



Making Winning Meals with Soy: *A Guide for School Foodservice and Child Care Providers*



*A farmer led organization comprised of 62 farmer directors,
USB oversees the investments of the soybean checkoff on behalf of all US soybean farmers.*



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Part I—Why Use Soy?

Why Use Soy in Child Nutrition Meals and Snacks

For thousands of years, soy has been a staple of the Asian diet, but over recent decades, more and more Americans are eating soy. Why soy? Soy has been found to have numerous health benefits including **decreasing the risk of developing heart disease, strengthening bones, decreasing risk of certain cancers, and even helping with appetite and weight control**. Studies of soy in children and adolescents have shown that soy **eases constipation¹, combats diarrhea², lowers high cholesterol^{3,4}**, and may even **decrease risk of breast cancer later in life⁵**.

Child care providers may question whether soy will be accepted by children in their facilities. A study conducted at the University of Southern Illinois at Carbondale shed light on this very issue⁶. Consumption of soy-enhanced lunch items was compared to non-soy lunch items served to children ages 3 through 6 years in a Head Start Program. There were no significant differences in the calorie content of non-soy lunches compared with soy-enhanced lunches. The soy-enhanced lunches, however, delivered significantly more high quality protein and iron while providing less total fat and saturated fat. The researchers concluded that **soy-enhanced foods can add variety to children's diets without sacrificing nutrient value or taste**.

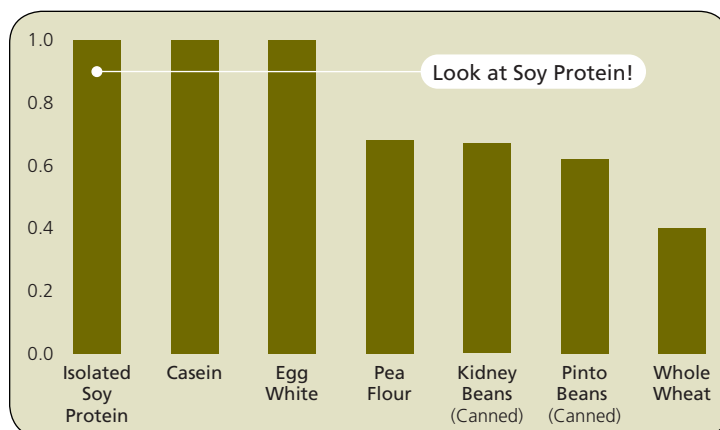
USDA credits soyfoods in the Child Nutrition programs including fresh soybeans, soybean sprouts, canned soybeans and dry soybeans, soy flours, soy protein concentrate, soy protein isolate, textured soy protein, baked soy products, and fortified soymilk. These products are credited under the meat/meat alternate, fruits/vegetables, milk (for children with special dietary needs) and bread/grain groups (baked goods and cereals containing soy). Hopefully, this manual will guide you in planning menus, purchasing, and serving meals with soyfoods.

A. The Nutritional Benefits of Soy

- **Soy can provide high-quality protein without the high fat, saturated fat, and cholesterol content of many animal protein sources**

Soy protein is the only plant protein that contains all of the essential amino acids, just like animal protein. The Food and Drug Administration (FDA) and the World Health Organization (WHO) have developed a scoring system for proteins and soy ranks at the top of the list with casein and egg white. The Protein Digestibility Corrected Amino Acid Score (PDCAAS) is considered the most accurate way to evaluate protein quality by the FDA and WHO. The highest possible PDCAAS score is 1. Many soy ingredients have scores that are very close to 1, which makes them high-quality protein sources. The graph below compares soy protein quality to a variety of other proteins including meat, eggs, beans, and grains.

PDCAAS Scores for Soy and Other Proteins⁷



- **Soy can deliver growth nutrients like iron, essential fatty acids, and B vitamins**

Many soyfoods are a great source of iron and soybeans are one of the only plant sources of essential Omega-3 fatty acids. Depending on the source, soy can also provide calcium, fiber, B Vitamins, magnesium, and zinc.

The chart below compares the nutritional content of soyfoods with traditional protein sources.

Soy Nutrient Chart*

Food item	Serving Size	Kcal	Pro (g)	Fiber (g)	Fat (g)	Sat fat (g)	Chol (mg)	E (AE)	B6 (mg)	Folate (mcg)	B12 (mcg)	C (mg)	Ca (mg)	Mag (mg)	Fe (mg)	Zn (mg)	Potas (mg)
Soy burger	1 patty (70 g)	125	13	3	4	0.5	0	1.2	0.8	54.6	1.7	0	20	12.6	1.5	1.3	126
Hamburger patty	1 patty (83 g)	204	20	0	13	5	71	0.4	0.3	7.5	2.2	0	21	17.4	2.1	5	211
Soy milk (fortified)	1 cup	100	7	0	4	0.5	0	1.2	0	24	3	0	300	40	1	0.5	225
Soy milk unsweetened (fortified)	1 cup	80	7	0.5	4	0.5	0	1.2	0	6	0.6	0	300	40	1.1	0.9	225
Milk, 3.5 to 3.8% fat	1 cup	150	8.0	0.0	8.1	5.1	33	0.2	0.1	12	0.9	2	291	33	0.1	0.9	368
Soy pasta	1 cup	240	15.6	2.5	1.24	0	0	--	--	--	--	--	--	--	--	--	4
Pasta	1 cup	197	6.7	2.4	1	0.1	0	0.1	0	108	0	0	10	25	2	0.7	48
Soy deli slices	62 g	81	15	--	0.9	0.4	0	--	--	--	3.24	--	--	24	4.32	4.5	13.5
Turkey bologna	62 g	127	7	0	10	2.6	46	0.3	0.1	5.5	0.1	8	74	10	1.8	13	83
Mature soybeans	½ cup	149	14	5	7.5	0	0	0	0	47	0	1.5	88	74	4.5	1	443
Fresh soybeans	½ cup	125	11	4	5	0	0	--	0	100	0	15	130	50	2.5	1	485
Soy nuts	1/2 cup	288	34	7	19	3	0	0	0	176	0	4	120	196	3	2	1264
Soy nut butter	2 Tbsp	170	8	1	11	1.5	0	--	--	--	--	0	50	--	0	--	--

*All Nutritional information from USDA Nutrient Database, Standard Release 17, except for fortified unsweetened soymilk, soy deli slices, and soy nut butter which are from company data

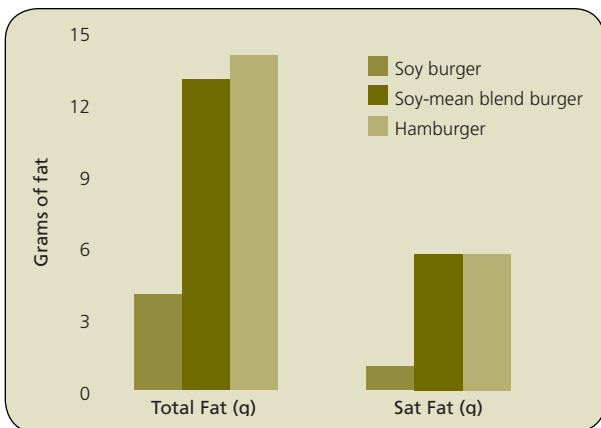
- **Soy can help lower blood cholesterol**

High blood cholesterol and heart disease were once thought of as only “adult” conditions. However, children are becoming increasingly overweight and many have high cholesterol and heart disease. Soy protein has an FDA-approved health claim for helping lower blood cholesterol and decrease the risk of heart disease⁸. Soy effectively lowers cholesterol in children^{3,4}.

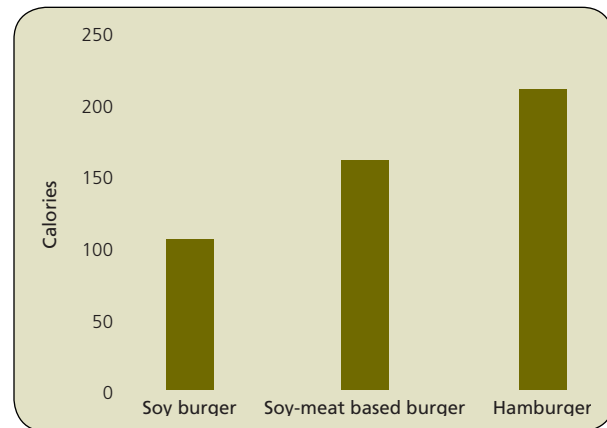
- **Soy can decrease the total fat, saturated fat, dietary cholesterol and calories in meals⁹**

Soyfoods are often lower in total fat, saturated fat, and cholesterol than other sources of high-quality protein. For example, the following graphs compare the total fat, saturated fat, and calorie content of a soy burger, a burger made from a soy/ground beef blend, and a hamburger.

Fat Comparison



Calorie Comparison



- **Soy can strengthen bones**

Soy protein is named as a possible protective factor for bone health by the World Health Organization¹⁰. Many studies have shown that soy can strengthen bones, but most of these studies have been conducted in older women and researchers are still trying to figure out how much soy and which types of soy work best for bones¹¹. Children worldwide have consumed soy and developed strong bones.

