

References

- Brennand, Charlotte P. "Nonfat Dry Milk." Utah State University. 1991. (http://extension.usu.edu/files/publications/publication/FN_142.pdf)
- Brennand, Charlotte P. "Storage of Dry Milk." Utah State University. 1992. http://extension.usu.edu/files/publications/publication/FN_177.pdf
- Roberts, Adrie. "Cooking with Food Storage Ingredients." Utah State University. (<http://extension.usu.edu/cache/files/uploads/Cooking%20with%20Food%20Storage%20Ingredients%206-07.pdf>)
- Eliason, Karine, Harward Nevada and Madeline Westover. *Make-a-Mix Cookery*. H.P. Books. Tucson, AZ. 1978.
- Nelson, Virginia D. *There's a Cow in the Kitchen*. Ginny's. Logan, UT. 1999.

Electronic Sources:

- <http://www.hillbillyhousewife.com>
- <http://lancaster.unl.edu>
- <http://www.ehow.com/> (How to Make Condensed Milk)
- http://fcspasco.ifas.ufl.edu/PDF-Instant_Nonfat_Dry_Milk.pdf

EXTENSION.USU.EDU/UTAH

100 East Center Street, L600
Provo, UT 84606

Phone: 801-851-8460

Fax: 801-343-8463

<http://extension.usu.edu/utah>



Got *DRIED* Milk?

Delicious ideas to use
your food storage
and stretch your food dollar!



Utah State University Extension
100 East Center Street, L600
Provo, UT 84606 801-851-8460
extension.usu.edu/utah

Jana Darrington,
USU Extension Assistant Professor/FCS Agent
Marie Anderson,
Staff Assistant



Table of Contents

Reconstituting	4
Substitute Dry Milk in any Recipe	4
Storage	5
Things to Consider	5
Health Benefits of Milk	6
Quick Mix	7
Cinnamon Oatmeal Pancake Mix	7
Hot Cocoa Mix	7
SOS Mix	8
Easy Evaporated Milk	8
Ice Cream	8
Yogurt	9
Yogurt Cheese	9
Sweetened Condensed Milk	9
Frozen Fudge bars	10
Peach Smoothie	10
Alfredo Sauce	10
Chicken Enchiladas	11
Hot Fudge Pudding Cake	11
References	12

Chicken Enchiladas

1 cup SOS MIX	4 cups water
1 onion, chopped	1 can green chilies, chopped
1 pkg. flour or corn tortillas (12)	2 lb. cooked, diced or shredded chicken
1 Tbsp. canola oil	2 cups cheddar cheese, grated
1 pint sour cream (optional)	

Make sauce by combining dry sauce mix and water. Cook and stir on stovetop or in microwave until thickened. Sauté onion and green chilies in oil; add sauce and simmer for 10 minutes. If desired, let cool and add optional sour cream. Cut tortillas in quarters. Spray a casserole dish with cooking spray. Line bottom of casserole dish with tortillas. Add a layer of chicken and a layer of sauce. Top with cheese. Repeat. Bake at 350° F. for 20 minutes. Additional tortillas may be heated and served with casserole. If crisp tortillas are preferred, allow sauce to chill before using.

(Adapted from: Roberts, Cooking with Food Storage Ingredients)

Hot Fudge Pudding Cake

1 1/2 cups Quick Mix (page 6)	2 Tbsp. cocoa
1/3 cup canola oil	1/4 cup cocoa
1 tsp. vanilla	3/4 cup chopped nuts
1/2 cup granulated sugar	1 1/2 cups boiling water
3/4 cup brown sugar, packed	1/2 cup reconstituted milk
1 cup chocolate chips	

Preheat oven to 350° F. In unbuttered, 8-inch square pan, combine QUICK MIX, granulated sugar, 2 tablespoons cocoa, nuts, milk, oil, and vanilla. Blend well. Combine brown sugar and 1/4 cup cocoa in small bowl. Add to water. Bring to boil. Gently pour over top of cake mixture. Do not stir. Bake 35 to 40 minutes, until edges separate from pan. About 5 minutes before it is done sprinkle chocolate chips on the top. Finish baking and let cool in pan 15 minutes before serving. Makes one 8-inch cake.

