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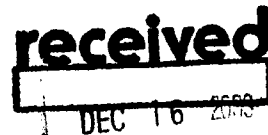
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Comments on RIN 0584-AD39 Special Supplemental Nutrition Program for Women, Infants and Children (WIC): Revisions to the WIC Food Packages

The members of the Soyfoods Association of North America (SANA) support the WIC Program and its goal of providing essential nutrients for low-income children as well as pregnant, breastfeeding and non-breastfeeding women. SANA represents the interests of soybean farmers, soy processors, and manufacturers of soyfoods. As the USDA Food and Nutrition Service (FNS) and the Institute of Medicine (IOM) Food and Nutrition Board (FNB) review the science behind the WIC food packages, SANA offers some suggestions for modification of the food packages and further research.

I. Which elements of the WIC food package should be kept the same?

- SANA recognizes that the WIC food packages were developed to enhance the diets of pregnant and breastfeeding women as well as children up to age 5 with key nutrients determined to be present in insufficient quantities in the diets of these populations.
- SANA supports the rationale behind using the nutrients lacking in the diet as the starting point for building the food package and urges the USDA and IOM to consider newer data collected through NHANES/CSFII to determine whether these target nutrients have changed over time.
- SANA also supports the utilization of the seven tailored food packages for various population groups which address the diverse nutritional needs of these groups.
- SANA recommends that the Department and IOM investigate the feasibility of WIC directors having more alternative foods in each core food package to select as sources of critical nutrients.
- SANA supports the continued offering of soy infant formula in the WIC program. Soy-based infant formula is a suitable choice for full-term infants when mothers cannot or choose not to breast feed and when cow's milk formula does not meet the infants' nutritional needs. In the US, soy-based infant formula accounts for approximately 25% of formula sales¹. The American Academy of Pediatrics endorses the use of soy-based infant formula for infants whose nutritional needs are not being met from maternal breast milk or cow's milk-based formulas, and the Food and Drug Administration has determined it is a safe and acceptable infant feeding formula. For full-term infants suffering from milk allergies or lactose intolerance, soy-based infant formula is a safe and cost-effective choice.



II. What changes, if any, are needed to the types of foods currently authorized 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 soyfoods.
- USDA and IOM might consider the need and feasibility of offering soyfoods as key sources of calcium and protein as well as other vitamins, minerals and bio-active components in the WIC food packages. We propose consideration of: (1) tofu as an option to provide high-quality protein as well vitamin D, calcium, vitamin A, iron, vitamin B12, and phosphorus for those who desire an alternative to eggs and (2) fortified soymilk as an option to provide calcium, protein, vitamin D, and vitamin A for those who prefer a non-dairy source of calcium in the WIC food packages. We are not encouraging the removal of eggs or cow's milk from the WIC program, but rather would like the IOM/FNB to consider allowing WIC recipients the OPTION to choose these soyfoods as part of their packages. We would also encourage an education program for WIC nutritionists so that they can effectively communicate the uses and nutritional qualities of tofu and fortified soymilk to their clients.
- We encourage USDA and IOM to consider recent national trends in the popularity, acceptance, and consumption of soyfoods; data on the nutritional profile of tofu and fortified soymilk; information on the contribution of saturated fat from animal products and the development of atherosclerosis in children and adults; and studies documenting the health benefits of soyfoods for both adults and children, in making decisions about what foods should be added to the WIC food package.
- In addition to considering nutritional deficiencies, we believe that the contribution of WIC foods to dietary components typically consumed in excess such as saturated fat, cholesterol, sodium, and calories should be considered when designing packages. Setting an upper limit on the amounts of these nutrients in the packages should also be a consideration of the panel.
- According to the *1999 Review of the Nutritional Status of WIC Participants*, 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 N. FANRR5* 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, it suggests that these participants may not be consuming the calcium sources currently available in the WIC food packages. Allowing participants to choose fortified soymilk and/or tofu with calcium may help those not currently meeting their calcium needs improve their calcium intake from the WIC food packages.