- **Soy is a safe and healthy option for kids**

Many traditional soyfoods—like tofu, miso, and tempeh—have been consumed for centuries in Asian cultures. Healthy children in Singapore widely consume soyfoods from the time of weaning throughout childhood¹². Both the USDA Dietary Guidelines for Americans and the Food Guide Pyramid for Young Children list soyfoods like fortified soymilk, tofu, and soy burgers as healthy options. Numerous studies are underway at the National Institutes of Health and the USDA on the health benefits of soy. If there were any evidence to suggest that soy is dangerous for children, these studies would surely not be conducted.

B. The Financial Benefits: Using Soy Can Cut Costs

Some soy products such as textured soy protein can be used as economical meat extenders. An ingredient like textured soy protein or soy protein concentrate can be mixed with ground meats or sauces to fulfill the meat/meat alternate component while making meals even more economical. Commercially available soy/meat blends are also an economical way to incorporate soy into menus. More soy companies are bidding competitively for contracts to use soyfoods in school and child care meals. Information on soy companies who provide products for foodservice appears in Part III of this manual.

C. Soy is an Option for Children with Special Dietary Needs and Preferences

- **Food allergies**

Students who are allergic to peanut butter can enjoy soy nut butter. Students with milk protein allergy can get calcium, vitamin D, and high-quality protein from fortified soymilk (when a parent requests it or a parent presents a note from a recognized medical authority*).

- **Lactose intolerance**

Fortified soymilk is a lactose-free option for children who are lactose intolerant and cannot drink cow's milk (when a parent requests it or a parent presents a note from a recognized medical authority*).

- **Students seeking alternatives to meat and/or dairy products for cultural or religious reasons**

Soy products, including fortified soymilk, are great alternatives for students who do not consume meat and/or dairy for cultural or religious reasons*.

** According to the report language accompanying Public Law 108-625, children who have milk intolerances or allergies when exposed to milk can present a statement from a parent or recognized medical authority that identifies the medical or other dietary condition which restricts the child's diet, foods to be omitted and foods to be substituted. Schools may provide alternative beverages, like fortified soymilk, for ethnic, religious, or economic reasons also.*

Part II—Soyfoods Count in the USDA Meal Patterns

Soy products fit into several categories for USDA meal patterns. Fresh soybeans, soybean sprouts, canned soybeans and dry soybeans are creditable as either vegetables or meat/meat alternates. USDA defines soy flours, soy protein concentrate, soy protein isolate, and textured soy protein as Alternative Protein Products (APP) which are creditable in the meat/meat alternate group. Soy pasta and other baked soy products are creditable in either the bread/grain group or the meat/meat alternate group, depending on the meal pattern. Fortified soymilk is credited in the milk category for children with special dietary needs or with religious and/or cultural reasons for avoiding milk. At this time (Summer 2004) tofu, tempeh, soy-based cheese alternatives, and cultured soy are not credited by USDA for use in the Child Nutrition programs.

Crediting Soy in the Child Nutrition Programs

Menu Category	Soy Products
Meat/Meat Alternate Group	<ul style="list-style-type: none"> • Soybeans (dry or canned) • Soy nuts • Soy nut butter • Alternative Protein Products <ul style="list-style-type: none"> ◦ Soy protein isolate ◦ Soy protein concentrate ◦ Soy flour ◦ Textured soy protein • Baked Soy Products (depending on meal pattern)
Bread/Grain Group	<ul style="list-style-type: none"> • Soy pasta • Baked soy products (breads)
Vegetable Group	<ul style="list-style-type: none"> • Fresh soybeans (edamame) • Soy bean sprouts • Soy beans (dry or canned)
Milk Group	<ul style="list-style-type: none"> • Fortified soymilk
Fats/Oils*	<ul style="list-style-type: none"> • Soybean oil

*Fats/oils are not credited toward the meal patterns in the USDA Child Nutrition Programs, however soybean oil can enhance flavor and provide important nutrients in meals.

A. Soy in the Meat/Meat Alternate Category

i. Soybeans (canned or dry), Soy Nuts, Soy Nut Butter

Product descriptions

Soybeans are an excellent source of high quality soy protein, iron, isoflavones, dietary fiber and folate. Soybeans are either black or yellow and can be ordered from suppliers listed in the next section of this manual in 25 to 50 pound bags or in cans.

Soy nuts are whole soybeans roasted dry or in oil. Soy nuts are available plain, salted, smoked, barbecued, or in other flavors. They may appear in bulk containers or in bags in natural food stores and some supermarkets and are also available in bulk packaging from suppliers listed below.

Soy nut butter is made from ground soybeans and is a great peanut-butter replacement.

Meeting USDA meal pattern requirements

Soybeans (canned and dry), soy nuts, and soy nut butter are credited in the “meat/meat alternate” category. These products are listed in the 2001 USDA Food Buying Guide for Child Nutrition Programs on pages 1-10, 2-20, 1-39 and 1-40.

Tips on purchasing and using

- Canned soybeans, dry soybeans, soy nuts and soy nut butter are all shelf stable. Read the “use by” date on the packaging to ensure freshness.
- Soy nut butter and left over canned soybeans should be refrigerated after opening.
- Soy nut butter can replace peanut butter in recipes.
- Soybeans can replace or be mixed with other beans in recipes.
- For soybean (canned and dry), soy nut, and soy nut butter suppliers see list below.

Suppliers of Soybeans (canned and dry), Soy Nuts, Soy Nut Butter

American Health and Nutrition
3990 Varsity Dr.
Ann Arbor, MI 48108
Contact: Jim Love
734-677-5570 ext. 19
Fax: 734-677-5574
Email: jimL@organictrading.com
Website: www.organictrading.com

- Toasted soy nuts
- Whole soybeans
- Soy nut butter

Dakota Gourmet
Consumer Information Dept.
896 22nd Ave. N.
Wahpeton, ND 58075
800-727-6663
701-642-9403
Email: info@dakotagourmet.com
Website: dakotagourmet.com

- Soy nuts
 - Soybeans (Whole, Food Use, Organically Grown)
- *All of the Above Meet CN Meal Requirements*

Dixie Diner
PO Box 1969
Tomball, TX 77377
800-233-3668
Email: info@dixieusa.com

- Beatnuts roasted soy nuts

Eden Foods 701 Techmseh Rd. Clinton, MI 49236 888-441-EDEN Email: info@edenfoods.com	<ul style="list-style-type: none"> • Refried black soybeans • Canned black soybeans • Dried soybeans
Hain Celestial Group 4600 Sleepytime Dr. Boulder, CO 80301 800-434-4246	<ul style="list-style-type: none"> • Soy nuts – salted, red hot 4 oz
Peanotz 41178 193 rd Street Carpenter, SD 57322 877-4PEANOTZ	<ul style="list-style-type: none"> • Toasted soy nuts
Soy Nut Butter Contact: Lynn Muckerheide 866-627-4466 Email: Lmucker@ix.netcom.com	<ul style="list-style-type: none"> • Snack Pack—Soy nut butter and pretzels (0.9 oz) • Soy nut butter (4 lb Tub) <p><i>*Soy Nut Butter is credited the same way as peanut butter and is processed in a peanut-free facility</i></p>
SK Food 4749 Amber Valley Parkway, Suite #1 Fargo, ND 58104 Contact: Jennifer Tesch 701-356-4106 Fax: 701-356-4102 Email: skfood@skfood.com	<ul style="list-style-type: none"> • Yellow Soybeans, raw, organic or conventional - 25, 50 and 60 pound bags • Black Soybeans, raw, organic or conventional - 25, 50 and 60 pound bags • Roasted Soybeans, dry or oil roasted - 35 pound bag/box

ii. Alternate Protein Products (APP)

In March 2000, the **US Department of Agriculture (USDA)** changed its regulations to allow soy protein to fulfill 100 percent of the “meat/meat alternate” component in the child nutrition programs including the National School Lunch Program, School Breakfast Program, Summer Food Service Program, and Child and Adult Care Food Program. Prior to 2000, soy could only be used to fulfill 30% of the “meat/meat alternate” component of meals.

- **Soy/meat blends and soy meat-alternatives made with textured soy protein, soy protein isolates, soy protein concentrates or soy flour fall into the category of “Alternate Protein Products (APP).”** The rule change that occurred in 2000 provides menu planners with more flexibility to incorporate soy products into school and child care menus. The law currently permits 100 percent soy products to be used in both food-based and nutrient-based menu planning for the child nutrition programs. Some products containing APP are vegetarian, like a soy burger, but there are also products that mix APP with meat and poultry, like ground beef patties enhanced with soy protein isolate or concentrate.
- **USDA permits soy ingredients (Alternate Protein Products or APP) to substitute for 100 percent of the meat requirement because of their lean composition and high content of healthy nutrients like protein, fiber, and iron.** USDA’s Food and Nutrition Service felt that lifting the restriction and allowing 100 percent APP products would enhance flexibility for menu planners and make it easier to make meals that meet the Dietary Guidelines for Americans. Allowing more soy into the programs is a great way to reduce the total fat and saturated fat in meals while still maintaining calorie levels and cost-effectiveness.
- **APP is not included in the 2001 USDA Food Buying Guide (FBG).** USDA documents¹³ state that “[the] revised Food Buying Guide will not contain yield information for APP because the FBG only provides yield information for whole foods, not ingredients.” We hope that this manual will be helpful in determining how to use soy meat-alternatives (APP) in meals served in your Child Nutrition program.