Serve with Nonfat Whip Topping (page 8).

(Adapted from: Roberts, Cooking with Food Storage Ingredients)

Frozen Fudge Bars

4 cups hot water
 3/4 cup granulated sugar
 3 tablespoons flour
 1 tablespoon cornstarch
 1/4 teaspoon salt
 3 tablespoons cocoa
 2 cups instant nonfat dry milk powder
 1/2 teaspoon vanilla

Put water in medium sauce pan and bring to a boil. While water is heating, measure sugar, flour, cornstarch, salt, cocoa and milk powder in a medium bowl and mix well. When water boils, add the milk/cocoa mixture and beat well. Adjust heat so mixture simmers and cook for 1 minute, stirring constantly. Remove from heat and add vanilla. Pour into molds or small cups and insert a handle or spoon. Freeze. Makes eight 4-ounce bars.
 (<http://lancaster.unl.edu>)

Peach Smoothie

1 quart bottle of peaches
 1 1/3 cups dried milk
 1 cup ice cubes/crushed ice
 Sugar to taste
 1/8 tsp. Vanilla extract or Almond extract

Add all ingredients in blender and blend until smooth. Add additional water if too thick. Can't drink it all? Put in freezer for a frozen treat.
 (Marie Anderson, USU Extension, 2009)

Alfredo Sauce

1/3 cup SOS MIX
 2 Tbsp- 1/4 cup grated Parmesan cheese or to taste
 1/2 cup sour cream
 1 1/4 cup water
 1/4 tsp. pepper

Combine all ingredients, except sour cream, in a small saucepan. Mix well and cook until thick. Turn off heat. Add sour cream. Serve sauce over cooked noodles or on a pizza. Yield: 1 1/2 cups sauce.

(Roberts, Cooking with Food Storage Ingredients)



Milk is important for a healthy diet and is one of the richest sources of absorbable calcium. It is high in protein, potassium, riboflavin, and vitamins A, D, and B12.

Nonfat dry milk is a wholesome dairy product made from fresh milk. Only the cream and water are removed. It still contains the calcium and other minerals, the vitamins, natural sugar and high quality protein that make liquid milk such a valuable food.

(Brennand, 1991)



Reconstituting*

Amount Needed	Use this much dry milk		Water
	Instant	Non-Instant	
1 quart	1 1/3 cups	3/4 cups	3 3/4 cups
1 pint	2/3 cups	3/8 cup (about 1/3)	1 3/4 cups + 2 Tbsp.
1 cup	1/3 cup	3 Tbsp.	Scant cup
1/2 cup	3 Tbsp.	1 1/2 Tbsp.	1/2 cup
1/4 cup	1 1/2 Tbsp.	2 teaspoons	1/4 cup

*follow the guide above or the one on your box/can, but also use your taste buds!

Substitute Dry Milk in Any Recipe!

- In baked good recipes calling for milk, simply add the dry milk to other dry ingredients and sift to blend. Then, add the necessary water for the milk when you add the liquids.
- Add 1/4 to 1/2 cup dry milk per pound of meat when making meat loaf or hamburgers. It helps to bind and adds nutrients.
- Mashed potatoes: Mash cooked potatoes and add 1/4 cup dry milk for each cup of potatoes. Use either the cooking water or fresh milk to reach the desired consistency.
- Cooked cereals: Add 1/4 cup to 1/2 cup milk to each cup of cereal prior to cooking.

(Brennand, 1991)

Yogurt

- 1 quart of reconstituted milk
- 1/3 cup instant non-fat dry milk powder
- 1/2 cup plain yogurt (with active yogurt cultures)

Let the plain yogurt stand at room temperature for 3 to 4 hours. Combine and heat the milk and milk powder to just below boiling (about 190°), do not allow to boil. Cool to warm (about 91° to 100°). Add the yogurt and mix thoroughly but do not beat or whip. Pour into containers, bowl, or yogurt maker (follow manufacturer's directions). Place in a container of warm water or slightly warm oven. Cover and keep lukewarm and undisturbed until a curd the consistency of pudding has formed. This may take six to eight hours. After processing, store yogurt in the refrigerator. Save 1/2 cup of the yogurt to use as a starter for another batch. Chill for about 2 hours before eating.

