Using Nonfat Dry Milk Solids In Home Prepared Foods

II. Soups, Main Dishes, Yeast Breads, Desserts and Milk Drinks



FOREWORD

As part of the project number 130, entitled "Studies to Promote Utilization of Processed Foods and Food Improvers," this is the second bulletin on the use of nonfat dry milk solids in food products. The purpose of this research is to provide more information and to encourage the use of nonfat dry milk solids in home prepared foods. Suggestions for incorporating nonfat dry milk solids into soups, sauces, meat extenders, yeast breads and desserts are reported.

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USING NONFAT DRY MILK SOLIDS IN HOME PREPARED FOODS

II. Soups, Main Dishes, Yeast Breads, Desserts and Milk Drinks

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INTRODUCTION

Nonfat dry milk solids is a creamy white powder produced by removing the fat and water from fresh fluid milk. Many commercial companies use nonfat dry milk solids to add nutritive value as well as to improve the quality of their products. Within the last few years nonfat dry milk solids has become available in pound packages in most grocery stores. Manufacturers are providing more information on the labels as to uses and the quantity and methods for reconstituting. With information now available, the homemaker should learn to incorporate nonfat dry milk solids in home prepared foods. She will find this product to be:

Easily Stored. It requires little space, and has excellent keeping qualities. Refrigeration of the dry form is not necessary.

Convenient. It is a useful form of milk to have available for emergencies, as well as for traveling or picnics. Reconstituted, it may be used as a beverage or in other foods. It may be added to many recipes in the dry form.

Inexpensive. The initial cost is low and there need be no waste since it can be prepared as needed.

Safe. The temperature used for processing is equivalent to pasteurization. Reconstituted nonfat dry milk solids should be handled as carefully as other fluid milk.

For best results with nonfat dry milk solids, observe the following precautions:

Store in tightly closed moisture proof containers in a cool dry place. Nonfat dry milk solids becomes lumpy, develops undesirable flavors and loses solubility when it takes up moisture from the air.

Acknowledgements: The authors wish to express their appreciation to members of the Home Economics Staff and others who cooperated in palatability testing.

Sift before measuring. Nonfat dry milk solids packs on standing.

Cook at low temperature. Nonfat dry milk solids curdles or scorches more quickly than fresh fluid milk.

RECONSTITUTION

Nonfat dry milk solids may be added in the dry form to many recipes but sometimes the liquid or reconstituted form is desired. To reconstitute or reliquify nonfat dry milk solids follow the directions on the label of the container or those given below. The use of one-fourth cup nonfat dry milk solids to one cup water which is recommended by this laboratory makes a product containing slightly higher milk solids than fresh skim milk. For drinking, most people prefer the recommended proportions. The flavor seems to be more acceptable if the reconstituted milk is placed in the refrigerator from 4 to 6 hours before using. More than one-fourth cup nonfat dry milk solids per cup of water may be used for many cooking purposes if the texture and flavor of the product are not impaired.

Directions for Reconstitution

Four methods for reconstituting nonfat dry milk solids are given below. The longer mixing time suggested with each method appears to give a better flavored product. The milk will foam during mixing, but this foam will disappear on standing.

Hand beater. Pour one pint of lukewarm water into a mixing bowl. Sift one cup nonfat dry milk solids over the water. Stir to mix and beat with a rotary beater or wire whip to remove the lumps. Add one pint of cold water and beat from one to three minutes.

Electric mixer. Pour one pint of lukewarm water into a mixing bowl. Sift one cup nonfat dry

milk solids over the water. Run mixer at low speed to remove lumps. Add one pint of cold water. Continue mixing at low speed from three to five minutes.

Blender. Pour one pint of lukewarm water into a blender. Add one cup nonfat dry milk solids. Place lid on. Run the blender on low, if more than one speed is available, for three to five minutes. Transfer to a larger container and mix with one pint of cold water.

Shaker. Pour one pint of lukewarm water into a quart shaker or fruit jar which has a tight fitting lid. Add one cup nonfat dry milk solids. Fasten lid and shake contents from one to three minutes. Transfer to larger container and mix with one pint of cold water.

SAUCES - SOUPS - SOUFFLES*

Sauces not only enhance the flavor and appearance of foods, but they may also contribute to the nutritive value. The recipes given here include two which are often used in combination with meats and vegetables for main courses and two which are dessert sauces.

Sauces White Sauce

	T	3.6.11	77
Ingredients	THIN	Medium	Тніск
Fat	1 T.	2 T.	3 T.
Flour	1 T.	2 T.	3 T.
Salt	⅓ t.	¼ t.	¼ t.
Nonfat dry milk solids*	½ c.	½ c.	½ c.
Water	1 c.	1 c.	1 c.

*Addition of more milk may make the product too sweet and thick. Many variations are offered by the addition of grated nippy cheese, chopped green peppers, onions, parsley and hard cooked eggs.

Melt fat in top of double boiler. Add flour and salt. Mix well.

Combine nonfat dry milk solids with ½ cup of water. Stir or beat until smooth.

Add remainder of water and continue stirring or beating until mixture is uniform in texture. Combine milk with fat-flour mixture. Cook 8-10 minutes over hot water stirring until thick.

Yield: 1 cup white sauce.

Uses: Creamed soups—1 cup thin white sauce to ½ or 1 cup cooked vegetables.

Creamed, or scalloped dishes—1 cup sauce to 1 or 2 cups vegetable, meat, or fish.

Souffles—1 cup sauce to 1 to 2 cups other food material and 3 eggs.

*Abbreviations used in recipes: c. for cup, t. for teaspoon, T. for tablespoon.

Croquettes—1 cup sauce to 1 to 3 cups of food material.

Cheese Sauce

1/4 c. fat 2 c. water

1/4 c. flour 1/2 c. nonfat dry milk solids

½ t. salt. 2 c. grated cheese

Melt fat in top of double boiler. Add flour and salt. Mix well. Add 1 cup water.