- **The prior requirement to fortify APP with iron and zinc has been eliminated because of concern that unrestricted use of fortified APP could have resulted in excessive intakes of iron and zinc in children.** According to the USDA final rule, “current data indicates that **APP without any special fortification is equivalent to other meat/meat alternates in terms of the nutrients they supply**.”¹⁴”
- If you are using the Traditional or Enhanced food-based menu planning patterns for School Lunch or School Breakfast, **APP is creditable on an ounce-for-ounce basis in the meat/meat alternative category.**

Some products containing APP are CN labeled so that you can easily figure out the contribution of the products toward USDA reimbursable meals. If products are not CN labeled, we encourage you to contact the manufacturer and request a CN Fact sheet detailing the contribution of their product toward the meat/meat alternate category of the USDA child nutrition meals.

The Bottom Line: Alternate Protein Products (APP)

- The term Alternate Protein Product (APP) is the name used by USDA’s Food and Nutrition Service to identify soy products that can be used School Breakfast and Lunch, the Summer Food Service Program and the Child and Adult Care Food Program.
- APP must meet requirements in “Appendix A of 7 CFR Part 226”.
To see if a product contains APP, read the label to find out if it includes soy flour, soy concentrate, soy isolate, or textured soy protein (TSP).
- At this time (Summer 2004), tofu, tempeh, seitan, soy-based cheese alternatives, and cultured soy are not credited as in the “meat/meat alternate” category.
- Visit <http://www.fns.usda.gov/cnd/menu/app.pdf> to read “Questions and Answers on APP”

ii(a) Soy-Based Meat Alternatives

Product description

In this manual “soy-based meat alternatives” refers to vegetarian products containing no meat (poultry, pork or beef) while “soy/meat blends” refers to products that contain meat AND soy. Soy-based meat alternatives are generally lower in total fat, saturated fat, and calories than 100 percent meat products. Using soy-based meat alternatives can help your meals meet the Dietary Guidelines for low fat meals.

Meeting USDA meal pattern requirements

Soy-based meat alternatives contain soy isolates, soy concentrates, soy flours and/or textured soy protein and are credited as APP (see section ii) in the Meat/Meat Alternate category.

Tips on purchasing and using

- Most soy-based meat alternatives are available frozen and can be prepared by heating in the oven or microwave.
- These products are fully cooked prior to shipping, and need only to be warmed. Consult cooking instructions for exact cooking times.
- Soy burger crumbles are a great and economical addition to spaghetti sauce or sloppy joe recipes.
- These products can be used to replace meat or may be blended with meat in your favorite recipes to lower the fat content of your meals.
- Frozen soy-based meat alternatives have a shelf life of one year if stored properly. Refrigerated products will have “Use By” dates stamped on the package to let you know how long they will keep fresh.

Suppliers of Soy-Based Meat Alternatives

Archer Daniels Midland Box 1470 Decatur, IL 62525 800-637-5850 Website: www.admworld.com	Partial product list: <ul style="list-style-type: none">• Soy7 Chili Mix• Soy7 Taco Mix• Soy7 Savory Meatballs• Soy7 Breaded Chicken Nuggets• Soy7 Recipe Strips• Soy7 Burger Mix
Boca Foods PO Box 8995 Madison, WI 53708 Contact: Jacqui Grant, 608-285-4495 Websites: www.bocaburger.com www.bocafoods.com	Partial product list: <i>BOCA® Traditional Line:</i> <ul style="list-style-type: none">• BOCA® Meatless Burgers• BOCA® Meatless Breakfast Links• BOCA® Meatless Breakfast Patties• Meatless Ground• BOCA® Meatless Chik'n - Original Chik'n Patties, Original Chik'n Nuggets• BOCA® Meatless Ground Burger
Dixie Diner PO Box 1969 Tomball, TX 77377 800-233-3668 Email: info@dixieusa.com	Partial product list: <ul style="list-style-type: none">• Soy Chili Mix• Soy Taco Mix• Soy Barbecue Mix• Soy Burger Mix• Soy Ball and Loaf Mix
Hain Celestial Group The Hain Celestial Group Consumer Affairs 4600 Sleepytime Dr. Boulder, CO 80301 800-434-4246	Partial product list: <i>Yves Veggie Cuisine</i> <ul style="list-style-type: none">• Veggie Wieners 7" – 4.54 kg (10 lb) – 50 wieners• Hot & Spicy Jumbo Veggie Dogs 7" – 4.54 kg pkgs (10 lb) – 50 wieners• Veggie Burger Burgers - 3.4 oz (96.4g), 3.86 kg pkgs (8.5 lb)• Veggie Burger Burgers – 5.0 oz (141.7g), 3.86 kg pkgs (8.4 lb)• Garden Vegetable Patties – 5.0 oz (141.7g), 3.82 kg pkgs (8.4 lb)• Garden Vegetable Patties – 3.4 oz (96.4g), 3.86 kg pkgs (8.5 lb)
Lightlife Foods 153 Industrial Blvd. Turners Falls, MA 01376 800-SOY-EASY Website: www.lightlife.com	Partial product list: <ul style="list-style-type: none">• Smart Ground - Original, Taco & Burrito• Gimme Lean Beef Style• Smart Deli Pepperoni Style Slices• Smart Deli - Country Ham style, Roast Turkey style, Bologna style, Pastrami style• NEW Smart Dogs - Grill Ready, Grill Ready Brats• Smart Dogs Jumbo

Legacy Foods LLC

Contact: Dr. Brinda Govindarajan
800-835-5006

- Taco Mix
- Chili Mix
- Pepperoni
- Sausage Crumbles
- Sloppy Jo Mix

**All of the above are CN labeled*

**Kelloggs/Worthington Foods/
Morningstar Farms**

800-557-6525

Partial product list:

- BBQ FriChik®
- Bolono
- Chic-ketts® chicken substitute
- ChikStiks™
- Grillers Prime™ Veggie Burger – 3.4 oz / 48 ct
- Grillers® Original Veggie Burger – 2.25 oz / 48 ct

The Solae Company

P.O. Box 88940
St. Louis, MO 63188
800-325-7108
Website: www.solae.com

- Solae Soy Coating (44 lb bags): Batter, pre-dust, breading, clear coating

ii(b) Soy/Meat Blended Products

Product description

Soy/meat blended products provide protein from beef, poultry, or pork blended with high-quality soy protein to make products that are often lower in total fat, saturated fat, and calories than similar products that do not contain soy. Some examples of soy/meat blended products are ground beef patties enhanced with soy protein concentrate or chicken nuggets containing textured soy protein.

Meeting USDA meal pattern requirements

Many of these products are CN labeled to make it easy to determine how many ounces of “meat/meat alternate” are in the products. If the products are not CN labeled, contact the manufacturer and request a CN Fact sheet.

Tips on purchasing and using

- Most soy/meat blended products are available frozen and can be prepared in a conventional oven, fryer, or convection oven.
- Products should be stored frozen at 0° Fahrenheit (-18° Celsius.)
- The average shelf life is one year if properly handled and kept frozen.
- Be sure to measure the temperature with a meat thermometer to ensure doneness. Cook ground poultry to 165° Fahrenheit (74° Celsius) and ground beef and pork to 160° Fahrenheit (71° Celsius).

Suppliers of Soy/Meat Blended Products

Ember Farms 724-335-5800 or 800-486-2201 Website: www.emberfarms.com	Partial product list: <ul style="list-style-type: none">• Pork Breakfast Patty• Pork Skinless Breakfast Link• Turkey Breakfast Patty• Turkey Skinless Breakfast Link <i>*All of the above are CN labeled</i>
Zartic, Inc. 438 Lavender Drive Rome, GA 30165-2262 Website: www.zartic.com	Partial product list: <ul style="list-style-type: none">• Breaded and cooked chicken breast pattie nuggets• Cooked breaded chicken breast pattie• Circle Z Plus flame broiled beef patties• Salisbury steaks• Cooked meatballs• Precooked pork patty <i>*All of the above are CN labeled</i>

ii(c) Textured Soy Protein

Product description

Many of the new soyfoods entering the market place contain textured soy protein, also called TSP. When TSP is rehydrated it resembles cooked ground beef or poultry in texture and may be used alone or with meats to make a wide variety of products.

Textured soy protein is an easy and inexpensive source of dietary fiber, soy protein, and naturally occurring isoflavones to the diet. Textured soy protein is at least 50 percent protein.

Meeting USDA meal pattern requirements

Textured Soy Protein is considered APP. Section ii provides information on crediting APP in USDA approved menus.

Tips on purchasing and using

- Unflavored textured soy protein will last indefinitely if stored in a dry, airtight container. Stored the same way, flavored textured soy protein lasts at least one year.
- Once rehydrated with liquid, TSP should be refrigerated or frozen until used. Refrigeration preserves the reconstituted TSP for only a few days.
- To prepare TSP, add 1 cup of small granules to one cup boiling or hot water, broth or stock. The granules will reconstitute in 5 to 10 minutes. For larger chunks or slices, use 2 cups of liquid to 1 cup of chunks/slices and simmer for 20 - 30 minutes until tender, but not mushy.
- Textured soy protein granules or flakes can be rehydrated in a microwave, by covering the granules with liquid and cooking on high for about 5 minutes.
- A pound of textured soy protein will equal about three pounds of ground beef. One cup dry textured soy protein reconstituted in one cup liquid yields about two cups.
- Unflavored textured soy protein easily assumes the flavor of other liquids and foods. It combines well with ground meat or poultry or appears alone in favorite recipes.