The 2000 DHHS and USDA Dietary Guidelines for Americans and the USDA Food Guide Pyramid for Young Children both highlight soyfoods as appropriate sources of protein and calcium in a

balanced diet. Both the *Food Guide Pyramid for Young Children* and *The Dietary Guidelines for Americans* 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 soymilk or 1 cup of milk is an appropriate choice from the Milk Group. We recommend that these guidelines which are based on current scientific and medical knowledge be utilized to allow for a more culturally appropriate and healthy WIC food package.

As USDA and the IOM contemplate issues surrounding improving the acceptability and health promoting potential of the WIC food packages, we ask that you consider that tofu and soymilk are affordable, easy sources of protein and calcium as well as other vitamins and minerals as detailed in Table 1. There has been extensive research supporting a positive role of soy protein and heart disease prevention which led the FDA to grant approval for the soy and heart disease health claim². Several ongoing health research projects on soyfoods suggest that the bio-active compounds may play a role in prevention of some cancers and osteoporosis. We have provided a list of some of these studies in section VII.

USDA and IOM may also want to consider establishing new criteria for foods to include in the WIC package to correspond more closely with *Healthy People 2010* goals. The *Healthy People 2010* report has identified the elimination of health disparities as one of its two overarching goals. According to the DHHS *Healthy People 2010* report “overweight and obesity are observed in all population groups, but obesity is particularly common among Hispanic, African American, Native American, and Pacific Islander women.” The *Healthy People 2010* goals outlined for nutrition include decreasing total fat, saturated fat, and sodium and increasing calcium and iron intake. Since the WIC program serves a low-income population where minority groups including African American, Hispanic/Latino American, Asian American, Pacific Islander, and American Indian and Alaskan Natives are disproportionately represented, the opportunity exists for the program to expand its food choices to include low-fat, low-sodium soy products that contain iron, calcium, high-quality protein, and no saturated fat. Allowing the choice of tofu and fortified soymilk would empower WIC clients—who are at higher risk for obesity and related co-morbidities than the general population—to make healthy food choices consistent with *Healthy People 2010* goals.

III. Should the quantities of foods in the current WIC food packages be adjusted?

The *1999 Review of the Nutritional Status of WIC Participants* did not consider saturated fat, total fat or total calories among the target nutrients/nutrients of concern, and thus these components were not presented in the nutritional analysis. However, Chart 3 detailing the nutritional content of current food WIC packages in *Federal Register/Vol. 68, No. 178/Monday, September 15, 2003* indicates that the various packages can provide between 17.9 and 23.8 grams of saturated fat per day. Based on a 2,000 kcal diet, the WIC food packages can easily meet or exceed the recommended limit for saturated fat (<10% of total calories). The high saturated fat content of the packages is especially disconcerting because WIC foods are designed to be supplementary to the normal diet which most likely contains saturated fat as well.

- SANA urges the USDA and technical experts on the Institute of Medicine’s Food and Nutrition Board to review current data available from nutrition surveys of the WIC population and national nutrition monitoring surveys (NHANES/CSFII) to determine the

appropriateness of the current quantities of saturated fat, total fat, total calories, and sodium consumed in the American diet and provided via the various WIC food packages.

- USDA and IOM should consider reevaluating quantities of whole milk, non-reduced fat cheese, and eggs for their contribution of saturated fat to the WIC food packages and consider alternative foods that provide key nutrients without contributing.
- USDA and IOM should also consider recommending that WIC nutritional advice emphasize the importance of total calorie intake and physical activity in weight maintenance as well as the health benefits of lowering saturated fat intake for both mothers and children.

IV. What nutrients should be established as priority nutrients for each category of WIC participant?

- SANA recommends that USDA and the IOM panel utilize national nutrition monitoring surveys to explore target nutrients of concern for each of the seven categories of WIC participant. We believe that the definition of target nutrients of concern should be broadened to include nutrients consumed in excess as well as those consumed in insufficient quantities.

As stated above, the *1999 Review of the Nutritional Status of WIC Participants* and the *2000 Study on WIC and the Nutrient Intake of Children (ERS), Food Assistance and Nutrition Research Report N. FANRR5* indicate that many categories of WIC participants are having difficulty meeting the RDA for calcium and we recommend that calcium remain a priority nutrient for all participants, especially the groups who continue to fall short of the RDA for calcium. Alternatives to the current calcium sources, as described in section I, should be considered to bolster calcium intakes of WIC recipients not meeting their calcium needs.