Stir until smooth. Cook over hot water 5 minutes. Combine nonfat dry milk solids with ½ cup of water. Stir or beat until smooth.

Add milk to the fat-flour mixture. Cook 8-10 minutes, stirring until thick.

Add the cheese and stir until cheese melts.

Yield: 2 cups.

Uses: May be added to macaroni or served over vegetables as asparagus, broccoli, cauliflower, green beans or potatoes.

Lemon Sauce

½ c. nonfat dry milk solids¼ t. salt1 c. sugar1 ½ c. water¼ c. cornstarch2 eggs½ c. lemon juice

Combine in top of double boiler, nonfat dry milk solids, sugar, cornstarch and salt. Stir until well mixed. Add 1½ cups of water and stir or beat until free from lumps. Place over hot water and cook until the mixture thickens and no raw starch flavor remains. (About 15 minutes.)

Add remaining ½ cup of water to eggs and beat until well mixed. Stir into hot mixture and cook until mixture thickens. (About 5 minutes.) Remove from heat, cool slightly and then add lemon juice. Stir until well blended.

Chill and use over fruit or cake.

Yield:2 cups.

Vanilla Sauce

3 T. sugar 1 c. water
1 T. cornstarch 1 egg
4 T. nonfat dry milk ½ t. vanilla

solids ½ T. butter or margarine

⅓ t. salt

Mix sugar, cornstarch, nonfat dry milk solids and salt in top of double boiler.

Add ½ cup water and mix until smooth. Add remainder of water.

Cook over hot water until thickened and no raw starch taste remains, (10-15 minutes).

Beat egg until light. Pour two or three tablespoons of the cornstarch mixture over the beaten egg



Soups are excellent for lunch or supper.

and mix. Return to double boiler and cook 2-3 minutes. Add vanilla and butter or margarine. Cool. Place in refrigerator if not used at once.

Yield: About 1½ cups.

Uses: Sauce for jello, cakes and gingerbread.

Milk Soups

Milk enriched soups, because of their high nutritive value, make excellent hot dishes for luncheon or supper. They combine particularly well with sandwiches and salads.

Carrot Soup

1 c. thin white sauce 1½ c. water 1 c. grated carrots ½ t. salt

Cook carrots in salted water until tender. Combine carrots and vegetable liquid with white sauce in top of double boiler. Place over hot water. Heat about 5 minutes to blend.

Yield: 3-4 servings

Celery Soup

1½ c. thin white sauce 2½ c. water 1½ c. chopped celery 34 t. salt

2 t. chopped onion

Cook celery and onion in salted water until tender. Combine vegetables and liquid with white sauce in top of double boiler. Place over hot water. Heat about five minutes to blend.

Yield: 4 servings

Potato Soup

Method I

2 c. diced potatoes ½ t. salt

1½ c. water 1 c. thin white sau

1 T. minced onion

Cook potatoes and onions in salted water until tender. Combine vegetables and liquid with white sauce in top of double boiler. Place over hot water. Heat about five minutes to blend. (Potatoes may be mashed if desired).

Yield: 4 servings

Method II

2 c. diced potatoes ½ t. salt

3 c. water ½ c. nonfat dry milk solids

1 T. minced onions

Cook potatoes and onion in 1½ cups salted water until tender.

Combine ½ cup nonfat dry milk solids with remaining 1½ cups water. Mix until free from lumps. Add to cooked potato mixture and continue cooking at low temperature or over water for 5 to 8 minutes.

Vegetable Chowder

2½ c. boiling water 2 T. butter or margarine

1 c. diced carrots 2 T. flour

½ c. finely chopped ½ c. nonfat dry milk solids

2 t. salt 2 T. chopped parsley

1 c. cooked peas

Cook carrots and onion in 2½ cups boiling salted water (1 teaspoon salt), until slightly tender. (10-15 minutes.) Add cabbage. Continue cooking until all vegetables are tender. Drain and save liquid. (Approximately 1½ cups.)

Melt butter or margarine in top of double boiler. Add flour, nonfat dry milk solids, pepper, 1 teas poon of salt, and ½ cup of vegetable liquid. Stir until

smooth.

Add remaining cup of vegetable liquid. Stir and cook over boiling water until the sauce thickens.

Add all the vegetables. Heat 5 minutes over water.

Yield: 6 servings

Souffles

Souffles may serve as the main dish or as a dessert. They may be baked in individual baking cups or in a large casserole.

Souffles are made by combining a thick white sauce with egg yolks.

Stiffly beaten egg whites are then folded in.

Souffles require careful manipulation, and cooking at a low temperature.

Serve immediately upon taking souffle from the

Plain Souffle

1 c. thick white sauce 3 eggs separated

Pour white sauce into a mixing bowl.

Beat egg yolks until lemon colored. Add to slightly cooled white sauce.

Fold in stiffly beaten egg whites.

Pour into greased baking dish, filling not more

than two-thirds full. Set in pan of hot water and bake in moderate oven (300° to 325°F.) until firm and a sharp knive comes out clean.

Serve at once.

Yield: 4-6 servings

Variations: Cooked and finely divided meat, fish, or vegetables may be added to the white sauce mixture for variety. Dessert souffles may also be made from the basic mixture with addition of sugar and fruit or chocolate.

Cheese Souffle

⅓ c. fat	3/4 c. grated cheese
1/3 c. sifted flour	3 egg yolks, beaten till
½ t. salt	lemon colored
½ c. nonfat dry milk solids	3 egg whites, beaten
1 c. water	

Melt fat in top of double boiler. Add flour and salt. Mix until well-blended.

Combine nonfat dry milk solids with ½ cup of water. Stir or beat until smooth. Add remainder of water and continue stirring or beating until mixture is uniform in texture. Add to fat-flour mixture. Continue cooking over hot water until mixture thickens. (Approximately 10-15 minutes.)

Add cheese and stir until cheese melts. Remove from heat and add gradually to beaten egg yolks.

Blend well.

Fold in beaten egg whites. Pour into greased

baking dish. Set dish in pan of hot water.

