amount of tofu that will be purchased by WIC participants is substantially lower than yogurt (a milk alternative) that costs almost 40% more than soy beverages (“soymilk”),³⁰ 2) “Soy beverages (“soymilk”) can serve as an alternative for all or part of fluid milk for adult women, making it a more cost effective substitute”³¹ and 3) “The net effect of this provision will be a reduction in the overall cost, due to the reduction in quantities [of milk] allowed and reduced substitution amounts [for milk].”³²

²⁹ Ibid. page 44846.

³⁰ Ibid. page 44786.

³¹ Ibid. page 44786.

³² Ibid. page 44835.



SANA agrees with USDA that fortified soy-based beverages (“soymilk”) and calcium-set tofu are the most cost-effective substitutions, especially for those who are non-dairy consumers. For dairy consumers, the only other alternative to milk is cheese that is about 88% higher in price than tofu and 100% higher than fortified soy-based beverages (“soymilk”), according to the IOM report.³³

SANA also realizes that allowing the substitution of canned legumes for dry legumes increase cost but USDA was prescient in permitting foods that need little or no preparation. We again applaud the USDA for concluding that, “...the cost of beans in the food packages is relatively small and this change will have a relatively modest effect on overall program cost.”³⁴

SANA agrees with the USDA’s cost estimate methodology that “tends to produce prescription estimates that are at or near the maximum quantities allowed under the revised packages.”³⁵ SANA believes that assuming the maximum quantities of substitutions helps ensure the overall cost neutrality of the WIC food packages.

Overall, SANA believes the USDA has done an outstanding job of weighing the costs and benefits of allowing a variety of food substitutions in the WIC food packages. All foods in the WIC packages are subject to wide variations in price from seasonal and regional differences and differences by retail outlets. Given the variability of costs for all foods, especially milk and cheese, the price differentiation between milk products and soy products can be quite negligible under some situations. SANA believes the result of the USDA’s analysis is a well-rounded proposal for changes in the WIC food packages that remain cost neutral and are increasingly effective in reaching diverse populations.

7. The calcium availability and bioavailability in fortified soy-based beverages (“soymilk”). According to the *1999 Review of the Nutritional Status of WIC Participants*,³⁶ WIC participating pregnant and non-breastfeeding women are not meeting 100% of the RDA for calcium. Additionally, the *2000 Study on WIC and the Nutrient Intake of Children (ERS)*,

³³ Institute of Medicine, Food and Nutrition Board, Committee to Review WIC Packages, op. cit. Table 5-4, p. 5-14.

³⁴ Federal Register op.cit. page 44837.

³⁵ Ibid. page 44840.

³⁶ Kramer-LeBlanc C, Mardis A, Gerrior S, Gaston N. Review of the Nutritional Status of WIC Participants. CNPP-8A. 1999. U.S. Department of Agriculture, Center for Nutrition Policy and Promotion. Accessed at <http://www.usda.gov/cnpp/Pubs/Wic/wic.PDF> on August 23, 2006.



*Food Assistance and Nutrition Research Report No. FANRR5*³⁷ indicated that more than half of all children did not meet the RDA for calcium, regardless of whether or not they participated in WIC. This study reported that the proportion of children failing to meet 100 % of the RDA for calcium is not significantly different in WIC participants versus income-eligible non-participants (54.5% and 56.9% respectively). The major calcium sources in the WIC food packages are milk and cheese, and WIC food packages generally provide >1,000 mg of calcium per recipient per day. Since many recipients are not meeting the RDA for calcium, this study suggests that these participants may not be consuming the calcium sources currently available in the WIC food packages. By allowing participants to choose fortified soy-based beverages (“soymilk”) and/or calcium-set tofu, USDA helps those not currently meeting their calcium needs improve their calcium intake from the WIC food packages.

