



QUESTIONS AND ANSWERS ON ALTERNATE PROTEIN PRODUCTS (APP)

A. GENERAL

1. What is an APP? Please provide some examples of APPs.

APP is the acronym for “Alternate Protein Product”. The term “Alternate Protein Product” is the name used by FNS to identify products meeting requirements set forth in Appendix A of the NSLP, SBP, SFSP, and the CACFP within the section titled, *Alternate Protein Products*. An APP is required to: 1) be processed so that some portion of the non-protein constituents of the food is removed, 2) have a biological quality at least 80% that of casein using the Protein Digestibility Corrected Amino Acid Score (PDCAAS) method, and 3) contain at least 18% protein by weight when fully hydrated or formulated. These requirements are found in Appendix A to 7 CFR 210, 220, 225, and 226 listed under II. Alternate Protein Products found online at ([https://www.ecfr.gov/current/title-7/subtitle-B/chapter-II/subchapter-A/part-210#p-Appendix-A-to-Part-210\(II\).\(A.\)\(1.\)](https://www.ecfr.gov/current/title-7/subtitle-B/chapter-II/subchapter-A/part-210#p-Appendix-A-to-Part-210(II).(A.)(1.))). Some examples of APPs include soy flours, soy concentrates, soy isolates, whey protein concentrate, whey protein isolate, and casein. Processed food items, such as a vegetarian burger or patty, may contain APPs but the entire item cannot be considered an APP as the food item contains other ingredients such as seasonings or breading.

2. Can school food authorities (SFAs) and institutions continue to use vegetable protein products (VPP) developed under the previous Appendix A?

Yes. Please keep in mind that the VPP used in the Child Nutrition Programs prior to year 2000, was specially fortified with iron and zinc. Due to concerns about excess fortification, we recommend that this specially fortified VPP continue to be limited to no more than 30% of a meat/meat alternate item, if it is still in use by manufacturers producing food for Child Nutrition Programs.

3. Does the Food Buying Guide for Child Nutrition Programs (FBG) include APP?

The FBG does not contain yield information for APP because the FBG only provides yield information for whole foods, not derivative ingredients.

B. SPECIFIC PRODUCTS

1. Do tofu and soy yogurt meet the criteria for APP in Appendix A?

Tofu and soy yogurt are included in the FBG and can be credited toward the meat/meat alternate component for certain Child Nutrition Programs. Please visit <https://www.fns.usda.gov/cn/crediting-tofu-and-soy-yogurt-products-school-meal-programs-and-cacfp> to learn more about how tofu and soy yogurt can be used.

2. Is soy milk an APP?

No. It does not meet the requirements of an APP. Soy milk and other non-dairy beverages that meet Program requirements for fortification found in regulations (e.g., [7 CFR 210.10\(d\)\(3\)](#)) can be used in Child Nutrition Programs with limitations. Please visit [SP 07-2010, CACFP 04-2010, SFSP 05-2010](#) titled, *Q&As: Milk Substitution for Children with Medical or Special Dietary Needs (Non-Disability)* to learn about fluid milk substitutions. In addition, a beverage is not considered a meat/meat alternate. The only meat/meat alternate that can be used in a beverage is standardized yogurt (that is, yogurt that meets the Federal standard of identity to be labeled “yogurt”) included in smoothies. Please visit <https://www.fns.usda.gov/cn/smoothies-offered-child-nutrition-programs> to learn more about smoothies offered in the Child Nutrition Programs.

3. Can a food, such as dried beans, be considered an APP?

No. Dried beans cannot be considered an APP; they are a whole food listed in the FBG and are already credited in the Child Nutrition Programs.

C. CREDITING

1. How will APP (specifically soy) be credited when no meat, poultry, or fish is used in combination in a processed product?

Fully hydrated APP meeting the requirements in Appendix A is credited at a one-to-one ratio, except that the total meat/meat alternate contribution cannot exceed the portion weight of the food item as served to the child.

2. How is APP credited when blended or combined with meat, etc.?

If a blended product is used, the amount of the APP and the amount of meat, poultry, or fish are credited separately. For the meat, poultry, or fish, crediting is based on the yields in the FBG while fully hydrated APP is credited at a one-to-one ratio. The credit of each of the components is then added together. The contribution may not exceed the portion weight of the product, meaning, the total meat/meat alternate credit may not exceed the portion weight of the

product as served.

3. Can a food be fortified to meet the APP requirements?

No, fortification cannot be used to meet the requirements for APP in Appendix A.

4. Can a processed product, such as a vegetarian patty, be evaluated as an APP or is each APP contained in the product evaluated separately?

A processed food item is not considered as an APP; the ingredients in that food item that meet the Appendix A requirements are credited as APPs. These ingredients may include combinations of proteins that, when combined, meet the requirements of Appendix A.