Suppliers of Textured Soy Protein

American Health and Nutrition

3990 Varsity Dr.

Ann Arbor, MI 48108

Contact: Jim Love

734-677-5570 ext. 19

Fax: 734-677-5574

Email: jimL@organictrading.com

Website: www.organictrading.com

- Textured Soy Protein

Cargill

Cargill Office Center

P.O. Box 9300

Minneapolis, MN 55440-9300

Contact: Michael Matthews

952-742-4511

Email: michael_matthews@cargill.com

- Textured Soy Protein

Dressler Foods

184 Panorama Lane

Walla Walla, WA 99362

509-526-3304

Contact: Jamie Dressler

Email: jamie@dresslerfoods.com

- Soy Add-Ums Textured Soy Protein

Pacific Soybean & Grain

One Sutter Street, Suite 300

San Francisco, CA 94104

415-433-0867

Fax: 415-433-9494

Website: info@pacificsoy.com

- Textured Soy Protein

SK Food

4749 Amber Valley Parkway, Suite #1

Fargo, ND 58104

Contact: Jennifer Tesch

701-356-4106

Fax: 701-356-4102

Email: skfood@skfood.com

- Textured Soy Protein

The Solae Company

P.O. Box 88940

St. Louis, MO 63188

800-325-7108

Website: www.solae.com

- Textured Soy Protein

ii(d) Soy Bread, Pasta and Baked Goods

Product description

Soy bread, pasta, and baked goods are higher in protein than their traditional non-soy counterparts. For example, traditional pasta contains 7 grams of protein per serving while soy pasta has 16 grams of protein per serving. These products commonly contain either soy flour or soy protein isolate.

Meeting USDA meal pattern requirements

Soy flour and soy protein are widely used in a variety of breads, pastas, and snack foods. Many of these soy containing products can be credited in the bread/grain category OR the meat/meat alternate category (but NOT both categories) of the Child Nutrition meal patterns. In order for baked soy products and pastas to be credited in the bread/grain category they must be either whole grain, enriched, or fortified products. The 2001 USDA Food Buying Guide includes detailed instructions on crediting bread/grain products on pages 3-1 to 3-31.

In order to receive credit in the “meat/meat alternate” category, the product must be served as part of the entrée along with another recognizable source of meat/meat alternate. In other words, when serving soy pasta or soy baked products, credit will be given in the meat/meat alternate category ONLY if another recognizable source of meat/meat alternate is also served with the meal. For example, soy cereal served with milk would not be creditable in the “meat/meat alternate” component but soy pasta topped with ground beef (or any other recognizable “meat/meat alternate”) would be creditable toward the “meat/meat alternate” component but the pasta can not also be credited as part of the bread component.

Tips on purchasing and using

- Store products in a cool, dry place.
- Refer to “Use By” dates on packages for guidance on how long products will stay fresh.
- Soy pasta can be served with meat sauce to boost servings of meat/meat alternate in meals.

Suppliers of Soy Pasta, Bread, and Baked Goods

May be used to fulfill the meat/meat alternate category or the bread/grain category

Archer Daniels Midland
Box 1470
Decatur, IL 62525
800-637-5850
Fax: 217-362-8067
Website: www.admworld.com

Soy 7 Soy Enriched Pasta

Hain Celestial Group
The Hain Celestial Group Consumer Affairs
4600 Sleepytime Dr.
Boulder, CO 80301
800-434-4246

Yves Veggie Penne
Yves Veggie Macaroni

The J.M. Smucker Company
Strawberry Lane
Orville, OH 44667
330-682-3000
Website: www.smucker.com

Uncrustables® Peanut Butter and Grape Jelly Sandwich with Soy Protein
*CN labeled

B. Fortified Soy in the Milk Group

Product description

For children who need an alternative to cow's milk, fortified soymilk containing calcium, Vitamin D, Vitamin A, and high-quality protein is a beneficial option. Soymilk generally comes from water-soaked and ground whole soybeans that are cooked and filtered yielding a protein rich soy base consisting of the water, soy protein and oil. This soy base is then sweetened, flavored, and stabilized to yield a cow's milk-like liquid. Besides using whole soybeans, manufacturers also hydrate full-fat soy flour or they use soy protein solids (such as soy concentrates or isolates) to make soymilk. Soymilk is then fortified with Vitamins A and D as well as calcium. Fortified soymilk also appears as instant powder that can be mixed with water. Refrigerated soymilk is often available in the dairy case while shelf-stable soymilk can most often be found in the "health food" aisle of mainstream grocery stores. Many fortified soymilk manufacturers also provide soymilk for foodservice providers.

Meeting USDA meal pattern requirements

The Child Nutrition Reauthorization Act that was enacted in June 2004 allows fortified soymilk as part of a reimbursable meal in the Child Nutrition Programs including the National School Lunch Program, School Breakfast Program, and Child and Adult Care Food Program. Under that Act, fortified soymilk will be a reimbursable option if a parent requests it or if a statement is provided from a recognized medical authority for a student with a medical or special dietary need for a non-dairy beverage. USDA regulations on the nutritional standards and procedures for utilizing fortified soymilk with a parent's note will be published shortly. At this time (fall 2004) a note from a doctor or other recognized medical authority is required for a child to have soymilk with a reimburseable school meal. Fortified soymilk is also permissible as a milk alternative if children have religious or cultural reasons for avoiding milk¹⁵. The 2000 Dietary Guidelines for Americans and the USDA Food Guide Pyramid for Young Children both list fortified soymilk as an alternative for children who do not drink cow's milk. If you have questions on the soymilk provision, visit USDA at www.fns.usda.gov/cnd.

Tips on purchasing and using

- Fortified soymilk is available in a variety of flavors including plain, chocolate, vanilla, and strawberry in sizes ranging from 6 oz to 96 oz.
- Follow the "Use By" dates on packages and keep chilled or frozen.
- Fortified soymilk in shelf-stable packaging lasts 12 months. Once either shelf-stable or refrigerated fortified soymilk is opened, it must be refrigerated to last five to seven days.
- USDA final regulations on the nutritional requirements and paperwork for parents and schools to complete will be available sometime after May 2005. See Appendix A for preliminary forms for parent/guardian to complete and for State notification.

Suppliers of Fortified Soymilk

May be used as an alternative for milk with proper documentation

American Health and Nutrition

3990 Varsity Dr.

Ann Arbor, MI 48108

734-677-5570 ext 19

Email: jimL@organictrading.com

Website: www.organictrading.com

- Soy-N-Ergy Instant whole soymilk powder

American Soy Products

1474 North Woodland Drive

Saline, MI 48176

Contact: Ron Roller

Email: info@americansoy.com

- Soymilk - organic plain, vanilla, chocolate, unsweetened (aseptic)

Dressler Foods

184 Panorama Lane
Walla Walla, WA 99362
Contact: Jamie Dressler
509-526-3304
Fax: 509-527-0357
Email: jamie@dresslerfoods.com

- SoyGood Soymilk - Classic Vanilla, Plain&Simple, Gourmet Chocolate Aseptic & Bulk sizes

Hain Celestial Group

The Hain Celestial Group Consumer Affairs
4600 Sleepytime Dr.
Boulder, CO 80301
800-434-4246

Imagine

- Soy Dream – Original enriched, Vanilla enriched

Soy Slender

- Soy Slender Plain 32 oz
- Soy Slender Chocolate 8.45 oz, 32 oz
- Soy Slender Vanilla 8.45 oz, 32 oz
- Soy Slender Cappuccino 32 oz

WestSoy

- WestSoy Lowfat Chocolate – 8.45 oz
- WestSoy Lowfat Strawberry – 8.45 oz

White Wave, Inc.

1990 N 57th Ct
Boulder, CO 80301
720-565-2300
Email: questions@whitewave.com
Website: <http://www.whitewave.com>

- Silk Soymilk - organic plain, vanilla, chocolate
- Silk Unsweetened - coffee soylatte, mocha, chai
- Spice Soylatte
- Aseptic - organic plain, organic vanilla
- Bag-in-a-Box - silk organic plain

C. Soy in the Vegetable Group

i. Fresh, Canned, and Dry Soybeans as Vegetables

Product description

Fresh soybeans are also known as edamame (pronounced ed-ah-MAH-may). Fresh soybeans are harvested at a fresh green stage (eighty percent maturity). They have a larger seed size, a different flavor, and a more oval shape than either yellow or black soybeans. Until recently, edamame was only available frozen, shipped from Japan or Taiwan to Asian groceries. Unshelled edamame is now available in bulk for foodservice operations. See Part II Section A for descriptions of canned and dry soybeans.

Meeting USDA meal pattern requirements

Fresh green soybeans (edamame) and soy bean sprouts are ONLY credited in the vegetable category, at this time. Soybeans (canned or dry) are creditable in EITHER the meat/meat alternate or the vegetable category. It is probably more economical to use soybeans (canned or dry) as meat/meat alternates rather than as vegetables.

Tips on purchasing and using

- Fresh soybeans (edamame) are available frozen and can be prepared by steaming or boiling.
- Part II Section A contains for tips for purchasing and using soybeans (canned or dry).