SANA believes fortified soy-based beverages (“soymilk”) can provide optimal calcium nutrition to WIC participants not choosing dairy products. Fortified soy-based beverages (“soymilk”) contain at least the 276 mg. of calcium as specified in the WIC proposed minimum nutrient standard, and most exceed this level. Fortified soymilk has been shown to provide readily bio-available calcium and to be readily acceptable by children in school.³⁸ This study, which appeared in the *Journal of the American Dietetic Association*, also showed that children drinking fortified soymilk also receive more calcium per gram of saturated fat than those children consuming fluid milk, because of the low saturated fat content of soymilk. A recent study³⁹ published in the *Journal of Nutrition* compared the calcium bioavailability of cow’s milk and soymilk fortified with calcium and found that, whether fortified with calcium carbonate (CC) or tri-calcium phosphate (TCP), the calcium-fortified soymilk provided more absorbable calcium than equal amounts of cow’s milk. A 1994 study in the *American Journal of Clinical Nutrition* showed that there is only a 32-percent calcium absorption rate from cow’s milk, whereas fortified soymilk, tofu, and tempeh calcium absorption rate has been shown to be “excellent.”⁴⁰

Given these studies, SANA does not believe there is a question about the calcium bioavailability in fortified soy-based beverages (“soymilk”). Other recent studies concerning calcium availability and bioavailability in fortified soy-based beverages (“soymilk”) or other soy-based foods have used questionable sample methods and analytical methods that are not

³⁷ Oliverira V, Gundersen C, WIC and the Nutrient Intake of Children. Food Assistance and Nutrition Research Report No.5. 2000. U.S. Department of Agriculture, Food and Rural Economics Division, Economic Research Service. Accessed at <http://www.ers.usda.gov/publications/fanrr5/fanrr5.pdf> on August 23, 2006.

³⁸ Reilly JK, Lanou AJ, Barnard ND, Seidl K, Green AA, Acceptability of soymilk as a calcium-rich beverage in elementary school children, *J. Am. Diet. Assoc.* 2006; 106:590-593.

³⁹ Zhao Y, et al. op cit.

⁴⁰ Weaver CM, et al., op. cit.



representative of the entire soymilk category. SANA believes that current industry testing of fortified soy-based beverages ("soymilk") ensures that there is a reliable amount of calcium availability and bioavailability in fortified soy-based beverages ("soymilk") and that fortified soy-based beverages ("soymilk") are an excellent source of calcium for people who suffer from lactose maldigestion, have milk allergies, or avoid milk for cultural, religious, or other personal reasons.

8. Timing and integrity of final WIC food package changes

SANA congratulates USDA on this proposed rule for the WIC package and encourages USDA to adopt a deadline for publication of an interim final WIC rule by Spring of 2007. Because this is the first comprehensive revision to the WIC food packages in twenty three years, SANA feels it is important to quickly develop and implement a revised final WIC food package. SANA feels that, overall, the proposed WIC food packages encompass the goals the USDA set out to accomplish of providing consistency with the *Dietary Guidelines for Americans* and established dietary recommendations for infants and children, supporting improved nutrient intake, addressing emerging public health nutrition-related issues, and reinforcing the message of nutrition education. Many of the changes permit accommodating the needs of a diverse population and need to be put in place as soon as possible. Therefore, SANA asks the USDA to publish an interim final rule for the revised WIC food packages no later than the Spring of 2007.

To preserve the USDA proposed WIC food package revisions that meet the Dietary Guidelines and recommendations of IOM, SANA urges USDA to limit any adjustments in the food package choices to individual WIC participant instead of allowing states to tailor the food packages. Limiting the adjustments to individuals will protect the integrity of each of the food packages designed to meet differences in nutritional needs and ethnic diversity.

Conclusion

The Soyfoods Association of North America (SANA) agrees with the approach that USDA has taken to expand the choices of foods within the WIC food packages to ensure nutritional needs can be met for its widely diverse populations. USDA is also commended for crafting WIC food packages that address not only the nutritional deficiencies of its participants but also the public health problems arising in children and adult women served by WIC. For the first time, this extensive revision in the WIC food packages also meets the *Dietary Guidelines for Americans (2005)*.

SANA believes that expanding the milk alternatives to include fortified soy-based beverages ("soymilk") and calcium-set tofu will better ensure those WIC participants who do not choose dairy products have a source of the priority nutrient calcium and other important nutrients such as fiber and iron, without increasing saturated fat and cholesterol in their diets.



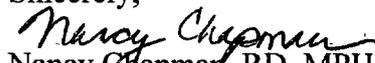
As USDA documented, there is a history of WIC participants who have not consumed dairy products because of cultural or lifestyle preferences, food allergies, or lactose maldigestion. Recent research has confirmed that the calcium in fortified soy-based beverages ("soymilk") is readily bioavailable.