V. Can the WIC food packages be revised to have a positive effect on addressing overweight concerns?

- As the IOM has set Daily Recommended Intakes for energy, the relative contribution of WIC foods to energy intake should be examined. Less energy-dense foods that provide target nutrients should be considered as alternatives to help prevent overweight in WIC participating mothers and children.
- Atherosclerosis is a common co-morbidity of overweight and obesity that has been documented even in young children. Research related to soy protein and heart disease prevention should be reviewed and considered as a possible healthy alternative to provide protein and calcium in the WIC packages.
- Because obesity and overweight are the number one nutritional problems in children in the U.S., the WIC program should include foods that help combat this issue. The prevalence of obesity and overweight is growing in children ages 1-5 (WIC coverage age) as well. Adding soyfoods to the diets of kids can make an impact on a child's weight. Protein is associated with greater satiety and may help children with appetite control.

VI. Are there other concerns that affect foods issued through the WIC food packages that should be considered in designing the food packages?

- SANA urges USDA and the IOM panel to consider the cultural appropriateness of the WIC food packages. Considering that some minority groups are low consumers of dairy,

especially Asian Americans and African Americans, it may be desirable to offer recipients several non-dairy sources of calcium.

- Over the years, the number of Americans seeking soyfoods has increased dramatically. Soy milk sales have grown from \$100 million in 1995 to nearly \$600 million in 2002. Tofu sales have grown from \$108 million in 1992 to \$250 million in 2002³. According to the United Soybean Board's 2003-2004 Consumer Attitudes Report, regular usage of soy milk increased from 14% to 17% in 2003⁴. These trends clearly indicate the increasing interest in consuming soy by the American public. If the WIC program is to continue to be regarded as a health resource by the public, available foods must evolve to reflect current nutrition knowledge about health promoting foods and to meet changing consumer expectations.
- Cow's milk allergy is estimated to affect between 2% and 5% of infants and children. USDA and the IOM panel may consider reviewing the research on cow's milk and egg allergies to determine if offering soy-based alternatives would likely increase the positive nutritional impact of the program.
- The panel should consider the feasibility of adding alternatives to dairy foods and allow WIC nutritionists to decide which products to offer their WIC participants.

VII. What data and/or information should the Department consider in making decisions regarding revisions to the WIC food packages?

We ask that the Department and the IOM/FNB consider the following studies:

- Results of this study confirm that soy products are consumed by 90% of healthy Asian children, with 95% of these children consuming soyfood before 18 months of age. The use of tofu during weaning was more preferred by many Asian mothers because of its availability, soft consistency, high palatability, and high nutritional value. Quak SH, Tan SP. Use of soy-protein formulas and soyfood for feeding infants and children in Asia. *Am J Clin Nutr.* 1998 Dec;68(6 Suppl):1444S-1446S. http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9848514&dopt=Abstract
- In order for the FDA to approve the soy and heart disease health claim, hundreds of studies on soy were reviewed. This extensive review confirmed the health and safety of soy and the ability of soy protein to have a positive effect on heart health. Food and Drug Administration. Food Labeling: health claims; soy protein and coronary heart disease. *Fed Reg* Oct 26, 1999;64(206) [21 CFR Part 101].
- Dr. Enders evaluated acceptance of soy-enhanced lunches compared with traditional menus by preschool children. Soy-enhanced foods were substituted on a traditional cycle menu, and the amount eaten, energy, and nutrient values for traditional and soy-enhanced lunches were compared. The researchers concluded that preschool programs can substitute soy-enhanced menus for traditional foods and add variety to the diet without sacrificing taste, energy, or nutrient value. Endres J, Barter S, Theodora P, Welch P. Soy-enhanced lunch acceptance by preschoolers. *J Am Diet Assoc.* 2003 Mar;103(3):346-51. http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12616257&dopt=Abstract
- A recent study of women with marginal iron deficiency showed that iron from soybeans was well absorbed. The absorption was measured at 27% and the authors concluded that

soybeans appear to be a good source of nutritional iron in marginally iron-deficient individuals. Murray-Kolb LE, Welch R, Theil EC, Beard JL. Women with low iron stores absorb iron from soybeans. *Am J Clin Nutr.* 2003 Jan;77(1):180-4.