Bake in moderate oven, 325°F., for 50 to 60 minutes, or until a knife, when inserted, comes out clean. Serve at once.

Yield: 4-6 servings

Chocolate Souffle

1 c. thick white sauce	1/3 c. sugar
2 ounces (2 squares) melted	3 egg yolks, well
unsweetened chocolate or	beaten
6 T. cocoa+2 T. fat	3 egg whites, stiffly
	beaten

Combine all ingredients except egg whites, and blend thoroughly.

Fold in egg whites.

Pour into ungreased baking dish, set in a pan of hot water, and bake at 350°F. for 45 to 50 minutes or until firm to touch.

Variation: Drained sweetened fruit may be substituted for the chocolate or cocoa.

MEAT AND CREAMED DISHES

Meat, a universally liked food, supplies a large proportion of food nutrients essential to good health. Since meat is an essential food in the diet, and the



Creamed meats and vegetables offer additional food value with the addition of nonfat dry milk solids.

most expensive item in the food budget, the addition of nonfat dry milk solids to meat dishes not only supplements the nutritive value but also helps keep within the food budget and extends meat flavor.

Creaming meats and vegetables is an excellent way to use nonfat dry milk solids for additional nutritive value and for variety.

Creamed Chicken or Turkey on Rice

4 T. fat*	1 c. water
3 T. flour	1-11/2 c. diced cooked
¼ t. salt	chicken or turkey
½ t. paprika	½ c. rice
½ c. nonfat dry milk	2 c. water
solids	¼ t. salt

Melt fat in top of double boiler. Add flour, ¼ t. salt, paprika, nonfat dry milk solids and ¼ cup of water. Blend well. Add remainder of 1 cup water. Blend.

Cook 10-12 minutes over hot water, stirring until thickened.

Add chicken, and heat 5 to 10 minutes more.

Cook rice in 2 cups of water containing ¼ teaspoon of salt until tender, in a tightly covered sauce pan.

Make mounds of rice with depressions or wells in the center of each. Fill mounds with creamed chicken.

Yield: 4 to 5 servings.

*Margarine, butter, chicken, or turkey fat may be used.

Creamed Meat and Vegetables

2 T. margarine or butter	1 c. water
3 T. flour	1 c. meat stock or veg-
½ t. salt	etable liquid
pepper	1½ c. diced cooked meat
¼ c. nonfat dry milk	1 c. cooked vegetables
solids	(drained)

Melt fat in top of double boiler. Add flour, salt,

pepper, nonfat dry milk solids and ¼ cup water. Blend well. Add remainder of water, meat stock or vegetable liquid. Cook slowly, about 5 minutes. Stir until thick.

Add meat and vegetables and continue heating over water for about 10 minutes.

Yield 4-6 servings

Suggested meat-vegetable combinations: roast beef, corn, green beans, grated raw onion; tuna, peas; chicken, carrots, peas.

Macaroni and Cheese

1 c. macaroni (uncooked) 2 c. grated cheese 2½ to 3½ c. water 1½ c. water 1½ t. salt ½ c. nonfat dry milk

¼ c. fat solids

¼ c. flour

Cook macaroni in 2½ to 3½ cups boiling salted water (1 teaspoon salt) until tender. Drain and rinse with cold water.

Melt fat, add flour and ½ teaspoon salt and mix well. Add 1 cup of water. Stir until well blended. Place over hot water and cook until the mixture thickens. Add cheese and stir until cheese melts.

Combine nonfat dry milk solids with ½ cup water. Stir or beat with rotary beater until free from lumps. Add to cheese sauce. Combine macaroni and cheese sauce.

Pour into well-greased casserole. Bake at low temperature, 300°F., for 20 minutes.

Yield: 4-6 servings.

Mixed Vegetables with Cheese Sauce

2 c. boiling water 4 T. margarine or butter 2½ c. diced potatoes 4 T. flour 1½ c. sliced carrots 1 c. water from vegetables 1¾ t. salt 1/16 t. pepper 2 c. chopped cabbage 1½ c. grated or shredded

1 T. finely chopped cheese

onion (optional) ½ c. nonfat dry milk solids

Cook carrots and potatoes in 2 cups of boiling water containing 1 teaspoon salt, until slightly tender (about 10-15 minutes).

Add cabbage and onion. Cook uncovered from 7 to 10 minutes or until all vegetables are tender. Drain and save liquid. Add sufficient water, if neces-

sary, to make 1 cup of liquid.

Melt fat in top of double boiler. Add flour, 34 teaspoon salt, and pepper. Stir until the mixture is smooth. Add vegetable liquid and cook from 5 to 10 minutes. Add cheese and continue cooking over hot water. Stir until cheese melts.

Melt three tablespoons of fat in top of double boiler. Add flour, nonfat dry milk solids, ½ teaspoon salt and ½ cup water. Stir until well blended. Add remaining ½ cup water and blend. Place over hot water, and cook 10 minutes, stirring until thickened. Keep water below boiling point. Add macaroni. Stir and cook 5 minutes longer.

Line dish with macaroni mixture. Pour meat mixture in center, or combine meat mixture with macaroni mixture just before serving. Serve immediately.

Yield: 4-6 servings.

Vegetable-Meat Casserole

1 c. macaroni 1 c. cooked peas 2½-3½ c. water 1 c. vegetable liquid

1 t. salt 1 T. fat

2 T. margarine or butter 1½ c. ground meat 1 T. flour 2 T. finely chopped onion

½ c. nonfat dry milk 1 t. salt solids ½ t. pepper

1 c. cooked carrots

Cook macaroni in 2 1/2 to 3 1/2 cups of boiling

water, (1 teaspoon salt) until tender.

Melt fat in top of double boiler. Add flour, nonfat dry milk solids and ½ cup vegetable liquid. Stir until well mixed. Add remaining 1/2 cup vegetable liquid. Stir to mix. Cook over hot water about 10 minutes, stirring until thickened.