5. Can an APP in a component other than the meat/meat alternate, such as soy protein in a grain item, be credited as part of the meat alternate?

Yes, but only if the APP is part of the entrée; for example soy protein in ravioli dough or pizza crust. The school must identify the APP and show through documentation from the manufacturer (1) that the APP meets the requirements in Appendix A and (2) the amount of APP that is credited toward meeting the Child Nutrition Program's meal pattern requirements.

6. If a product (for example a pizza crust) contains both enriched flour and APP, how is its contribution to the meat/meat alternate component and the grain component determined?

If a crust contains APP that is credited towards the meat/meat alternate component, the entire weight of the crust cannot be counted towards the grain component. The exact amount of the APP must be documented by the manufacturer in order to determine the credit for the meat/meat alternate component.

In order to provide credit toward the grain component, the manufacturer must document the amount (weight in grams) of the enriched or whole grain flour or meal, bran, or wheat germ in the crust of one serving of the product to determine the contribution to the meal pattern requirements.

D. IDENTIFICATION OF BLENDED PRODUCTS

1. Can a manufacturer request a Child Nutrition (CN) label for processed products containing APP?

Yes.

2. How can SFAs and institutions identify APPs that are ingredients in processed products?

Manufacturers who wish to have the APP in their product credit as a meat alternate must provide documentation that the APP meets the criteria (see the answer to question A.1). SFAs and institutions also need documentation from manufacturers regarding crediting; i.e., the amount of meat/meat alternate contributed by one serving of the product towards the meal pattern requirements of the Child Nutrition Programs. Further, regulations issued by the Food Safety Inspection Service (FSIS) of USDA and by the Food and Drug Administration (FDA) of the Department of Health and Human Services (HHS) require food manufacturers to list, by common name, the ingredients used in the formulation of processed food products on the label for that product.

Information about the source or type of protein should be clearly indicated in the ingredient statement, such as whey protein concentrate or soy protein.

3. Should a manufacturer call an ingredient “APP” in a product?

The regulations for the Child Nutrition Programs do not require that the product label read “Alternate Protein Product” or “APP.”

4. What documentation is required for a CN label for products containing APP?

A CN label should have APP documentation attached with the application that shows how the APP meets the regulation. This includes:

- a) Providing a statement that the APP meets the requirements found in [Appendix A of 7 CFR 210, 220, 225, and 226](#).

- b) Showing that the product has been processed so that some portion of the non-protein constituents has been removed.
- c) Providing the Protein Digestibility Corrected Amino Acid Score (PDCAAS). The PDCAAS is required to be greater than 80% of casein and indicating how the PDCAAS was determined.
- d) Showing that the protein level is at least 18% by weight when fully hydrated or formulated.
- e) Providing the protein level of an APP on an “as-is” basis for the as-purchased product. Protein is often provided on a moisture free basis (mfb), which is not the information FNS requires.

After December 31, 2001, all the above information required for APP must be presented for approval by the AMS CN Labeling Program Operations Office.

Please see the sample APP documentation on the following page.

Sample Soy Company X
Sample Soy Protein
Concentrate Product Y

Documentation for Company X Products Used as Alternate Protein Products (APP) for Child Nutrition Programs

- a) Company X certifies that Product Y meets all requirements for APP intended for use in foods manufactured for Child Nutrition Programs as described in [Appendix A of 7 CFR 210, 220, 225, and 226](#).
- b) Company X certifies that Product Y has been processed so that some portion of the non-protein constituents have been removed by fractionating. This product is produced from soybeans by removing the majority of the soybean oil and some of the other nonprotein constituents.
- c) The Protein Digestibility Corrected Amino Acid Score (PDCAAS) for Product Y is 0.99. It was calculated by multiplying the lowest uncorrected amino acid score by true protein digestibility as described in the Protein Quality Evaluation Report from the Joint Expert Consultation of the Food and Agriculture Organization/World Health Organization of the United Nations, presented December 4-8, 1989, in Rome, Italy. The PDCAAS is required to be greater than 80% of casein.
- d) The protein level of Product Y is at least 18% by weight when fully hydrated at a ratio of 2.43 parts water to one part product.
- e) The protein level of Product Y is certified to be at least 61.8% on an “as-is” basis (not the moisture-free basis) for the as-purchased product. Protein is often provided on a moisture free basis (mfb) which is not the information FNS requires.

All the above information is required for APP and must be presented for approval.

Note: It is also helpful to have the ingredient statement for Product Y. For example, if the product is uncolored and unflavored the ingredients statement might be “soy protein concentrate” or if the product is colored and textured the ingredients statement might be “textured vegetable protein (soy flour, caramel color)”