http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12499339&dopt=Abstract

- This study analyzed data from a population-based case-control of 1459 breast cancer cases and 1556 age-matched controls to explore the link between soyfood intake during adolescence and development of breast cancer. The researcher's results suggest that soy intake during adolescence may reduce the risk of breast cancer in later life. Shu XO, Jin F, Dai Q, Wen W, Potter JD, Kushi LH, Ruan Z, Gao YT, Zheng W. Soyfood intake during adolescence and subsequent risk of breast cancer among Chinese women. *Cancer Epidemiol Biomarkers Prev.* 2001 May;10(5):483-8.
http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11352858&dopt=Abstract
- Researchers conducted a population-based, case-control study of breast cancer among Chinese, Japanese and Filipino women in Los Angeles County to further investigate the role of soy. During 1995-1998, 501 breast cancer patients and 594 control subjects were interviewed. The researchers found higher soy intake in childhood in Asian-Americans is associated with reduced breast cancer risk. Risk may be further reduced by intake as an adult. Wu AH, Wan P, Hankin J, Tseng CC, Yu MC, Pike MC. Adolescent and adult soy intake and risk of breast cancer in Asian-Americans. *Carcinogenesis.* 2002 Sep;23(9):1491-6.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12189192&dopt=Abstract
- Thomas JM, Lutz SF. Soy protein lowers fat and saturated fat in school lunch beef and pork entrees. *J Am Diet Assoc.* 2001 Apr;101(4):461-3.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11320954&dopt=Abstract
- This study documents the prevalence and clinical symptoms of cow's milk allergy. Moneret-Vautrin DA. Cow's milk allergy. *Allerg Immunol (Paris).* 1999 Jun;31(6):201-10.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10443301&dopt=Abstract
- Effect of protein to aid in satiety: Eisenstein J, Roberts SB, Dallal G, Saltzman E. High-protein weight-loss diets: are they safe and do they work? A review of the experimental and epidemiologic data. *Nutr Rev* 2002, 60:189-200.
- Effect of early exposure to soyfoods and risk of breast cancer: Wu AH, Wan P, Hankin J, Tseng CC, Yu MC, Pike MC. Adolescent and adult soy intake and risk of breast cancer in Asian-Americans. *Carcinogenesis* 2002;23:1491-
Shu XO, Jin F, Dai Q, Wen W, Potter JD, Kushi LH, Ruan Z, Gao YT, SHeng W. Soyfood intake during adolescence and subsequent risk of breast cancer among Chinese women. *Cancer Epi Biomarker Prev* 2001;10:483-8.

We ask that the Department and IOM panel consider the following data on nutritional comparability of soy milk, tofu, eggs, and cow's milk:

1: Comparison of Key Nutrients

Food item	Svg. Size	Kcal	Pro	Fiber	Fat	Sat fat	Chol	E AE	A RE	B6	Folate (mcg)	B12	C Mg	Ca Mg	Mg Mg	Fe Mg	Zn Mg
Tofu ²	1 egg	75		0.0	5.0	1.6	213	0.5	96	0.1	24	0.5	0	25	5	0.7	0.6
	1/8 th block (40 g)	58.7	6.4	1	3.5	0.5	0	0	3.2	0	11.7	0	0	276	23.45	1.1	0.6
	1/5 th block (79 g)																
Milk, 3.5 to 3.8% fat	1 cup	150	8.0	0.0	8.1	5.1	33	0.2	76	0.1	12	0.9	2	291	33	0.1	0.9
Soy milk ³ (unfortified)	1 cup	120	9.1	3.1	5	0.5	0	0.025	4.9	0.1	4.9	0	0	9.8	0.417	1.4	0.6
Soy milk ⁴ (fortified)	1 cup	110	7	1	4	0.5	0	1.2	30	0	60	0.9	0	300	40	1.1	0.9
Soy milk Unsweetened ⁵ (fortified)	1 cup	80	7	0.5	4	0.5	0	1.2	30	0	60	0.6	0	300	40	1.1	0.9

¹ Based on USDA National Nutrient Database for Standard Reference Release #16 for "tofu, raw, firm, prepared with calcium sulfate"

² Based on nutritional profile of Nasoya Lite Firm Tofu.