Suppliers of Fresh, Canned, or Dry Soybeans

American Health & Nutrition
3990 Varsity Dr.
Ann Arbor, MI 48108
Contact: Jim Love
734-677-5570 ext. 19
Fax: 734-677-5574
Email: jimL@organicetrading.com
Website: www.organicetrading.com

- Edamame – In and out of pod

SK Food
4749 Amber Valley Parkway, Suite #1
Fargo, ND 58104
Contact: Jennifer Tesch
701-356-4106
Fax: 701-356-4102
Email: skfood@skfood.com

- Yellow soybeans, raw, organic or conventional - 25, 50 and 60 pound bags
- Black soybeans, raw, organic or conventional - 25, 50 and 60 pound bags
- Roasted soybeans, dry or oil roasted - 35 pound bag/box

Sunrich Food Group
P.O. Box 128
3824 S.W. 93rd St.
Hope, MN 56046
507-451-6030
800-297-5997
Fax: 507-451-8201
Email: tnelson@sunrich.com

- Sweet soybeans - 2.5 pound bag, 4 per case
- Sweet blend (sweet soybeans & sweet corn) - 2.5 pound bag, available 4 per case

D. Soy in the Bread/Grains Group

Soy bread/pasta products containing soy flour or other **soy proteins** can be credited in either the meat/meat alternate group or in the bread/grains group—but NOT both. In order to receive credit in the bread/grains group, the products must be “enriched” and meet the standards outlined in the 2001 USDA Food Buying Guide on pages 3-1 to 3-31. See page 14 of this manual for more information on soy bread/pasta products. Generally, it would be more economical to use baked soy products in the meat/meat alternate group rather than the bread/grains group. See Section ii(d) for suppliers.

E. Soybean Oil

Product description

Soybean oil—sometimes referred to as “vegetable” oil—has little flavor and can be added to almost any recipe. Soybean oil’s 85% unsaturated fat profile is among the lowest of the vegetable oils. Soybean oil contains 61% polyunsaturated fat and 24% monounsaturated fat and helps boost the heart health of children.

Like other vegetable oils, soybean oil contains no cholesterol. Soybean oil is one of the few non-fish oils containing linolenic acid, an omega-3 fatty acid that has been shown to help prevent heart disease¹⁶. Soybean oil is one of the major sources of Vitamin E in the U.S. diet.

Meeting USDA meal pattern requirements

Although using soybean oil will not fulfill any of the USDA meal pattern requirements, soybean oil can be used in any recipe calling for oil or fat and can add heart-healthy unsaturated fat to recipes.

Tips on purchasing and using

- If you are planning on using your soybean oil within a month or two, it can be stored at room temperature, away from heat.
- Soybean oil intended for longer storage should be refrigerated. To use, bring to room temperature.
- Virtually flavorless and relatively inexpensive, soybean oil can be used for sautéing. In fact, many restaurants purchase large 5-gallon containers of soybean oil and use it exclusively for sautéing.
- As with all oils, measure in a glass (liquid) measure or in measuring spoons.

Suppliers of Soybean Oil

American Health & Nutrition
3990 Varsity Dr.
Ann Arbor, MI 48108
Contact: Jim Love
734-677-5570 ext. 19
Fax: 734-677-5574
Email: jimL@organicetrading.com
Website: www.organictrading.com

- Soybean oil

Northland Organic Foods Corp.
462 Holly Ave.
St. Paul, MN 55102
Contact: Amy Nankivil
651-221-0855
Fax: 651-221-0856
Email: soybean@northlandorganic.com

- Certified organic soybean oil
- Conventional non-GMO soybean oil

SK Food
4749 Amber Valley Parkway, Suite #1
Fargo, ND 58104
Contact: Jennifer Tesch
701-356-4106
Fax: 701-356-4102
Email: skfood@skfood.com

- Conventional and organic soybean oil

Part III—Soy in USDA Meal Patterns

The following charts show examples of how soy products are credited in school meals. Note that these meal patterns are designed to show food groups where soy can be used and do not include all food components for all meals. Refer to the USDA Food Buying Guide for complete meal patterns.

Chart 1A: School Lunch Patterns (Traditional Food-Based Menu Planning)

Adapted from November 2001 USDA Food Buying Guide for Child Nutrition Programs

Food Components and Food Items	Minimum Quantities				Recommended Quantities
	Group I Ages 1 and 2 Preschool	Group II Ages 3 and 4 Preschool	Group III Ages 5–8 Grades K–3	Group IV Age 9 and Older Grades 4–12	Group V Age 12 and Older Grades 7–12
Milk, fluid	6 fl oz (3/4 cup)	6 fl oz (3/4 cup)	8 fl oz (1 cup)	8 fl oz (1 cup)	8 fl oz (1 cup)
Meat or Meat Alternate¹					
Alternate protein products (APP)	1 oz	1½ oz	1½ oz	2 oz	3 oz
Canned dry soybeans or dry soybeans	¼ cup	3/8 cup	3/8 cup	½ cup	¾ cup
Soy nut butter	2 Tbsp	3 Tbsp	3 Tbsp	4 Tbsp	6 Tbsp
Soy nuts ² may be used to meet no more than 50% of the requirement and must be used in combination with any product in the “Meat or Meat Alternate” category:	½ oz = 50%	¾ oz = 50%	¾ oz = 50%	1 oz = 50%	1 ½ oz = 50%
Vegetable or Fruit³ Two or more servings of different vegetables, fruits, or both					
Fresh soybeans (in shell or shelled)	½ cup	½ cup	½ cup	¾ cup	¾ cup
Canned dry soybeans or dry soybeans	½ cup	½ cup	½ cup	¾ cup	¾ cup
Fresh soy bean sprouts	½ cup	½ cup	½ cup	¾ cup	¾ cup
Grains/Breads (servings per week): Must be enriched or whole-grain or made from enriched or whole-grain flour or meal that may include bran and/or germ. A serving is a slice of bread or an equivalent serving of biscuits, rolls, etc., or ½ cup of cooked rice, macaroni, noodles, other pasta products, or cereal grains.	5 per week-min. of ½ per day	8 per week-min. of 1 per day	8 per week-min. of 1 per day	8 per week-min. of 1 per day	10 per week-min. of 1 per day

¹ Must be served in the main dish or the main dish plus only one other menu item.

² Nuts and seeds are generally not recommended to be served to children ages 1-3 since they present a choking hazard. If served, nuts and seeds should be finely minced.

³ Cooked dry beans or peas may be used as a meat alternate or as a vegetable, but not as both components in the same meal.

Chart 1B: School Lunch Patterns (Enhanced Food-Based Menu Planning)

Adapted from November 2001 USDA Food Buying Guide for Child Nutrition Programs

Food Components and Food Items	Minimum Quantities				Option for
	Ages 1 and 2	Preschool	Grades K-6	Grades 7-12	Grades K-3
Milk, fluid (as a beverage)	6 fl oz (3/4 cup)	6 fl oz (3/4 cup)	8 fl oz (1 cup)	8 fl oz (1 cup)	8 fl oz (1 cup)
Meat or Meat Alternate¹					
Alternate protein products (APP)	1 oz	1½ oz	2 oz	2 oz	1½ oz
Canned dry soybeans or dry soybeans	¼ cup	3/8 cup	½ cup	½ cup	3/8 cup
Soy nut butter	2 Tbsp	3 Tbsp	4 Tbsp	4 Tbsp	3 Tbsp
The following may be used to meet no more than 50% of the requirement and must be used in combination with any product in the "Meat or Meat Alternate" category: soy nuts ²	½ oz = 50%	¾ oz = 50%	1 oz = 50%	1 oz = 50%	¾ oz = 50%
Vegetable or Fruit³ Two or more servings of different vegetables, fruits, or both					
Fresh soybeans (in shell or shelled)	½ cup	½ cup	¾ cup plus an extra ½ cup over a week	1 cup	¾ cup
Canned dry soybeans or dry soybeans	½ cup	½ cup	¾ cup plus an extra ½ cup over a week	1 cup	¾ cup
Fresh soy bean sprouts	½ cup	½ cup	¾ cup plus an extra ½ cup over a week	1 cup	¾ cup
Grains/Breads (servings per week): Must be enriched or whole-grain or made from enriched or whole-grain flour or meal that may include bran and/or germ. A serving is a slice of bread or an equivalent serving of biscuits, rolls, etc., or ½ cup of cooked rice, macaroni, noodles, other pasta products, or cereal grains.	5 per week-min. of ½ per day	8 per week-min. of 1 per day	12 per week-min. of 1 per day	15 per week-min. of 1 per day	10 per week-min. of 1 per day

¹ Must be served in the main dish or the main dish plus only one other menu item.

² Nuts and seeds are generally not recommended to be served to children ages 1-3 since they present a choking hazard. If served, nuts and seeds should be finely minced.

³ Cooked dry beans or peas may be used as a meat alternate or as a vegetable, but not as both components in the same meal.