Melt 1 tablespoon fat in skillet. Add meat and onion. Cook until meat has lost the red color. Add salt and pepper. Combine meat, macaroni, sauce and vegetables. Stir just enough to mix. Place in wellgreased casserole. Cover.

Bake in moderate oven 325° F., for 30 minutes. Yield: 6-8 servings.

Meat Balls

2 c. ground beef (1 pound) ½ c. nonfat dry milk 1½ t. salt solids

¼ t. pepper 1 c. water

1 c. oatmeal 2 slightly beaten eggs 2 T. finely chopped 1½ c.* tomato puree and onion ½ c. water or 2 c. of tomato juice

Combine meat, salt, pepper, oatmeal and onions. Mix nonfat dry milk solids with ½ cup water until free from lumps. Add eggs and stir until well mixed. Add this mixture to meat mixture and mix thoroughly.

Make into 11/2-2 inch balls and place in well-

^{*}More tomato puree or tomato juice may be used if necessary.

greased casserole large enough for all balls to be on bottom of pan.

Cover meat balls with tomato puree or tomato juice.

Cover casserole and bake in moderate oven, 325°-350°F., for 50 to 60 minutes.

Yield: 8 to 12 meat balls.

Combine nonfat dry milk solids with ½ cup warm water. Stir or beat until smooth. Add to cheese sauce mixture. Stir to blend. Add cooked vegetables and continue heating over hot water (10 minutes).

Yield: 8-10 servings

Left-over vegetables may be used in place of freshly cooked ones.

Scalloped Chicken and Noodles

1 c. cooked diced chicken 2¾ c. chicken broth* ½ c. soft bread crumbs 1 t. salt 2 T. butter or margarine 1 c. noodles (uncooked) ¼ c. grated cheese 1/3 c. nonfat dry milk solids (optional)

Cook noodles in 2 cups of chicken broth until tender. Combine nonfat dry milk solids with the remaining ¾ cup of chicken broth (cooled). Stir or beat until free from lumps.

Combine noodles, chicken and milk. Place in

well-greased casserole.

Blend bread crumbs with 2 tablespoons of melted butter or margarine. Sprinkle grated cheese and bread crumbs over top of the mixture.

Bake at low temperatures 300°F., for 25 to 30

minutes.

Yield: 4-6 servings

Variations: May use other meats as tuna fish, turkey or beef.

*If chicken broth is not available dissolve 4 bouillon cubes in 234 cups boiling water and add 2 tablespoons butter or margarine.

Scalloped Potatoes

3 c. pared thinly sliced ½ c. nonfat dry milk solids 1 T. butter or margarine 2 T. flour 2 c. water (warm) pepper

Place a layer of potatoes in well-greased casserole. Sprinkle with flour. Add some salt and pepper. Toss lightly with fork. Add 1 tablespoon butter or margarine. Repeat for other layers.

Combine ½ cup of nonfat dry milk solids with 1 cup of water and stir or beat until free from lumps. Add other cup of water and blend. Pour over potatoes.

Place in moderately low oven (300°-325°F.) 1 hour or until the potatoes are tender. Cover the first 45 minutes, then uncover to brown.

Yield: 4 servings.

Macaroni-Meat Casserole

1 c. macaroni ¼ c. chopped green pepper (uncooked) ¼ c. chopped celery 21/2-31/2 c. water 1½ c. tomato juice 2 t. salt 2 T. flour 5 T. fat 34 c. nonfat dry milk solids

1 c. water 1 c. ground beef

Cook macaroni in 2½-3½ cups boiling salted water (1 teaspoon salt), until tender, rinse with cold

Melt 2 tablespoons fat in skillet. Add ground beef, separating meat in small portions. Cook until meat loses its red color.

Add green pepper, celery, tomato juice and ½ teaspoon salt. Cover and simmer until peppers and celery are tender. Stir occasionally.

Meat Loaf

1 1/4 c. bread crumbs 34 t. salt 34 c. nonfat dry milk solids 1 c. tomato juice 2 T. finely chopped 2 c. ground uncooked meat 2 eggs, slightly beaten onion

pepper

Combine nonfat dry milk solids and bread crumbs. Add meat and mix.

Combine egg, salt, tomato juice, onion and pepper. Add to meat mixture. Mix thoroughly.

Place in well greased loaf pan. Bake in moderate oven, 350°F., for 50 to 60 minutes.

Yield: 6 to 8 servings

Tuna Fish Loaf

2 T. fat 1 egg 1/3 c. chopped celery 1/3 c. bread crumbs 2 T. finely chopped onion 1 6 or 7 ounce can grated or flaked tuna 1/16 t. paprika 1/3 c. nonfat dry milk solids pepper (optional)

Melt fat in skillet. Add celery, onion and salt. Cook until tender and slightly brown.

Combine nonfat dry milk solids with ½ cup water in large bowl. Stir or beat until free from lumps. Add remainder of water and egg. Beat with rotary beater until well mixed.

Add bread crumbs, tuna, cooked vegetables, paprika and pepper. Stir until well blended.

Place in well greased loaf pan 9" x 4½" x 3". Bake in moderate oven, 350°F., for 40 to 45 minutes.

Remove from pan, and slice.

Yield: 4-6 servings.

Salmon may be used instead of tuna, if desired.

Tamale Pie

²/₃ c. corn meal 2 T. fat

1½ t. salt 1½ c. (¾ pound) ground

2½ c. water lean beef

solids tomato juice

½ c. finely chopped ½ t. pepper

onion ¼-½ t. chili powder

Add corn meal slowly to 2 cups boiling water containing one teaspoon salt. Cook until thick. Stir constantly to prevent lumping or sticking.

Remove from heat and cool slightly.

Combine nonfat dry milk solids with ½ cup cold water. Add to corn meal mixture and stir constantly until well mixed.

Saute onion in fat. Add finely divided beef and continue cooking until meat has lost the red color. Add tomatoes, pepper, chili powder and ½ teaspoon salt. Let simmer 10 minutes.

