

ACTION BY: Regional Offices
State Educational Agencies

Guidelines for the Amounts and Use of Nonfat Dry Milk,
Whole Dry Milk, and Canned Evaporated Milk Which are
Equivalent to One-Half Pint of Fluid Whole Milk

I PURPOSE

This Instruction prescribes the amounts and use of nonfat dry milk, whole dry milk, and canned evaporated milk which are equivalent to one-half pint of fluid whole milk. These equivalents are to be used in schools approved for the service of lunches without milk.

II AUTHORITY

Section 210.10(c) of the National School Lunch Program Regulations states that "The inability of a school to obtain a supply of milk on a continuing basis shall not bar it from participation in the program. In such cases the State Agency or FNSRO, where applicable, may approve the service of lunches without milk: Provided, that an equivalent amount of canned, whole dry or nonfat dry milk is used in the preparation of the components of the Type A lunch."

III POLICY

To be eligible for reimbursement, each lunch must be served in accordance with the above cited authority. One, or a combination of the items listed below, must be used in preparation of the components of the lunch, and in the quantity indicated.

<u>Milk Alternates</u>	<u>Amount</u>
Noninstant, nonfat dry milk, or	3 tablespoons
Instant, nonfat dry milk, or	1/3 cup
Regular dry whole milk, or	1/4 cup
Canned evaporated milk	1/2 cup

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In order for the reconstituted milk to be similar in nutritive value to whole-milk, it is recommended that nonfat dry milk be fortified with Vitamins A and D, and that whole dry and canned evaporated milk be fortified with Vitamin D. Guidelines desired to help schools use these milk alternates in the preparation of the lunches are shown in Exhibit A, attached.

IV ACTAION REQUIRED

Each State Agency or Regional Office, where applicable, upon approval of a school's request to use equivalent milk alternates for fied whole milk, shall:

A Assist school lunch managers in interpreting these guidelines and planing menus.

B Review such school as often as necessary to insure that the lunches being served are meeting the requirement contained herein.


Deputy Administrator

Attachment

Guidelines for Using Nonfat Dry Milk, Whole Dry Milk
and Canned Evaporated Milk When Fresh, Fluid, Whole Milk is
Not Available on a Continuing Basis

The school lunch manager must carefully plan menus in order to provide the equivalent of at least 1/2-pint fluid milk per lunch. It is frequently necessary to include more than one menu item to provide the equivalent of 1/2-pint fluid, whole milk. Suggestions for menu items include hot cocoa, cream soups, custards, puddings, cream sauces, gravies, casseroles, mashed potatoes, cookies, cakes, biscuits, and breads. To increase the nutritive value of milk equivalents in a lunch, larger amounts of nonfat dry milk up to 1-1/2 times the volume or weight normally used for making fluid milk may be used in some recipes, such as baked custard, cream pudding, rice pudding, cream soups, hot cocoa, gravies, and white sauce. It is recommended that additional food be served in the lunch for extra calories when nonfat dry milk is used in place of whole milk. Desserts made with milk are a good source of extra calories.

In order for these milk alternates to be similar in vitamin content to that of whole milk, it is recommended that nonfat dry milk be fortified with Vitamins A and D and whole dry and canned evaporated milk be fortified with Vitamin D.

Methods of Using Nonfat Dry Milk in Recipes

A Reconstitute Before Using. Reconstitute with water to replace fluid milk in recipes. Mixing methods and amounts shown in Table I may be used for reconstituting nonfat dry milk (also whole dry milk and evaporated milk) when fluid milk is needed.

B Use Dry. Mix with the dry ingredients in a recipe; add the water for reconstitution to the liquid ingredients in the recipe.

Equivalent Amounts of Whole Milk Alternates

The amounts of the milk alternates which have the equivalent amount of vitamins and minerals to 1/2-pint fluid, whole beverage milk in each lunch are as follows:

Equivalent Amounts of Whole Milk Alternates		
Milk Alternate	Amount for 1/2-Pint Fluid Milk ^{1/}	
	Measure	Weight
Nonfat Dry Milk		
Noninstant.....	3 Tbsp.	7/8 oz. (0.875 oz.)
Instant.....	1/3 cup	7/8 oz. (0.875 oz.)
Whole Dry Milk, Regular.....	1/4 cup	1 oz.
Evaporated Milk, Canned.....	1/2 cup	4-1/2 oz.

^{1/} One-half pint equals 1 cup or 8 fluid ounces.