Unfortunately, the nutrient standard proposed for fortified soy-based beverages ("soymilk") would most likely lead to limiting access for the very audience for which this substitute is identified. The proposed nutrient standard would require additional fortification of products on the market to supply protein (not a priority nutrient for WIC recipients identified by the IOM) and potassium (a priority nutrient supplied by the increased fruits and vegetables). These additions would require development of new fortified soy-based beverages ("soymilk") that may not be nationally available. Current fortified soy-based beverages ("soymilk") are available in 99% of supermarkets and thus easily found by WIC participants, but development and distribution of fortified soy-based beverages ("soymilk") meeting the USDA nutrient standards for anticipated small numbers of WIC participants may result in increases in costs of these fortified soy-based beverages ("soymilk") to WIC participants, thus effecting the overall cost neutrality of WIC food packages and accessibility to the fortified soy-based beverages ("soymilk") needed to supply calcium and other important key nutrients.

In addition, the medical documentation required for fortified soy-based beverages ("soymilk") and calcium-set tofu for children in Package IV would most likely hinder WIC participants from obtaining this much needed alternative source of calcium. It is more likely that WIC participants, especially persons with religious, cultural, or personal beliefs, will simply not receive a source of calcium rather than assume financial burden of obtaining medical documentation for alternative sources of calcium. A government program, such as the WIC food packages, designed to serve a wide variety of people, should not place a needless burden upon its participants that limits accessibility. SANA believes the USDA proposed medical documentation for Package IV limits accessibility of milk alternatives for WIC participants and that this limitation should be removed.

The Soyfoods Association of North America thanks the USDA for this opportunity to comment on the proposed rule for the WIC food packages. SANA asks the USDA to consider strongly all of the above comments and prepare and release an interim final rule for the WIC food packages by Spring 2007.

Sincerely,


Nancy Chapman, RD, MPH
Executive Director

OCT 30 2006

Patricia N. Daniels
Director
Supplemental Food Programs Division
Food and Nutrition Service
United States Department of Agriculture
3101 Park Center Drive, Room 528
Alexandria, Virginia 22302

I-68

October 30, 2006

Re: Docket ID Number 0584-AD77, Women, Infants and Children Food Package Rule

Dear Ms. Daniels,

I commend the United States Department of Agriculture's Food and Nutrition Service for the proposed rule to revise regulations governing the Women, Infants and Children (WIC) food package to align the WIC food packages with the 2005 Dietary Guidelines for Americans and current infant feeding practice guidelines of the American Academy of Pediatrics. Further goals are to better promote and support the establishment of successful long term breastfeeding and to provide WIC participants with a wider variety of highly nutritious food.

I believe that the inclusion and authorization of canned salmon in the proposed WIC food package III and VII for women fully breastfeeding is a very positive enhancement of this food package. The inclusion of salmon is consistent with current recommendations and new scientific evidence that seafood consumption, especially fish that naturally contain more oil (e.g., salmon) that are higher in eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), is desirable for the health of all population groups and life stages, which includes the unique nutritional needs of the WIC target population.

In addition to including canned salmon in packages III and VII women for who are fully breastfeeding up to 1 year postpartum, I recommend and request the inclusion and authorization of canned salmon for all target groups under WIC Food Package III and IV (i.e., children 1 through 4 years of age), V (i.e., pregnant and partially breastfeeding women – up to 1 year postpartum), and VI (i.e., women, up to 6 months postpartum) because all of these food packages are intended for population groups that would benefit from increased intake of seafood with higher quantitative amounts of EPA/DHA. The tables with a full description of the proposed rule food packages can be found in Attachment A. My rationale for this recommendation is described herein.

On October, 17, 2006, the Institute of Medicine (IOM) of the National Academies, Washington, D.C., released a report "Seafood Choices: Balancing Benefits and Risks," in which the IOM reviewed the evidence on the benefits and risks associated with seafood consumption to help consumers make informed choices and to make recommendations on ways to guide U.S. consumers in making appropriate selections.

In this report, the IOM identified many benefits related to seafood consumption and EPA and/or DHA intake during developmental stages (i.e., pregnancy and/or lactation, infancy and/or childhood) based on clinical trials and epidemiological studies. Some of the potential benefits included: increased duration of gestation; improved infant and child developmental outcomes; cognitive benefits for the children when they were 4 or 5 years of age; benefits for infant and child neurological development; and increased infant visual acuity.