Yogurt Cheese

To make yogurt cheese, which can be used as a substitute for cream cheese or sour cream in any recipe, use homemade or store-bought all-natural plain yogurt. Place 1 cup of yogurt in a small mesh strainer lined with cheesecloth and place strainer over bowl. Allow to drain on counter for up to 6 hours, or in refrigerator overnight. Use the whey (liquid) in baking (if desired) and place yogurt cheese in an airtight container. Place in refrigerator. Yogurt cheese will become more firm if allowed to drain longer. Therefore, if you want sour cream, allow to drain for approximately 4 hours before using.

Sweetened Condensed Milk

Boil 1/2 cup water, 1 cup sugar, dash salt and 3-4 tablespoons butter. When it comes to a full, rolling boil remove from heat and allow to cool slightly. Pour into blender and add one cup of powdered milk and blend until smooth. Equivalent to one can of condensed milk. Store unused portion in refrigerator.

(<http://www.hillbillyhousewife.com>)

Soup or Sauce Mix *SOS*

2 cups powdered non-fat dry milk 3/4 cup cornstarch
 1/4 cup instant chicken bouillon 2 Tbs. dried onion flakes
 2 tsp. Italian Seasoning

Combine all ingredients in a re-closeable plastic bag, mixing well.
 Yield: Equal to 9 cans of cream soup.

**To substitute for 1 can of cream soup:**

Combine 1/3 cup of dry mix with 1 1/4 cups of cold water. Cook and stir on stove top or in microwave until thickened. Add thickened mixture to casseroles as you would a can of soup.

Storage Store in closed plastic bag or air-tight container until ready to use. It does not have to be refrigerated.

(Roberts, Cooking with Food Storage Ingredients)

Easy Evaporated Milk

1 1/3 cups water 1 cup instant dry milk
 Mix. Then add 2 tablespoons of vegetable oil to the milk. Stir it up vigorously to emulsify the fat with the mix. This will separate on standing, so mix it very well right before using. Best used in cooking and baking. A spritz of non-stick spray will also help the emulsification process.

(Adapted from <http://www.hillbillyhousewife.com/powderedmilk>.)

Ice Cream

2 cups water 2 cups dried milk
 1/2 cup sugar 1/2 teaspoon vanilla

Mix in blender and pour into ice cream freezer and follow manufacturer's directions. Makes about 4 cups of ice cream.

*For variety, add 1 cup fruit, nuts, berries, chocolate chips, etc.

(Marie Anderson, USU Extension, 2009)

Got Milk?**Storage**

The shelf life of milk is based on the quality of the product. Undesirable chemical changes occur in milk the longer it is stored affecting the flavor, odor, and color. The following factors should be considered.

1. **Temperature.** Use the following guide to determine approximate shelf life for milk stored at different temperatures (in unopened packages) with either nitrogen or carbon dioxide used to replace the air in the package. Storage times will be shorter in paper or in cardboard packages.
 - 50° F: 24-48 months
 - 70° F: 12 to 24 months
 - 90° F: 3 months
2. **Moisture.** Package in vapor-proof materials and store in a dry location away from steam or areas where condensation could occur. Moisture causes caking and speeds up undesirable flavor changes.
3. **Oxygen.** Oxygen speeds chemical changes, causing flavor and odor changes. Exclude as much oxygen as possible by packaging in an air-tight environment, vacuum packing, and/or packing with nitrogen or carbon dioxide.
4. **Light.** Exclude as much light as possible. The chemical changes which cause changes in flavor and odor are accelerated by light.

(Brennand, 1992)

*New research from BYU indicates non-fat dried milk can store up to 20+ years (unopened) if kept in a cool, dry location

Things to Consider

- It is best to buy dry milk fortified with vitamins A and D. Most dried milk is fortified, but check packaging/label.
- The package should be waterproof and impermeable to air. Plastic food-grade buckets work well.
- Your storage container should fit space considerations and family need. Once opened, dried milk will not keep as long, therefore, a large container is not desirable for a household that consumes a small amount of milk per week.
- Do not buy more dried milk than you would normally use in a reasonable time period.
- Date the milk when you buy it.