Chart 2A: School Breakfast Patterns (Traditional Food-Based Menu Planning)

Adapted from November 2001 USDA Food Buying Guide for Child Nutrition Programs

Food Components and Food Items	Minimum Requirements		
	Ages 1 and 2	Preschool	Grades K-12
Milk, fluid (as a beverage, on cereal or both)	4 fl oz (1/2 cup)	6 fl oz (3/4 cup)	8 fl oz (1 cup)
Select one serving from each of the following components; two from one component; or an equivalent combination ¹			
Grains/Breads²			
Whole-grain or enriched bread	½ slice	½ slice	1 slice
Whole-grain or enriched biscuit, roll, muffin	½ serving	½ serving	1 serving
Whole-grain, enriched, or fortified cereal	¼ cup or 1/3 oz	1/3 cup or ½ oz	¾ cup or 1 oz
Meat or Meat Alternate			
Alternate protein products (APP)	½ oz	½ oz	1 oz
Canned dry soybeans or dry soybeans	2 Tbsp	2 Tbsp	4 Tbsp
Soy nut butter	1 Tbsp	1 Tbsp	2 Tbsp
Soy nuts ^{3,4}	½ oz	½ oz	1 oz

¹ Minimum servings for meat/meat alternate = 0.25 ounce and for grains/breads = ¼ serving.

² Grains/breads must be enriched or whole-grain or made from enriched or whole-grain flour or meal that may include bran and/or germ

³ Nuts and seeds are generally not recommended to be served to children ages 1-3 since they present a choking hazard. If served, nuts and seeds should be finely minced

⁴ No more than 1 ounce of nuts and/or seeds may be served in any one breakfast.

Chart 2B: School Breakfast Patterns (Enhanced Food-Based Menu Planning)

Adapted from November 2001 USDA Food Buying Guide for Child Nutrition Programs

Food Components and Food Items	Minimum Requirements			
	Ages 1 and 2	Preschool	Grades K-12	Option For
Milk, fluid (as a beverage, on cereal or both)	4 fl oz (1/2 cup)	6 fl oz (3/4 cup)	8 fl oz (1 cup)	8 fl oz (1 cup)
Select one serving from each of the following components; two from one component; or an equivalent combination ¹				
Grains/Breads²				
Whole-grain or enriched bread	½ slice	½ slice	1 slice	1 slice
Whole-grain or enriched biscuit, roll, muffin	½ serving	½ serving	1 serving	1 serving
Whole-grain, enriched, or fortified cereal	¼ cup or 1/3 oz	1/3 cup or ½ oz	¾ cup or 1 oz	¾ cup or 1 oz plus an additional serving of one of the Grains/Breads above.
Meat or Meat Alternate				
Alternate protein products (APP)	½ oz	½ oz	1 oz	1 oz
Canned dry soybeans or dry soybeans	2 Tbsp	2 Tbsp	4 Tbsp	4 Tbsp
Soy nut butter	1 Tbsp	1 Tbsp	2 Tbsp	2 Tbsp
Soy nuts ^{3,4}	½ oz	¾ oz	1 oz	1 oz

¹ Minimum servings for meat/meat alternate = 0.25 ounce and for grains/breads = ¼ serving.

² Grains/breads must be enriched or whole-grain or made from enriched or whole-grain flour or meal

³ No more than 1 ounce of nuts and/or seeds may be served in any one breakfast.

⁴ Nuts and seeds are generally not recommended to be served to children ages 1-3 since they present a choking hazard. If served, nuts and seeds should be finely minced.

Chart 3: National School Lunch Program Meal Pattern—Afterschool Snacks

Adapted from November 2001 USDA Food Buying Guide for Child Nutrition Programs .

AFTERSCHOOL SNACKS			
Food Components and Food Items	Children Ages 1 and 2	Children Ages 3-5	Children Ages 6-12 ¹
Milk, fluid	4 fl oz (1/2 cup)	4 fl oz (1/2 cup)	8 fl oz (1 cup)
Select one serving from each of the following components; two from one component; or an equivalent combination ²			
Grains/Breads³			
Whole-grain or enriched bread or	½ slice	½ slice	1 slice
Cornbread or biscuit or roll or muffin or	½ serving	½ serving	1 serving
Cold dry cereal ⁴ or	¼ cup or 1/3 oz	1/3 cup or ½ oz	¾ cup or 1 oz
Cooked pasta or noodles	¼ cup	¼ cup	½ cup
Meat or Meat Alternate			
Alternate protein products (APP)	½ oz	½ oz	1 oz
Canned dry soybeans or dry soybeans	1/8 cup	1/8 cup	1/4 cup
Soy nut butter	1 Tbsp	1 Tbsp	2 Tbsp
Soy nuts ⁵	½ oz	½ oz	1 oz

¹ Children age 12 and older may be served larger portions based on their greater food needs. They may not be served less than the minimum quantities listed in this column.

² Minimum servings for meat/meat alternate = 0.25 ounce and for grains/breads = ¼ serving.

³ Grains/breads must be enriched or whole-grain or made from enriched or whole-grain flour or meal that may include bran and/or germ

⁴ Either volume (cup) or weight (oz) whichever is less

⁵ Nuts and seeds are generally not recommended to be served to children ages 1-3 since they present a choking hazard. If served, nuts and seeds should be finely minced

Chart 4A: Child and Adult Care Food Program Meal Patterns—Breakfast

Adapted from November 2001 USDA Food Buying Guide for Child Nutrition Programs

BREAKFAST				
Food Components and Food Items	Children Ages 1 and 2	Children Ages 3-5	Children Ages 6-12 ¹	Adults
Milk, fluid	4 fl oz (1/2 cup)	6 fl oz (3/4 cup)	8 fl oz (1 cup)	8 fl oz (1 cup)
Grains/Breads²				
Bread or	½ slice	½ slice	1 slice	2 slices (servings)
Cornbread or biscuit or roll or muffin or	½ serving	½ serving	1 serving	2 servings
Cold dry cereal ³ or	¼ cup or 1/3 oz	1/3 cup or ½ oz	¾ cup or 1 oz	1 ½ cup or 2 oz
Cooked pasta or noodles	¼ cup	¼ cup	½ cup	1 cup

¹ Children age 12 and older may be served larger portions based on their greater food needs. They may not be served less than the minimum quantities listed in this column.

² Grains/breads must be enriched or whole-grain or made from enriched or whole-grain flour or meal that may include bran and/or germ

³ Either volume (cup) or weight (oz) whichever is less

Chart 4B: Child and Adult Care Food Program Meal Pattern—Lunch

Adapted from November 2001 USDA Food Buying Guide for Child Nutrition Programs

LUNCH				
Food Components and Food Items	Children Ages 1 and 2	Children Ages 3-5	Children Ages 6-12 ¹	Adults
Milk, fluid	4 fl oz (1/2 cup)	6 fl oz (3/4 cup)	8 fl oz (1 cup)	8 fl oz (1 cup)
Grains/Breads²				
Bread or	½ slice	½ slice	1 slice	2 slices (servings)
Cornbread or biscuit or roll or muffin or	½ serving	½ serving	1 serving	2 servings
Cooked cereal grains or	¼ cup	¼ cup	½ cup	1 cup
Cooked pasta or noodles	¼ cup	¼ cup	½ cup	1 cup
Meat or Meat Alternate				
Alternate protein products (APP)	1 oz	1-1/2 oz	2 oz	2 oz
Canned dry soybeans or dry soybeans	¼ cup	3/8 cup	½ cup	½ cup
Soy nut butter	2 Tbsp	3 Tbsp	4 Tbsp	4 Tbsp
Soy nuts ^{3,4}	½ oz = 50%	¾ oz = 50%	1 oz = 50%	1 oz = 50%

¹ Children age 12 and older may be served larger portions based on their greater food needs. They may not be served less than the minimum quantities listed in this column.

² Grains/breads must be enriched or whole-grain or made from enriched or whole-grain flour or meal that may include bran and/or germ

³ Nuts and seeds are generally not recommended to be served to children ages 1-3 since they present a choking hazard. If served, nuts and seeds should be finely minced

⁴ No more than 1 ounce of nuts and/or seeds may be served in any one lunch

Chart 4C: Child and Adult Care Food Program Meal Patterns—Supper

Adapted from November 2001 USDA Food Buying Guide for Child Nutrition Programs

SUPPER				
Food Components and Food Items	Children Ages 1 and 2	Children Ages 3-5	Children Ages 6-12 ¹	Adults
Milk, fluid	4 fl oz (1/2 cup)	6 fl oz (3/4 cup)	8 fl oz (1 cup)	8 fl oz (1 cup)
Grains/Breads²				
Bread or	½ slice	½ slice	1 slice	2 slices (servings)
Cornbread or biscuit or roll or muffin or	½ serving	½ serving	1 serving	2 servings
Cooked cereal grains or	¼ cup	¼ cup	½ cup	1 cup
Cooked pasta or noodles	¼ cup	¼ cup	½ cup	1 cup
Meat or Meat Alternate				
Alternate protein products (APP)	1 oz	1-1/2 oz	2 oz	2 oz
Canned dry soybeans or dry soybeans	¼ cup	3/8 cup	½ cup	½ cup
Soy nut butter	2 Tbsp	3 Tbsp	4 Tbsp	4 Tbsp
Soy nuts ^{3,4}	½ oz = 50%	¾ oz = 50%	1 oz = 50%	1 oz = 50%

¹ Children age 12 and older may be served larger portions based on their greater food needs. They may not be served less than the minimum quantities listed in this column.