Additionally, the IOM developed seafood consumption guidance for population groups based upon both the benefits and risks of contaminant exposure (e.g., exposure to methyl mercury and other contaminants and pollutants in seafood). This guidance indicates that for females who are or may become pregnant or who are breastfeeding and children up to the age of 12 may benefit from consuming seafood, especially those with relatively higher concentrations of EPA and DHA with some limitations as to quantity consumed (i.e., up to 12 ounces/week and up to 6 ounces albacore tuna/week) and avoid large predatory fish (e.g., shark, swordfish, tilefish, or king mackerel). As compared to many other varieties of seafood, salmon contains the least amount of methyl mercury.

Among fish with high EPA/DHA content, salmon is included with those fish that have the highest concentration per serving. Canned salmon contains 0.718g (718mg) EPA (20:5 n-3) and 0.685g (685mg) DHA (22:6 n-3) per 3 ounce (85g) serving. Also, canned salmon contains a variety of other healthful nutrients, such as high-quality protein, calcium, selenium, niacin, vitamins B-6, B-12, and D. Several of these nutrients have been identified in the proposed rule as inadequate in the pregnant, lactating, and non-breastfeeding postpartum women (i.e., protein, calcium, niacin, and vitamin B-6). Saturated fat has been identified as a nutrient with excessive consumption among both children and women. Salmon contains lower amounts of saturated fat than many foods. Additionally, Salmon contains only 118 calories per 3 ounce serving, which makes salmon a nutrient dense food. The nutrient content data referred to herein is based on the nutrition profile in Attachment B adapted from: *U.S. Department of Agriculture, Agricultural Research Service, 2006. USDA Nutrient Database for Standard Reference, Release 19.*

Finally, the addition of canned salmon would enhance the variety of foods offered to the WIC target groups and could positively influence life-long dietary choices for both the women and children in the program. The State of Alaska can facilitate consumer consumption of canned salmon by providing to WIC a variety of economical, tasty salmon recipes that are easy to prepare by a culturally diverse population. The State of Alaska also will provide consumer education materials regarding the benefits of salmon and seafood in a healthful diet.

Respectfully,



Charles B. Gordon
CEO, Finest Kind Seafoods

Attachment A

Federal Register/Vol. 71, No. 151, Monday, August 7, 2006/Proposed Rules at 44817 - 44819

TABLE 2.—MAXIMUM MONTHLY ALLOWANCES OF SUPPLEMENTAL FOODS FOR CHILDREN AND WOMEN IN FOOD PACKAGES IV, V, VI AND VII

Foods ¹	Children	Women		
	Food package IV: 1 through 4 years	Food package V: Pregnant and partially breastfeeding (up to 1 year postpartum) ²	Food package VI: Postpartum (up to 6 months postpartum) ³	Food package VII: Fully breastfeeding (enhanced), (up to 1 year postpartum) ^{4,5}
Juice, single strength ⁶	126 fl oz	144 fl oz	96 fl oz	144 fl oz.
Milk, fluid	16 qt ^{7,8,9,10}	22 qt ^{7,8,11,12}	16 qt ^{7,8,11,12}	24 qt ^{7,8,11,12}
Breakfast cereal	96 oz	36 oz	36 oz	36 oz.
Cheese	N/A	N/A	N/A	1 lb.
Eggs	1 dozen	1 dozen	1 dozen	2 dozen.
Fruits and vegetables ^{13,14}	\$8.00 in cash value vouchers.	\$8.00 in cash value vouchers.	\$8.00 in cash value vouchers.	\$8.00 in cash value vouchers.
Whole wheat bread or other whole grains ¹⁵	2 lb	1 lb	N/A	1 lb.
Fish (canned)	N/A	N/A	N/A	30 oz.
Legumes, dry ¹⁶	1 lb	1 lb	1 lb	1 lb.
And/or Peanut butter	Or 18 oz	And 18 oz	Or 18 oz	And 18 oz.