Table I
Amounts and Mixing Methods for Reconstituting Nonfat Dry Milk,
(Noninstant and Instant) Whole Dry Milk, and Evaporated Milk into Fluid Milk

Ingredients	1 Quart		1 Gallon		Directions
	Measure	Weight	Measure	Weight	
Nonfat Dry Milk, Noninstant..	3/4 cup	3-1/2 oz.	3 cups	14 oz.	Sprinkle milk on top of water and beat with mixer, rotary beater, or wire whip until smooth.
Water.....	3-3/4 cups	--	3-3/4 qt.	--	
Nonfat Dry Milk, Instant.....	1-1/3 cups	3-1/2 oz.	1 qt. 1-1/3 cups	14 oz.	Mix milk and water in a container with a tight lid or in a large pitcher.
Water.....	3-3/4 cups	--	3-3/4 qt.	--	
Whole Dry Milk, Regular.....	1 cup	4-1/2 oz.	1 qt.	1 lb. 2 oz.	Sprinkle milk on top of water and beat with mixer, rotary beater, or wire whip until smooth.
Water.....	3-1/2 cups	--	3-1/2 qt.	--	
Evaporated Milk, Canned	2 cups	1 lb. 2 oz.	2 qt.	4 lb. 8 oz.	Mix milk with water.
Water.....	2 cups	--	2 qt.	--	

Recipes

Examples of quantity recipes that make an appreciable contribution to the milk requirement of the lunch are given in Table II. A recipe for making hot cocoa beverage is attached. Other recipes in the recipe card file, "Quantity Recipes for Type A School Lunches," PA-631 (Revised 1971), will make smaller contributions to the milk requirement of the lunch.

Table II

Recipes from "Quantity Recipes for Type A School Lunches,"
PA-631 (Revised 1971), That Make a Contribution to the
Milk Requirement of the Lunch

Recipe Name	Card Number	Whole Fluid Milk Equivalents (Approximate Ounces Per Portion)
Desserts		
Baked Custard	C-6	2.88
Bread Pudding	C-7	3.20
Cream Pudding	C-13	3.36
Main Dishes		
Cheese-Potato Casserole	D-18	2.56
Rice-Cheese Casserole	D-19	1.60
Corn Grits-Cheese Casserole	D-25	1.60
Creamed Turkey	D-27	2.56
Creamed Dried Beef	D-28	3.84
Macaroni and Cheese	D-34	2.56
Tuna Shortcake	D-53	2.56
Sauces and Gravies		
White Sauce	H-10	2.56
Soups		
Cream of Tomato Soup	I-3	5.76
New England Haddock Chowder	I-5	2.56
Vegetables		
Baked Spinach in Sauce	J-9	1.39
Corn Pudding	J-11	2.70
Creamed Cabbage	J-12	1.60
Scalloped Potatoes	J-19	2.56
Beverages		
Hot Cocoa	(See Recipe Attached)	8.11

Calculating the Amount of Fluid Milk a Recipe Will Supply Per Serving

Directions:

- A Record the amount of fluid milk specified in the recipe.
- B Convert quarts and gallons to cups of milk.
- C Multiply the number of cups by 8 (number of fluid ounces per cup) to get the total number of fluid ounces of milk in the recipe.
- D Divide the total number of fluid ounces by the number of servings in the recipe to get the number of fluid ounces of milk per serving.

Example:

Recipe for Tomato Soup (I-3) calls for 4-1/2 gallons of milk per 100 servings.

4-1/2 gallons = 72 cups milk.

72 cups X 8 fluid ounces = 576 fluid ounces.

576 fluid ounces ÷ 100 servings = 5.76 fluid ounces milk per serving.

Calculating the Amount of Fluid Milk Equivalent Per Lunch

- A Check (✓) the food components on each menu (sample shown below) that will contribute toward the milk requirement.
- B Indicate size of serving.
- C Determine the total amount of milk in each lunch as follows:^{1/}

<u>Menu</u>	<u>Fluid Milk Per Lunch</u>
✓ Cream of Tomato Soup (I-3) 1 cup..... Grilled Ham and Cheese Sandwich Tossed Green Salad Sliced Peaches	5.76 fluid ounces.
✓ Vanilla Cream Pudding (C-13) 1/2 cup..	<u>3.36</u> fluid ounces.

Total Fluid Milk Equivalent..... 9.12 fluid ounces or approximately 9 fluid ounces (meets the 1 cup lunch requirement).

^{1/} If the total number of fluid ounces of milk per lunch contains a fraction over 1/2 ounce (equal to or greater than 0.5), round it up to the nearest ounce (Example: 7.64 ounces may be rounded up to 8 ounces).

Hot Cocoa Beverage

Ingredients	100 Servings		For Servings	Directions
	Weights	Measures		
Cocoa.....	1 lb. 3 oz.	1 qt. 1-1/2 cups	--	<ol style="list-style-type: none"> Blend dry ingredients. Stir in water. Heat to boiling and cook 5 minutes, stirring occasionally. Sprinkle dry milk on top of water and beat to blend to a smooth paste. Add paste to boiling water and beat to blend. Add cocoa mixture and vanilla to milk and beat to blend. Serve hot.
Sugar.....	2 lb. 7 oz.	1 qt. 1-1/2 cups	--	
Salt.....	--	2 tsp.	--	
Water.....	--	1 gal.	--	
Nonfat dry milk.....	5 lb. 8 oz.	1 gal. 3 cups, noninstant	--	
Lukewarm water.....	--	1 gal.	--	
Boiling water.....	--	3-1/4 gal.	--	
Vanilla.....	--	3-1/2 Tbsp.	--	

Serving: About 1 cup.
Cost per serving _____