Line well greased casserole with corn meal mixture. Add meat mixture. Top with remainder of corn meal mixture.

Bake in moderate oven 325°F., for 45 to 50 minutes.

Meat mixture and corn meal mixture may be combined, placed in casserole and baked in moderate oven 325°F. for 45 to 50 minutes.

Yield: 6-8 servings.

Scrapple

1 c. cornmeal ¼ c. nonfat dry milk 1 t. salt solids

2½ c. boiling water ¼ c. water

2 c. sausage or left over pork*

Cook cornmeal until thick in 2½ cups of boiling water containing one teaspoon salt.

Cook sausage in skillet until red color disappears. Pour off excess fat. Add cooked sausage to cornmeal mixture. Continue cooking over water for 20 to 30 minutes. (Additional water may be necessary for cornmeal mixture.)

Combine nonfat dry milk solids with ¼ cup water and stir or beat until smooth. Add to cornmeal—sausage mixture. Mix well and heat 3 to 5 min-

*If fresh pork is used an additional teaspoon of salt and ¼ teaspoon pepper may be added. Simmer the fresh pork in water until tender. Remove the fat. Grind the pork. Use the broth instead of water for cooking the cornmeal.

utes. Pour mixture into a loaf pan (2½ x 4 x 8) which has been moistened on inside.

Chill until firm. Unmold and slice ½ inch thick. Roll slices in flour or cornmeal. Brown in frying pan containing hot fat.

Yield: 12 to 14 slices, ½ inch thick.



Yeast breads and rolls containing nonfat dry milk solids have thin, crisp, lightly browned crusts.

YEAST ROLLS

In using nonfat dry milk solids in yeast rolls and yeast bread, the milk does not need to be scalded or reconstituted, but should be thoroughly mixed with the flour. The finished products have good volume, texture and flavor. The crusts are thin, crisp and nicely browned. The crumb, however, may not always be done when the crust is light brown in color. Therefore, the baking time and temperature are important factors in the preparation of yeast rolls with nonfat dry milk solids.

Plain Yeast Rolls

1 cake yeast
1 1/4 c. water (lukewarm)
2 T. sugar
1 t. salt
4 c. all purpose flour
1/2 c. nonfat dry milk
solids
1 egg (beaten)
1/4 c. fat (melted)

Soften yeast in ¼ cup water. Place 1 cup water in bowl and add sugar and salt. Stir until well mixed.

Combine 2 cups of flour and the nonfat dry milk solids. Sift together 3 times.

Combine the flour-milk mixture, water-sugar mixture, egg and yeast. Beat until smooth. Add fat, and blend.

Add flour gradually until dough is the right consistency. Stir until well mixed after each addition.

Turn onto a well floured bread board or pastry

cloth. Knead until the dough feels satiny and small bubbles appear under the surface of the dough. The dough should be soft but not sticky. (More flour may be added for kneading, if necessary.)

Place dough into a slightly greased mixing bowl. Grease dough lightly on top, cover and set in warm place (28° C. or 80° F.). Let rise until the dough has doubled in bulk or until indentation is left when pressed with the fingers. (One to one and one-half hours.)

Punch down the dough, shape into rolls and put on greased pan or baking sheet. Grease slightly on top and set in warm place to rise until double in size. Bake in moderate oven, 375°F., for 12-15 minutes or until golden brown in color.

Yield: 20 to 25 rolls.

Variations

The recipe above and the procedure may be used for making whole wheat flour into rolls with the fol-

lowing changes:

Substitute 2 cups whole wheat flour for 2 cups of white flour. Combine and stir thoroughly whole wheat flour with nonfat dry milk solids and add to water-sugar mixture, egg and yeast. Beat until smooth. Add fat and blend.

Add gradually the all purpose flour until the dough is the right consistency. Longer kneading may

be necessary.

For sweet rolls as butterscotch rolls and coffee cake, use recipe and procedure given in Plain Yeast Rolls. Roll into rectangular shape approximately onefourth inch in thickness.

Butterscotch Mixture

3 T. butter or margarine, 1 T. of orange or lemon softened ½ to¾ c. chopped nuts ½ c. brown sugar firmly

packed (optional)

Combine butter or margarine and sugar gradually. Add fruit juice. Stir until well blended.

Spread mixture over rectangular piece of dough. Press nuts into dough. Roll tightly, beginning at the wide side.

Push rolled ends together and place in well greased pan about 9 to 10 inches in diameter.

Cut into one half inch slices, leaving about one inch uncut on the bottom of the roll. Push one slice to the right and the next to the left. Repeat.

Let rise until double in bulk or until there is an indentation when pressed with the fingers.

Bake in moderate oven 375° F. until golden brown, approximately 40 minutes.

Cinnamon Rolls (Use plain yeast roll recipe and procedure.)

4 T. butter or margarine, 2 t. cinnamon 3/3 c. raisins softened

¼ c. sugar

Combine butter or margarine and sugar gradually. Add cinnamon, and blend.

Roll dough into rectangular shape and approximately one-fourth inch in thickness. Spread with cinnamon mixture. Add raisins, spread evenly and press slightly into dough. Roll tightly beginning at wide side of dough.

Cut into slices three-fourths to one inch in thickness. Place on well greased baking sheet or in muffin tins with the cut side up.

Let rise until double in bulk or until there is an indentation when pressed with the finger.

Bake in moderate oven 375°F. Yield: approximately 2 dozen rolls.

DESSERTS

Desserts, as custards, puddings and pie fillings, give a sense of satisfaction when eaten at the end of the meal. They are higher in nutritive value when made with extra nonfat dry milk solids.

Custards

Soft Custard

1/16 t. salt 2 c. water 1 c. nonfat dry milk solids 1/8 t. nutmeg ½ t. vanilla 2 eggs (slightly beaten) 2 T. sugar

Combine water and nonfat dry milk solids. Stir or beat until well blended. Add eggs, sugar, salt and nutmeg. Stir until well mixed.