TABLE 3.—MAXIMUM MONTHLY ALLOWANCES OF SUPPLEMENTAL FOODS FOR CHILDREN AND WOMEN IN FOOD PACKAGE III

Foods ¹	Children	Women		
	1 through 4 years	Pregnant and partially breastfeeding (up to 1 year postpartum) ²	Postpartum (up to 6 months postpartum) ³	Fully breastfeeding (enhanced), (up to 1 year postpartum) ^{4,5}
Juice, single strength ⁶	126 fl oz	144 fl. oz	96 fl. oz	144 fl. oz.
WIC Formula ^{7,8}	455 fl. oz. liquid concentrate.	455 fl. oz. liquid concentrate.	455 fl. oz. liquid concentrate.	455 fl. oz. liquid concentrate.
Milk	16 qt ^{9,10,11,12}	22 qt ^{9,10,13,14}	16 qt ^{9,10,13,14}	24 qt ^{9,10,13,14}
Breakfast cereal ¹⁵	96 oz	36 oz	36 oz	36 oz.
Cheese	N/A	N/A	N/A	1 lb.
Eggs	1 dozen	1 dozen	1 dozen	2 dozen.
Fruits and vegetables ^{16,17}	\$8.00 in cash value voucher.	\$8.00 in cash value vouchers.	\$8.00 in cash value vouchers.	\$8.00 in cash value vouchers.
Whole wheat bread ¹⁸	2 lb	1 lb	N/A	1 lb.
Fish (canned)	N/A	N/A	N/A	30 oz.
Legumes, dry ¹⁹	1 lb	1 lb	1 lb	1 lb.
And/or Peanut butter	Or 18 oz	And 18 oz	Or 18 oz	And 18 oz.

Attachment: B**Fish, salmon, canned, solids with bone and liquid**

Refuse: 0% USDA National Nutrient Database for Standard Reference, Release 19 (2006)

NDB No: 15084 (Nutrient values and weights are for edible portion)

Nutrient	Units	1.00 X 3 oz
		85g
Proximates		
Water	g	58.49
Energy	kcal	118
Energy	kJ	495
Protein	g	16.81
Total lipid (fat)	g	5.14
Ash	g	2.21
Carbohydrate, by difference	g	0.00
Fiber, total dietary	g	0.0
Sugars, total	g	0.00
Minerals		
Calcium, Ca	mg	181
Iron, Fe	mg	0.71
Magnesium, Mg	mg	29
Phosphorus, P	mg	280
Potassium, K	mg	277
Sodium, Na	mg	471
Zinc, Zn	mg	0.78
Copper, Cu	mg	0.087
Manganese, Mn	mg	0.017
Selenium, Se	mcg	28.2
Vitamins		
Vitamin C, total ascorbic acid	mg	0.0
Thiamin	mg	0.020
Riboflavin	mg	0.158
Niacin	mg	5.556
Pantothenic acid	mg	0.468
Vitamin B-6	mg	0.255
Folate, total	mcg	13
Folic acid	mcg	0
Folate, food	mcg	13
Folate, DFE	mcg_DFE	13
Vitamin B-12	mcg	3.74
Vitamin B-12, added	mcg	0.00
Vitamin A, IU	IU	48
Vitamin A, RAE	mcg_RAE	14
Retinol	mcg	14
Vitamin E (alpha-tocopherol)	mg	0.54
Vitamin E, added	mg	0.00
Tocopherol, beta	mg	0.00
Tocopherol, gamma	mg	0.00
Tocopherol, delta	mg	0.00
Vitamin D	IU	530
Vitamin K (phylloquinone)	mcg	0.3

Lipids		
Fatty acids, total saturated	g	1.305
4:0	g	0.000
6:0	g	0.000
8:0	g	0.000
10:0	g	0.000
12:0	g	0.000
14:0	g	0.041
16:0	g	1.148
18:0	g	0.115
Fatty acids, total monounsaturated	g	1.536
16:1 undifferentiated	g	0.396
18:1 undifferentiated	g	0.908
20:1	g	0.231
22:1 undifferentiated	g	0.015
Fatty acids, total polyunsaturated	g	1.742
18:2 undifferentiated	g	0.049
18:3 undifferentiated	g	0.049
18:4	g	0.115
20:4 undifferentiated	g	0.065
20:5 n-3	g	0.718
22:5 n-3	g	0.041
22:6 n-3	g	0.685
Cholesterol	mg	47
Amino acids		
Tryptophan	g	0.189
Threonine	g	0.737
Isoleucine	g	0.775
Leucine	g	1.367
Lysine	g	1.544
Methionine	g	0.498
Cystine	g	0.180
Phenylalanine	g	0.656
Tyrosine	g	0.568
Valine	g	0.866
Arginine	g	1.006
Histidine	g	0.495
Alanine	g	1.017
Aspartic acid	g	1.722
Glutamic acid	g	2.510
Glycine	g	0.807
Proline	g	0.594
Serine	g	0.686