² Grains/breads must be enriched or whole-grain or made from enriched or whole-grain flour or meal that may include bran and/or germ

³ Nuts and seeds are generally not recommended to be served to children ages 1-3 since they present a choking hazard. If served, nuts and seeds should be finely minced

⁴ No more than 1 ounce of nuts and/or seeds may be served in any one supper

Chart 4D: Child and Adult Care Food Program Meal Patterns—Snacks

Adapted from November 2001 USDA Food Buying Guide for Child Nutrition Programs

SNACKS				
Food Components and Food Items	Children Ages 1 and 2	Children Ages 3-5	Children Ages 6-12 ¹	Adults
Milk, fluid	4 fl oz (1/2 cup)	4 fl oz (1/2 cup)	8 fl oz (1 cup)	8 fl oz (1 cup)
Grains/Breads²				
Bread or	½ slice	½ slice	1 slice	1 slice
Cornbread or biscuit or roll or muffin or	½ serving	½ serving	1 serving	1 serving
Cold dry cereal ³ or	¼ cup or 1/3 oz	1/3 cup or ½ oz	¾ cup or 1 oz	¾ cup or 1 oz
Cooked cereal grains or	¼ cup	¼ cup	½ cup	½ cup
Cooked pasta or noodles	¼ cup	¼ cup	½ cup	½ cup
Meat or Meat Alternate				
Alternate protein products (APP)	½ oz	½ oz	1 oz	1 oz
Canned dry soybeans or dry soybeans	1/8 cup	1/8 cup	¼ cup	¼ cup
Soy nut butter	1 Tbsp	1 Tbsp	2 Tbsp	2 Tbsp
Soy nuts ⁴	½ oz	½ oz	1 oz	1 oz ⁵

¹ Children age 12 and older may be served larger portions based on their greater food needs. They may not be served less than the minimum quantities listed in this column.

² Grains/breads must be enriched or whole-grain or made from enriched or whole-grain flour or meal that may include bran and/or germ

³ Either volume (cup) or weight (oz), whichever is less

⁴ Nuts and seeds are generally not recommended to be served to children ages 1-3 since they present a choking hazard. If served, nuts and seeds should be finely minced

Chart 5: Summer Food Service Program Meal Pattern For Children

Adapted from November 2001 USDA Food Buying Guide for Child Nutrition Programs

Food Components and Food Items	Breakfast	Lunch or Supper	Snacks
Milk, fluid	8 fl oz (1 cup)	8 fl oz (1 cup)	8 fl oz (1 cup)
Grains/Breads¹			
Bread or	1 slice	1 slice	1 slice
Cornbread or biscuit or roll or muffin or	1 serving	1 serving	1 serving
Cold dry cereal ² or	$\frac{3}{4}$ cup or 1 oz	N/A	$\frac{3}{4}$ cup or 1 oz
Hot cooked cereal or	$\frac{1}{2}$ cup	$\frac{1}{2}$ cup	$\frac{1}{2}$ cup
Cooked pasta or noodles or grains	$\frac{1}{2}$ cup	$\frac{1}{2}$ cup	$\frac{1}{2}$ cup
Meat or Meat Alternate			
Alternate protein products (APP)	1 oz	2 oz	1 oz
Canned dry soybeans or dry soybeans	$\frac{1}{4}$ cup	$\frac{1}{2}$ cup	$\frac{1}{4}$ cup
Soy nut butter	2 Tbsp	4 Tbsp	2 Tbsp
Soy nuts ³	--	1 oz = 50%	1 oz

¹ Grains/breads must be enriched or whole-grain or made from enriched or whole-grain flour or meal that may include bran and/or germ

² Either volume (cup) or weight (oz), whichever is less

³ Nuts and seeds are generally not recommended to be served to children ages 1-3 since they present a choking hazard. If served, nuts and seeds should be finely minced.

Menu Planning (NSMP) Requirements

Menus planned under the NSMP approach must meet two requirements:

- 1) When averaged over the school week, school lunches and school breakfasts must meet the specific age-or grade-based nutrient standards as defined in 7 CFR Parts 210.10 and 220.8; and
- 2) At a minimum, planned menus must contain the menu items as summarized in Chart 6 below. Additional menu items may need to be added in order to meet nutrient standards and/or to increase variety.

Chart 6: Minimum Required Menu Items for Nutrient Standard Menu Planning

Adapted from November 2001 USDA Food Buying Guide for Child Nutrition Programs

Menu Items	Minimum Amounts	
	Lunch	Breakfast
Entrée	1 serving	None
Other menu item(s) (side dishes)	1 serving	2 servings
Fluid milk	1 serving	1 serving

Part IV—Recipes

Soy Hot Dog with Macaroni and Cheese

INGREDIENTS	WEIGHT	DIRECTIONS
Water	6 gal	1. Heat water to rolling boil in a large stockpot.
Soy elbow macaroni	5.8 lb	2. Slowly add macaroni. Stir constantly until water boils again. 3. Cook at least 10 minutes or until tender; stir occasionally. Do not overcook. 4. Drain well and return to stockpot
Cheese sauce	8 lb 11 oz	5. Heat cheese sauce to a minimum of 140°F.
Soy hot dogs, diced	3.5 lb	6. Add hot cheese sauce and diced hot dogs to cooked macaroni. Stir gently.
		7. Heat mixture until the internal temperature is a minimum of 140°F. 8. Portion with No. 8 scoop (½ cup)
Nutrients Per Serving	Calories: 200 Protein: 15 g Soy Protein: 10 g Carbohydrate: 19 g Total Fat: 7 g Saturated Fat: 3 g Cholesterol: 15 mg	Vitamin A: 77 mcg Vitamin C: <1 mg Iron: 2 mg Calcium: 124 mg Sodium: 263 mg Dietary Fiber: 1 g
Serving	½ cup	
Yield	100	

Soy-Enhanced Meatloaf

INGREDIENTS	WEIGHT	DIRECTIONS
Soy-enhanced ground beef	30 lb	1. Combine beef, saltines, eggs, onions, seasoning and milk.
Saltine crackers, crushed	8 sleeves (2 lb)	2. Mix by hand until all ingredients are evenly distributed.
Eggs	24 (2 lb 10oz)	3. Divide mixture into 3 (12 x 20 x 2½) pans.
Onions, dried chopped	2 cups	4. Press mixture into pans. Smooth top.
Italian seasoning	½ cup	
Milk	2 qts	
Ketchup	3 cups	5. Spread 1 cup of ketchup on top of each meatloaf pan.
		6. Bake at 350°F for 1½ hours or until internal temperature reaches a minimum of 155°F 7. Cut each pan 6 x 9 (approximately 50, 2 oz squares)
Nutrients Per Serving	Calories: 230 Protein: 18 g Soy Protein: 4 g Carbohydrate: 9 g Total Fat: 13 g Saturated Fat: 5 g Cholesterol: 80 mg	Vitamin A: 26 mcg Vitamin C: 2 mg Iron: 3 mg Calcium: 62 mg Sodium: 182 mg Dietary Fiber: 1 g
Serving	2 oz	
Yield	150	

BBQ Sandwich

INGREDIENTS	WEIGHT	DIRECTIONS
BBQ Sauce with chopped pork and TVP	10 lbs	1. Thaw product in refrigerator 12-16 hours. 2. Divide into two 12 x 20 x 2-inch counter pans. 3. Preheat oven to 350°F. 4. Bake 35-45 minutes or until product reaches internal temperature of 165°F.
Hamburger buns	50	5. Use a No. 8 scoop to portion 3 oz of meat onto each hamburger bun. 6. Cut sandwiches in half before serving.
Nutrients Per Serving	Calories: 146 Protein: 12 g Soy Protein: 4 g Carbohydrate: 14 g Total Fat: 5 g Saturated Fat: 2 g Cholesterol: 20 mg	Vitamin A: 3 mcg Vitamin C: <1 mg Iron: 2 mg Calcium: 41 mg Sodium: 280 mg Dietary Fiber: <1 g
Serving	½ sandwich (1.5 oz meat, ½ bun)	
Yield	100	

Black Soybean Salad

INGREDIENTS	WEIGHT	DIRECTIONS
Canned Chickpeas, drained	3 cups	1. Rinse chickpeas in cold water and drain well.
Black soybeans, cooked and drained	3 cups	2. In a large bowl, combine chickpeas, black soybeans, green beans, onions and green pepper (optional)
Frozen green soybeans, thawed	3 cups	
White or red onions, chopped	½ cup	
Fresh green pepper, chopped	1¼ cup	
Soy oil	2/3 cup	3. In a large bowl, combine soy oil, vinegar, sugar, basil, pepper and garlic powder. Mix or shake until well blended.
Vinegar	2/3 cup	
Sugar	1/3 cup	
Flaked Basil	1 Tbsp	
Black or white pepper	1 tsp	
Garlic powder	1 tsp	
		4. Pour dressing over beans. Toss lightly to combine and coat evenly. 5. Refrigerate until ready to serve. Portion with No. 16 scoop (¼ cup)
Nutrients Per Serving	Calories: 47 Protein: 7 g Soy Protein: 5.5 g Carbohydrate: 3 g Total Fat: 3 g Saturated Fat: 0.5 g Cholesterol: 0 mg	Vitamin A: 91 IU Vitamin C: 2 mg Iron: 0.5 mg Calcium: 14 mg Sodium: 110 mg Dietary Fiber: 1 g
Serving	¼ cup	
Yield	50	