Place over hot water and cook from 5 to 8 minutes or until the mixture thickens and coats a spoon. Stir constantly. Remove from heat and add vanilla. Stir to blend. Pour into sherbet glasses, and chill.

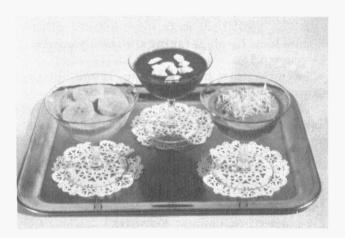
Yield: 4 servings.

Variations: Use as a sauce for fruit or cake; pour over chipped ice for milk drink; freeze for a dessert.

Baked Custard

1/16 t. salt 2 c. water 1/2-1 c. nonfat dry milk solids 1/8 t. nutmeg 2 eggs (slightly beaten) ½ t. vanilla ¼ c. sugar

Combine water and nonfat dry milk solids. Stir or beat until well blended. Add egg, sugar, salt, nutmeg and vanilla. Stir until well mixed. Dip custard cups in water. Fill cups with custard mixture to within one-half inch of the top. Place in pan of hot water.



Desserts have increased nutritive value when made with additional dry milk solids.

Bake at low temperature, 300°F., from 45 to 50 minutes or until knife, when inserted, comes out clean.

Yield:4 servings.

Whipped Nonfat Dry Milk Solids for Desserts

A chilled mixture of equal parts by measure of nonfat dry milk solids and water can be whipped easily. The whipping qualities may be improved by adding a small amount of lemon juice. This whipped product is particularly suitable for toppings and gelatin products such as frozen desserts and chiffon pies. These desserts with increased amounts of milk solids are high in nutritive value and reasonably low in calories.

Dessert Topping

½ c. cold water 3 T. lemon juice ½ c. nonfat dry milk solids ¾ T. sugar

Combine water and nonfat dry milk solids. Beat until free from lumps. Chill. Then beat with rotary beater until mixture begins to thicken. Add lemon juice and continue beating until mixture stands in soft peaks. Add sugar and beat until well blended. Place in refrigerator about one hour before using.

Puddings or Pie Fillings

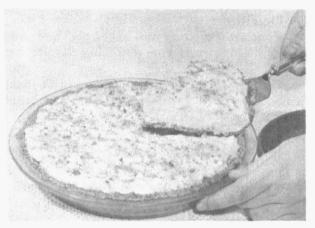
Cornstarch Pudding

¼ c. sugar¾ c. nonfat dry milk solids3 T. cornstarch2 eggs or 4 egg yolks

¼ t. salt 1 t. vanilla

2 c. water 2 T. butter or margarine (optional)

Combine thoroughly, sugar, cornstarch, and salt in top of double boiler. Add 1 cup water. Stir to remove lumps. Cook over boiling water, stirring constantly, until the mixture thickens and no raw starch taste remains. (About 10-15 minutes.)



Nonfat dry milk solids can be used to make excellent puddings and pie fillings.

Combine nonfat dry milk solids with ½ cup water. Stir until a smooth paste is formed. Add remaining ½ cup water and mix well. Add eggs and beat until mixture is blended.

Add milk-egg mixture to starch mixture. Continue cooking until mixture thickens and loses its gloss. (3-5 minutes.) Remove from heat.

Add vanilla and butter or margarine. Stir to mix.

Yield: 4 to 6 servings.

Variations: Fruit—add 1 cup crushed pineapple or other fruit. Cocoanut—add ½ cup shredded cocoanut.

Banana Pudding

1/3 c. sugar3/4 c. sifted nonfat dry milk3 T. cornstarchsolids1/4 t. salt2-3 eggs, separated2 c. water1 t. vanilla1-2 banana (sliced or mashed)

Combine thoroughly sugar, cornstarch and salt in top of double boiler. Add 1 cup water. Stir to remove lumps. Cook over boiling water, stirring constantly until mixture thickens and no raw starch taste remains. (About 10-15 minutes.)

Combine nonfat dry milk solids with ½ cup water. Stir until well mixed. Add remaining ½ cup of water, and mix well.

Add egg yolks and beat until the mixture is well blended.

Add milk-egg mixture to starch-sugar mixture. Continue cooking until mixture thickens (3-5 minutes). Stir constantly. Remove from heat. Add vanilla. Stir. Cool.

Add 1 large or 2 small bananas. Stir lightly.

The beaten egg whites may be folded into the hot cooked mixture or used as meringue for pies.

Yield: 4 to 6 servings.

For Pie Filling

Pour ½ of mixture into baked pie shell. Add layer of sliced bananas. Pour remaining mixture over bananas.

Cover with meringue from egg whites. Bake in moderate oven (325°-350°F.) until meringue browns.

Yield: 1 nine-inch pie.

For meringue, see directions for Lemon Meringue Pie.

Butterscotch Pudding or Pie Filling

½ c. firmly packed ¾ c. sifted nonfat dry

brown sugar milk solids

3 T. cornstarch 2 eggs or 4 egg yolks

1 t. vanilla 2 c. water 2 T. butter

Combine thoroughly sugar, cornstarch and salt in top of double boiler. Add 1 cup water. Stir until smooth. Cook over boiling water, stirring constantly, until mixture thickens and no raw starch taste remains, (about 10-15 minutes).

Combine nonfat dry milk solids with ½ cup of water. Stir until well mixed. Add remaining ½ cup of water. Stir or beat until smooth. Add eggs and beat until well blended.

Add milk-egg mixture to cornstarch mixture. Continue cooking until the mixture thickens or until it loses its gloss (3-5 minutes). Stir constantly.

Remove from heat. Add vanilla and butter. Stir. Eggs may be separated and whites beaten separately and added to the cooked pudding or used as meringue for pie.

Yield: 4 to 6 servings.

