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**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.”<sup>1</sup> 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.<sup>2</sup> SANA believes it is important to 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.”<sup>3</sup> Cow’s milk allergy is estimated to affect between 2% and 5% of infants and children.<sup>4</sup> 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.<sup>5</sup>

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

<sup>2</sup> Ibid. page 44825.

<sup>3</sup> Ibid. page 44828.

<sup>4</sup> 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.

<sup>5</sup> 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.

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.”<sup>6</sup> For non-dairy users, this additional source of calcium contributes to the required amount.

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.<sup>7</sup>

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%).<sup>8</sup> 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 education may be needed to help parents

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<sup>6</sup> Federal Register op. cit. page 44829.

<sup>7</sup> 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.

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

or guardians guard against nutritional risk if they offer their child substitutes for milk.”<sup>9</sup> 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.<sup>10,11</sup> 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*.<sup>12</sup> In 1910, Li Yu-ying, established the first soy dairy and received a patent for soymilk in Great Britain.<sup>13</sup> 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 below<sup>14</sup> demonstrates the significant growth of soymilk in the United States, as consumers recognize its health benefits and seek nutritious alternatives to dairy products because of allergies, intolerances, cultural, or religious practices.

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<sup>9</sup> 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.

<sup>10</sup> 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.

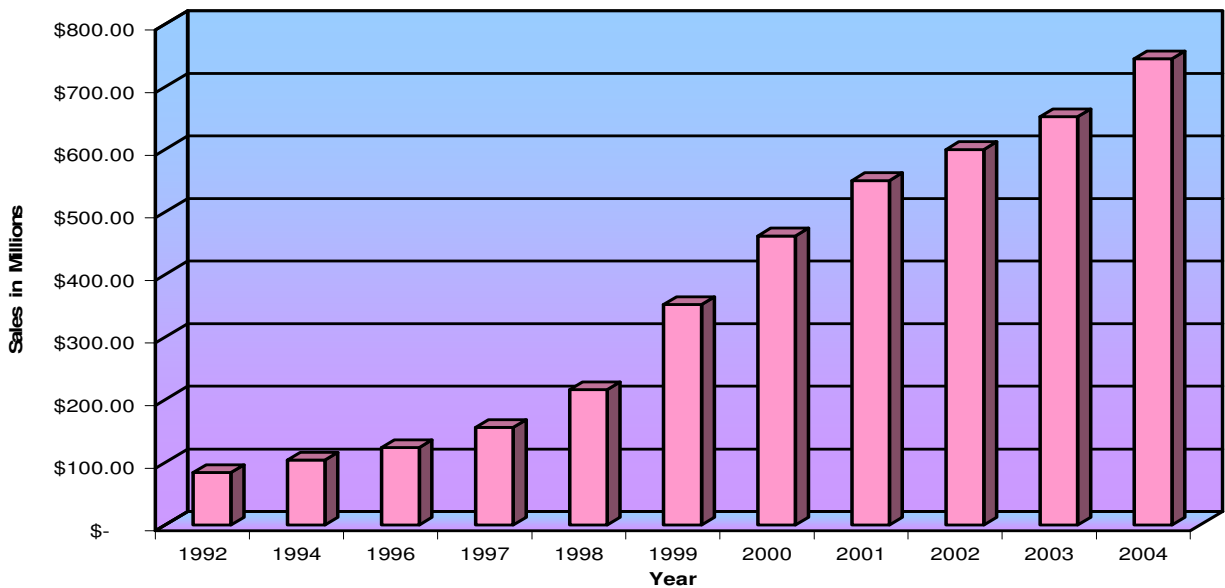
<sup>11</sup> Weaver CM, Plawecki KL. Dietary calcium: adequacy of a vegetarian diet. *Am J Clin Nutr* 1994; 59(suppl):1238S-41S.

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

<sup>13</sup> 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.

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

Soymilk Sales in the U.S. 1992-2004



The earliest reference to “soymilk” was in 1665 by Domingo Fernandez de Navarrete who served as a Dominican missionary in China.<sup>15</sup> One hundred years later (1790), there was a reference to “soymilk” by a missionary in Vietnam.<sup>16</sup> 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.<sup>17</sup> 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 milk fluid,” “soy milk fluid chocolate flavor,” and “soy milk fluid and calcium-fortified.”<sup>18</sup> 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

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

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

<sup>17</sup> 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.

<sup>18</sup> 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/>.

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.<sup>19</sup> 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 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.<sup>20</sup> 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.<sup>21</sup> 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.”<sup>22</sup>

Furthermore, the *2005 Dietary Guidelines for Americans* do not list protein as a nutrient of concern for adults, children, adolescence, or specific population groups.<sup>23</sup> In fact, both *MyPyramid* and *The Dietary Guidelines* acknowledge that ½ cup of tofu (1 ounce) or one egg (1

<sup>19</sup> Institute of Medicine, Food and Nutrition Board, Committee to Review WIC Packages. op cit., Figure1-3, p. 1-9

<sup>20</sup> Federal Register op. cit. page 44787.

<sup>21</sup> Ibid. page 44788.

<sup>22</sup> Ibid. page 44789.

<sup>23</sup> 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>.

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.*

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.<sup>24</sup>

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 potassium level in one serving of a medium apple (148 mg of potassium).<sup>25</sup> Most fortified soy-based beverages (“soymilk”) currently contain approximately 250-

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<sup>24</sup> 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.

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

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.<sup>26</sup>

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.”<sup>27</sup>

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.”<sup>28</sup>

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

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

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<sup>26</sup> Federal Register, op. cit. page 44847.

<sup>27</sup> Ibid. page 44847.

<sup>28</sup> Ibid. page 44847.

<sup>29</sup> Ibid. page 44846.



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"),<sup>30</sup> 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"<sup>31</sup> 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]."<sup>32</sup>

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.<sup>33</sup>

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."<sup>34</sup>

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."<sup>35</sup> 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").

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<sup>30</sup> Ibid. page 44786.

<sup>31</sup> Ibid. page 44786.

<sup>32</sup> Ibid. page 44835.

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

<sup>34</sup> Federal Register op.cit. page 44837.

<sup>35</sup> Ibid. page 44840.

According to the *1999 Review of the Nutritional Status of WIC Participants*,<sup>36</sup> 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), Food Assistance and Nutrition Research Report No. FANRR5*<sup>37</sup> 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.<sup>38</sup> 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 study<sup>39</sup> 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.”<sup>40</sup>

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 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

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<sup>36</sup> 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.

<sup>37</sup> 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.

<sup>38</sup> 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.

<sup>39</sup> Zhao Y, et al. op cit.

<sup>40</sup>Weaver CM, et al., op. cit.

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,

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