³ Based on USDA National Nutrient Database for Standard Reference Release #16 for unfortified soy milk

⁴ Based on nutritional profile of Nasoya Creamy Original Soy milk

⁵ Based on nutritional profile of Nasoya Unsweetened Soy milk

III. Should participants be allowed greater flexibility in choosing among authorized food items?

SANA believes that participants should be granted the ability to choose among approved food items which provide the same key nutrients within the WIC food packages. The IOM panel and USDA should consider allowing participants to choose soyfoods (i.e. soymilk and tofu) as sources of calcium and protein that can be added to the WIC food packages to enhance the ability of the packages to provide culturally appropriate, heart-healthy foods to a diverse population.

IX. How can WIC food packages best be designed to effectively meet nutritional needs in culturally and ethnically diverse communities?

Considering that there are groups of WIC recipients who are still not meeting their daily requirement for calcium, any changes to the food packages that provide for flexibility in choosing ones own calcium source could be expected to improve calcium intake among the WIC population.

- USDA and IOM should review the CSFII data to determine the current sources of calcium and levels of dairy consumption based on income and ethnicity. CSFII data is currently only available for African Americans, Mexican Americans, Non-Hispanic White Americans, and Other Hispanic Americans.
- USDA and IOM should consider exploring research on dietary practices of Asian Americans, Pacific Islanders, and Native Americans as these population groups are growing within the American population and within the WIC program as well. Information on dietary practices of these groups is not currently available in the NHANES/CSFII data sets.

USDA and IOM may consider commissioning focus groups and surveys of groups who are underrepresented in national dietary surveys to better understand cultural food practices, opinions of different racial and ethnic groups toward the currently available WIC packages, and suggestions for improving the cultural appropriateness of the WIC food packages.

X. Should WIC State agencies be afforded more or less flexibility in designing WIC food packages?

SANA supports increased flexibility for State agencies to design WIC food packages that will best meet the needs of their specific population as long as key nutrients are still the basis for the WIC food packages and considerations related to food availability are considered prior to making changes.

XI. Identify/recommend WIC food selection criteria, describe how the criteria interact, indicate their relative weighting or importance.

1. Foods must provide key nutrients determined to be lacking in the diets of WIC participants as indicated by national and targeted surveys of the WIC eligible population.
2. A reasonable effort should be made to ensure that WIC foods within each of the categories of key nutrients are regularly consumed by each of the racial and ethnic groups represented within the WIC population. If data for specific racial and/or ethnic groups is not available from national nutrition monitoring surveys, focus groups and other survey methods can be used to determine preferences of the population.
3. Upper limit of some nutrients such as total fat and saturated fat should be established.
4. Cost-effectiveness of delivering key nutrients should also be considered when selecting foods for the WIC food package.

Members of the Soyfoods Association of North America are committed to improving the health of Americans and look forward to working with the Department of Agriculture and the IOM Food and Nutrition Board in the future.

¹ American Academy of Pediatrics Policy Statement. Soy Protein-based Formulas: Recommendations for Use in Infant Feeding (RD9806). Pediatrics; 101 (1), January 1998: 148-53.

² Food and Drug Administration. Food Labeling: health claims; soy protein and coronary heart disease. Fed Reg Oct 26, 1999;64(206) [21 CFR Part 101].

³ Soyfoods 2003 & Beyond: Global & U.S. Perspectives, speech presented by Peter Golbitz, Soyatech, at the 11th USB/SANA Soy Symposium, Chicago, October, 2003.

⁴ United Soybean Board. Consumer Attitudes About Nutrition. Annual report 2003-2004. Accessed at www.talksoy.com 11/14/03.