Soy-Enhanced Spaghetti

INGREDIENTS	WEIGHT	DIRECTIONS
Water	5 gal	1. Heat water to boiling.
Soy spaghetti noodles	5 lb	2. Break soy spaghetti noodles into thirds and slowly add to boiling water. Stir constantly, until the water boils again. 3. Cook at least 10-12 minutes or until tender; stir occasionally. DO NOT OVERCOOK. 4. Drain well.
Soy-enhanced ground beef	15 lb	5. Cook beef, onion and garlic powder until meat reaches an internal temperature of 155°F. Drain off fat.
Onions, dehydrated, chopped	¼ cup	
Garlic Powder	¼ cup	
Salt & Pepper	to taste	6. Add salt & pepper to meat (optional)
Spaghetti Sauce Italian seasoning	½ cup	7. Add spaghetti sauce and seasoning to meat. Simmer approximately 1 hour.
		8. Stir in cooked spaghetti noodles. 9. Pour into serving pans. 10. Portion ½ cup per serving.
Nutrients Per Serving	Calories: 173 Protein: 10 g Soy Protein: 5 g Carbohydrate: 17 g Total Fat: 7 g Saturated Fat: 2 g Cholesterol: 22 mg	Vitamin A: 31 mcg Vitamin C: 6 mg Iron: 2 mg Calcium: 25 mg Sodium: 257 mg Dietary Fiber: 1 g
Serving	½ cup	
Yield	150	

Vegetable Chili

INGREDIENTS	WEIGHT	DIRECTIONS
Vegetable oil	¼ cup	1. Heat the oil in a steam jacketed kettle. 2. Add the chopped onions and sauté 3 minutes, until translucent. 3. Add the chopped green peppers and sauté 2 minutes until tender.
Onions, chopped or Dehydrated onions	1 lb 4 oz (or 1 qt) 1 oz (or 1 cup)	
Fresh green pepper, chopped or Dried green pepper	9 oz (or 2 cups) 1/3 cup	
Chile powder	¾ cup	4. Add the chile powder, cumin, granulated garlic, onion salt, red hot sauce (optional) brown sugar, and tomatoes. Simmer 15 minutes, uncovered.
Cumin	¼ cup	
Granulated garlic	1 Tbsp 1 tsp	
Onion salt	2 tsp	
Red hot sauce (optional)	¼ cup	
Brown sugar	4 oz (or ½ cup)	
Canned crushed tomatoes	6 lb 11 oz can (or 1 No. 10 can)	
Canned diced tomatoes, drained	1 lb (or 2½ cups)	
Water, hot	3 qt	5. Pour hot water over the textured vegetable protein. Let stand for 20 minutes. 6. Add the kidney beans to the soy mixture. Simmer 15 minutes, uncovered. 7. Add yogurt and stir to blend.
Textured vegetable protein	15 oz (2 qt 2 cups)	
Canned kidney beans	8 lb 1 oz (3 qt ½ cups)	
Low-fat plain yogurt	2 lb (1 qt)	

continued on next page

Low-fat cheddar cheese, shredded	3 lb 2 oz (3 qt ½ cup)	8. Portion into ¾ cup (7 oz ladle) servings. 9. Sprinkle ¼ cup of cheddar cheese on top of each serving.
Nutrients Per Serving	Calories: 173 Protein: 7 g Soy Protein: 5 g Carbohydrate: 17 g Total Fat: 7 g Saturated Fat: 5 g Cholesterol: 22 mg	Vitamin A: 31 mcg Vitamin C: 6 mg Iron: 2 mg Calcium: 25 mg Sodium: 257 mg Dietary Fiber: 1 g
Serving	¾ cup (7 oz ladle)	
Yield	50	

Soy Nut Butter and Jelly Sandwiches

INGREDIENTS	WEIGHT	DIRECTIONS
Soy nut butter	7 qts	1. Mix soy nut butter and jelly.
Jelly	7 qts	
Bread slices	300	2. Spread soy nut butter and jelly mixture on 150 slices of bread and top with other remaining slices. 3. Serve 1 sandwich portion.
Nutrients Per Serving*	Calories: 400 Protein: 4 g Soy Protein: 12 g Carbohydrate: 45 g Total Fat: 18 g Saturated Fat: n/a Cholesterol: n/a	Vitamin A: n/a Vitamin C: n/a Iron: 1.2 mg Calcium: 2 mg Sodium: 170 mg Dietary Fiber: 1.3 g
Serving	1 sandwich (1.5 oz jelly and 1.5 oz soy nut butter)	
Yield	150	

* The nutritional information provided is not accurate but rather an estimate as it depends on brand of soy nut butter and type of bread (whole wheat vs. white). Sources include: <http://www.nal.usda.gov> Accessed June 25, 2004 and <http://www.soyfoods.com/soyfoodsdescriptions/soynutbutter.html> Accessed June 25, 2004.

Appendix A

Mock request for fortified soymilk for parent or legal guardian to complete

*This language could be included on free/reduced meal application or as a separate piece to be sent home to parents.
This form has not been approved by USDA.*

* * *

Fortified soymilk is now available to meet the nutritional needs of all children participating in the School Lunch Program. Please complete this form if your child needs a milk alternative.

Name of Parent/Legal guardian _____

Name of student _____

Name of school _____

Relationship to student (check one): Parent Legal Guardian

Food(s) to be omitted from student's meal(s): **Milk**

Alternative beverage requested: **Fortified Soymilk**

Please indicate the reason(s) for requesting an alternative beverage (check all that apply):

Lactose intolerance

Milk allergy

Religious food preferences

Ethnic food preferences

Other: please indicate _____

Signature of parent/legal guardian _____ Date _____

Mock State Notification for Schools Providing Fortified Soymilk

This form has not been approved by USDA

This notice is to inform the State Agency that _____
(name of school)

in _____ is providing fortified soymilk for students
(name of school district)

with special dietary needs, or for religious, ethnic, or economic reasons in accordance

with Public Law 108-625.

Signature of School Foodservice Director _____

Date _____

Footnotes

- ¹ Iacono G, Cavataio F, Montalto G, Florena A, Tumminello M, Soresi M, Notarbartolo A, Carroccio A. Intolerance of Cow's Milk and Chronic Constipation in Children. *N England Journal of Medicine*. Vol. 339: 1100-4. 1998.
- ² Allen UD, McLeod K, Wang EE. Cow's milk versus soy-based formula in mild and moderate diarrhea: a randomized, controlled trial. *Acta Paediatr*. 83(2):183-7. Feb 1994.
- ³ Widhalm K, Brazda G, Schneider B, Kohl S. Effect of soy protein diet versus standard low fat, low cholesterol diet on lipid and lipoprotein levels in children with familial or polygenic hypercholesterolemia. *J Pediatr*. 123(1):30-4. Jly 1993.
- ⁴ Jacques H, Laurin D, Moorjani S, Steinke FH, Gagne C, Brun D, Lupien PJ. Influence of diets containing cow's milk or soy protein beverage on plasma lipids in children with familial hypercholesterolemia. *J Am Coll Nutr*. Suppl:69S-73S. June 1992.
- ⁵ Shu XO, Jin F, Dai Q, Wen W, Potter JD, Kushi LK, Ruan Z, Gao Y, Zheng W. Soyfood Intake during Adolescence and Subsequent Risk of Breast Cancer among Chinese Women. *Cancer Epidemiology, Biomarkers & Prevention*. Vol 10: 483-488. 2001
- ⁶ Endres J, Barter S, Theodora P, Welch P. Soy-enhanced lunch acceptance by preschoolers. *J AM Diet Assoc*. Volume 103(3): 346-351.
- ⁷ Protein Quality Evaluation, Report of the Joint FAO/WHO Expert Consultation. Rome: FAO Food and Nutrition Paper No 51, 1991 and information from the Solae Company: <http://www.solaeliving.com/soybasics/nutritionbasics/necessarynutrients/protein.jsp>. Accessed 7/20/04
- ⁸ 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].
- ⁹ USDA Nutrient Database. Standard Reference 17.
- ¹⁰ Diet, Nutrition and the Prevention of Chronic Diseases. WHO Technical Report Series (2003) 916. Report of a Joint WHO/FAO Expert Consultation. WORLD HEALTH ORGANIZATION FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS.
- ¹¹ Setchell K, Lydeking-Olsen E. Dietary phytoestrogens and their effect on bone: evidence from in vitro and in vivo, human observational, and dietary intervention studies. *Am J Clin Nutr*, 2003; 78(suppl):593S-609S.
- ¹² 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.
- ¹³ *Questions and Answers on Alternative Protein Products (APP)*. Accessed at www.fns.usda.gov/cnd/menu/app.pdf on 3/36/04.
- ¹⁴ Federal Register, Volume 65, No 47. Thursday March 9, 2000. Modification of the "Vegetable Protein Products" Requirements for the National School Lunch Program, School Breakfast Program, Summer Food Service Program and Child and Adult Care Food Program.
- ¹⁵ Code of Federal Regulations - 7 CFR 210.10 g(2)
- ¹⁶ The United Soybean Board. Soy information, products and recipes. Accessed at <http://talksoy.com/FoodIndustry/oOil.htm> on 6/24/04.