Chocolate Pudding or Pie Filling

¼ c. flour or2 T. butter or margarine3 T. cornstarch¾ c. nonfat dry milk

3 T. cocoa or 1 square of solids unsweetened chocolate, 2 c. warm water

f solids e, 2 c. warm water 2 eggs or 4 egg yolks

1/3 c. sugar 1 t. vanilla

¼ t. salt

shredded

Combine flour or cornstarch, cocoa or shredded chocolate, sugar and salt in top of double boiler and blend well. Add 1 cup of water. Place over hot water, stirring constantly. Cook until thick and no raw starch taste remains. (10-15 minutes.)

Combine in mixing bowl, nonfat dry milk solids and ½ cup of water. Stir until well mixed. Add remaining ½ cup water. Stir or beat until free from lumps. Add eggs and beat until mixture is smooth. Add this egg-milk mixture to cornstarch mixture. Continue cooking until mixture thickens, or until

mixture loses its gloss (approximately 5 minutes). Stir constantly.

Remove from heat. Add vanilla and butter or margarine. Stir.

Eggs may be separated and the beaten whites may be folded into the hot cooked mixture or used as meringue for pies.

Yield: 4 to 6 servings.

Rice Pudding

1 c. uncooked rice ¼ c. sugar 2½ c. water 1 c. water

1 t. salt 1 egg, slightly beaten

½ c. nonfat dry milk 1 c. raisins

solids ½ t. nutmeg (optional)

Combine rice, water, and salt in well greased casserole. Cover and cook in moderate oven, 350°F. until tender, or cook in sauce pan over direct heat until tender.

Combine nonfat dry milk solids and sugar. Add ½ cup water. Mix thoroughly. Add remaining ½ cup water and egg. Blend well.

Moisten raisins. Add raisins and milk mixture to cooked rice.

Stir just enough to mix thoroughly. Sprinkle nutmeg over top. Cover and return to oven.

Bake in slow oven, 300° F., for approximately 20-25 minutes.

Yield: 6 to 8 servings.

Tapioca Pudding

¾ c. nonfat dry milk solids5 T. sugar2 c. water¼ t. salt3 T. tapioca1 t. vanilla

1 egg, separated

Combine nonfat dry milk solids with 1 cup of water in a mixing bowl. Stir until well blended. Beat with rotary beater if necessary to remove lumps. Add remainder of water, and blend.

Put tapioca in top of double boiler. Add milk mixture and stir slightly. Place over hot water. Cook until tapioca becomes clear.

Beat egg yolk. Add 3 tablespoons of sugar and the salt. Blend well. Add to tapioca and stir to mix evenly. Cook over hot water 3 minutes. Remove from hear

Beat egg white until frothy. Add 1 tablespoon of sugar and continue beating until well mixed. Add second tablespoon of sugar, and vanilla. Continue beating until egg foam stands in soft peaks. Fold into tapioca mixture. Chill.

Yield: 4 to 6 servings.

Vanilla Chiffon Pudding or Pie Filling

1 T. plain gelatin 1 c. warm water $\frac{3}{8}$ c. cold water ($\frac{1}{4}$ c. + 2 T.) 2 eggs, slightly beaten

¼ c. nonfat dry milk solids 1 t. vanilla

½ c. nonfat dry milk ½ c. sugar

¼ t. salt solids ½ c. warm water

Add gelatin to % cup cold water. Let stand 5 to 7 minutes to soften. Combine in top of double boiler, nonfat dry milk solids, sugar and salt. Mix thoroughly. Add 1 cup warm water. Stir or beat with rotary beater until smooth and free from lumps. Place over water and cook about 5 minutes. Combine a few tablespoons of this mixture with the beaten egg. Mix well. Add to above mixture and cook about 5 minutes or until slightly thickened. Remove from heat. Add gelatin and vanilla. Stir until gelatin is dissolved.

Chill until thick but not firm. (20 to 30 minutes.) Combine ½ cup nonfat dry milk solids with ½ cup warm water. Stir or beat until smooth. Chill. Beat with rotary beater until stiff enough to form soft peaks when beater is lifted. Fold into cooked mixture. (If the milk does not become thick when beaten, return to refrigerator and chill again.) Pour into sherbet dishes or pie shell. Chill until firm. (1 to 1½ hours.)

Yield: 6 to 8 servings or one 10-inch pie.

Good with graham cracker crust. This product may be frozen.

Lemon Chiffon Pudding or Pie Filling

2½ t. gelatin 3/8 t. salt

% c. cold water 2 eggs slightly beaten 34 c. sugar 34 t. grated lemon rind ½ c. nonfat dry milk solids ½ c. lemon juice

½ c. cold water

Add gelatin to 36 cup cold water. Let stand 5-7 minutes to moisten.

Combine sugar, lemon juice, salt and egg in top of double boiler. Beat or stir to mix well. Cook over hot water until slightly thick (7-10 minutes). Add softened gelatin and lemon rind to hot mixture. Stir until gelatin is dissolved. Chill until the mixture is thick but soft and jelly-like. (15 to 20 minutes.) Beat with rotary beater until the mixture is stiff enough to form soft peaks. Fold into lemon mixture. Pour into a cold, baked, 9-inch pie shell and chill until firm. (About 15-20 minutes.)

Lemon Meringue Pudding or Pie Filling

1/3 c. nonfat dry milk solids 2 c. water

1 c. sugar 2-3 eggs, separated 6 T. cornstarch ½ c. lemon juice ¼ t. salt 4-6 T. sugar

Combine thoroughly, nonfat dry milk solids, 1 cup sugar, cornstarch and salt in top of double boiler. Add gradually, 1 34 cups of water and stir until well blended.

Place over hot water and cook until thick and no starch taste remains. (Approximately 15 minutes.)

Combine remaining water with egg yolks and beat to blend. Add to cooked mixture and continue heating until thick (about 5 minutes.) Remove from heat. Cool slightly. Add lemon juice. Pour into sherbet dishes or baked pastry shell.

Meringue

Beat egg whites until frothy. Gradually add 4-6 tablespoons sugar and continue beating until foam stands in soft peaks. For pie, place on lemon mixture. Bake in moderate oven (325° to 350° F.) until golden brown. (Approximately 10 minutes.)