(Brennand, 1992)



Health Benefits of Milk

- Increased consumption can reduce risk of osteoporosis
- Increased dairy consumption leads to weight loss by helping to prevent accumulation of excess body fat
- Nutrients in milk, such as calcium, potassium, & magnesium lower blood pressure & reduce risk of hypertension
- Intake of dairy foods decreases risk of colon and breast cancers

Just one 8-ounce serving gives us **NINE** essential daily nutrients

- Calcium (30%) – build, maintain strong bones and teeth
- Vitamin D (25%) – avail in fortified milk, helps us absorb the calcium and enhances bone mineralization. Milk is one of the few foods to provide Vitamin D.
- Riboflavin (24%) – B2 – helps us convert food into energy
- Phosphorus (20%) – strengthens bones & generates energy
- Protein (16%) – Milk protein in “complete” meaning that it contains all the essential amino acids or building blocks of protein. This builds and repairs muscle tissue and serves as energy.
- Vitamin B12 (13%) – builds red blood cells which carries oxygen to our muscles
- Potassium (11%) – regulates body's fluid balance and helps maintain normal blood pressure
- Vitamin A (10%) – maintain normal vision and skin, regulates cell growth, helps our immune system
- Niacin (10%) – critical for enzyme functioning in our body and helps to metabolize sugars and fatty acids.

Source: Utah Dairy Council. Retrieved July 14, 2009 from <http://www.utahdairycouncil.com/50.html>

In addition, NFDM contains no fat, and is a great way to maintain a low-fat diet when it is added to breads, cereals, mixes, etc.

Recipes

Quick Mix

- | | |
|---|------------------------|
| 8 1/2 cups flour or 5 cups white flour & 3 1/2 cups whole wheat flour | |
| 1 tsp. baking soda | 1 Tbsp. baking powder |
| 1 Tbsp. salt | 2 tsp. cream of tartar |
| 1 1/2 cups instant nonfat dry milk | |

In large bowl, sift together all dry ingredients. Blend well. Put in large airtight container. Label. Store in cool, dry place. Use within 10 to 12 weeks. Makes about 10 cups of Quick Mix.

(Roberts, Cooking with Food Storage Ingredients)

Cinnamon Oatmeal Pancake Mix

- | | |
|---------------------------|------------------------|
| 4 cups quick cooking oats | 2 cups flour |
| 2 cups whole wheat flour | 1 cup non-fat dry milk |
| 1/2 cup sugar | 1 Tbsp. cinnamon |
| 2 tsp. salt | 3 Tbsp. baking powder |
| 1/2 tsp. cream of tartar | |

Combine ingredients and stir to mix well. Put in large airtight container. Label. Store in a cool dry place. Use within 6 months.

Mixing Directions:

In medium bowl, beat 2 eggs. Beat in 3 Tbsp. oil gradually. Alternately stir in 2 cups pancake mix and 1 cup of water. Drop by spoonfuls onto lightly greased skillet over medium-high heat. When batter shows broken bubbles, turn pancakes over (approx. 2 to 3 minutes).

(Roberts, Cooking with Food Storage Ingredients)

Hot Cocoa Mix

- | | |
|----------------------------------|--|
| 1 cup powdered sugar | 1/2 cup non-dairy creamer |
| 1/2 cup unsweetened cocoa powder | 2 3/4 cups instant non-fat milk powder |
| 1/4 tsp. salt | 1 cup miniature marshmallows, (optional) |

In sifter, combine powdered sugar, cocoa powder, non-dairy creamer and salt.

Sift into large bowl. Sift in milk powder. Add marshmallows, if desired.

Pour into a 4-cup container with tight-fitting lid. Seal container. Label with date and contents. Store in cool dry place. Use within 6 months.

Makes about 4 cups Hot Cocoa Mix.

Mixing Directions: Stir 3-4 Tbsp. mix into one cup hot water to make one serving.

(Roberts, Cooking with Food Storage Ingredients)