For pudding fold meringue into hot mixture or place over hot water and bake in moderate oven (325° to 350°F.) until golden brown. (Approximately 10 minutes.) Lift carefully from water and place on pudding.

Pie Crust

Graham Cracker Crust

1½ c. graham cracker ½ c. margarine crumbs or butter (melted) 3 T. sugar

Combine crumbs, sugar and margarine or butter and stir until well mixed. With the back of a large spoon, press the crumb mixture evenly on the bottom and sides of a greased pie pan until about 1/8 inch in thickness.

Bake in moderate oven (350°F.) 10-15 minutes.

Pastry

1½ c. flour ½ c. fat 5 T. water 34 t. salt

6 T. nonfat dry milk solids

Combine flour, salt, and nonfat dry milk solids. Sift together until well blended.

Cut in fat until particles are about the size of coarse corn meal.

Add water gradually, stirring mixture lightly with a fork. Press dough with fork or put in waxed paper and squeeze until dough seems smooth. Chill slightly.

Roll on lightly floured pastry cloth or between two pieces of waxed paper, to about 1/8 inch in thickness. Place on 9- or 10-inch pie plate. Prick with fork. Bake in hot oven 375° to 400°F. until golden brown in color. Cool.

Frozen Desserts

Chocolate Sherbet

½ c. chocolate syrup ½ c. nonfat dry milk

2 t. gelatin (moistened solids

in 2 T. water) ½ c. warm water ½ t. vanilla 1 t. vegetable oil

Heat chocolate syrup in top of double boiler. Remove from heat.

Add moistened gelatin to chocolate syrup. Stir until gelatin is dissolved. Add vanilla and blend. Cool and chill.

Combine nonfat dry milk solids with ½ cup water. Add vegetable oil. Stir or beat until well blended. Chill.

Whip until thick. Fold into chocolate syrup mixture. Pour into refrigerator trays and place in freezing unit. Turn refrigerator control low.

Yield: 4 servings.

Lemon Sherbet

1 c. sugar ½ c. lemon juice 1 c. water ½ c. nonfat dry milk

1 t. gelatin (moistened solids

in 2 T. water)

½ c. warm water
1 t. vegetable oil

Combine sugar and 1 cup water. Cook until the mixture boils and becomes clear. Remove from heat and add moistened gelatin. Stir until gelatin is well mixed. Cool. Add lemon juice and mix well. Chill until thick but not firm.

Combine nonfat dry milk solids with ½ cup water. Add vegetable oil. Stir or beat until free from lumps. Chill. Beat until the mixture stands in peaks. Fold into lemon mixture until well blended. Pour into refrigerator trays and place in freezing unit. Turn refrigerator control low.

Beating the mixture after it is partly frozen may make a better textured product.

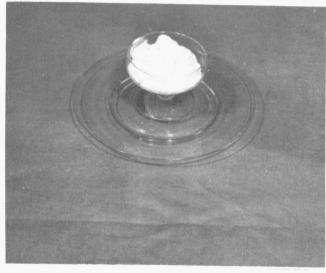
Yield: 4 to 5 servings.

Orange Sherbet

1 c. sugar 1 c. unstrained orange juice 1 c. water ½ c. nonfat dry milk solids

1 t. gelatin ½ c. warm water (moistened in 2 T. 1 t. vegetable oil of water)

Combine sugar and 1 cup of water in sauce pan. Cook until mixture boils and becomes clear. Remove from heat and add moistened gelatin and mix. Cool.



Refreshing sherbets offer opportunity for additional nourishment by use of extra dry milk solids.

Add orange juice. Mix thoroughly. Chill until thick but not firm.

Combine nonfat dry milk solids with ½ cup water. Add vegetable oil. Stir or beat until free from lumps. Chill. Beat until mixture stands in peaks. Fold into orange juice mixture until well blended. Pour into refrigerator trays and place in freezing unit. Turn refrigerator control low.

Beating the mixture after it is partly frozen may make a better textured product.

Yield: 4 to 5 servings.

MILK DRINKS

Milk drinks for lunch, between meals, or bedtime snacks may be prepared inexpensively from nonfat dry milk solids.

Chocolate Syrup (Basic Recipe)

2/3 c. corn syrup
11/3 c. sugar
1 c. water
1 c. water
1/2 c. nonfat dry milk
1 c. warm water
1 c. vanilla

Combine syrup, sugar and 1 cup water in sauce pan. Place over direct heat and cook to soft ball stage. (113°C. or 236°F.)

Combine cocoa or chocolate and nonfat dry milk solids in top of double boiler. Add warm water gradually and stir or beat until the mixture is smooth. Place over hot water and heat 8-10 minutes. Add butter or margarine and vanilla. Blend.

Combine with sugar-syrup mixture. Place in re-

frigerator.

Yield: 2½-3 cups syrup.

Uses: May be used as topping for ice cream or for making milk drinks.

Cocoa

3-4 T. chocolate syrup

1 c. reconstituted milk*

Combine chocolate syrup and milk. Stir to blend. *Milk may be used hot or cold.

Banana Milk Shake

1 large banana, mashed

1/3 c. nonfat dry milk

1 T. sugar solid

Few grains of salt

1 ½ -1 ½ c. water ½ t. vanilla

Mash banana and beat with rotary beater until creamy. Combine sugar, salt, nonfat dry milk solids and water. Blend. Add sugar-water mixture and vanilla to banana and beat with rotary beater until blended. Pour over cracked ice and serve at once.

Yield: 2 to 3 servings.

Suggestion: Combine all ingredients in a blender and blend 1 to 3 minutes.

Chocolate Malted Milk

1 c. water

2 T. chocolate malted

3-4 T nonfat dry milk solids 2-

milk 2-4 T. vanilla ice cream

Combine water, nonfat dry milk solids and chocolate malted milk in bowl. Stir or beat until well blended. Chill, if desired.

Add ice cream. Stir or beat until well-mixed. Serve immediately.

Yield: 11/4 cups.