Bulletin No. 379 - Baking, Cooking at High Altitudes

University of Wyoming Agricultural Experiment Station

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Baking, Cooking at High Altitudes

By Emma W. Rice
Baking, Cooking at High Altitudes

By Emma W. Rice

University of Wyoming
Agricultural Experiment Station
N. W. Hilston, Director
Laramie

Bulletin 379
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Foreword

This bulletin is a compilation of information and recipes derived from research in the various phases of cooking that are affected by altitude.


The principles involved in high-altitude cookery are discussed in detail in Mimeo Circular No. 136, published by the Agricultural Experiment Station in December 1960. "Quantity Recipes for High-Altitude Baking" for 50 to 200 portions are available from the University of Wyoming Home Economics Division. These recipes have been tested in Wyoming for altitudes of 3,500 to 7,500 ft.

Acknowledgment is given to the Agricultural Extension Staff at the University of Wyoming and to homemakers throughout the state for their suggestions and assistance. Many of these recipes are adaptations from commercial companies and personal recipes.

A. Table of Equivalents

<table>
<thead>
<tr>
<th>15 drops = ¼ tsp.</th>
<th>2 tbsp. = 1 fluid ounce</th>
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<tbody>
<tr>
<td>3 tsp. = 1 tbsp.</td>
<td>16 oz. = 1 lb.</td>
</tr>
<tr>
<td>4 tbsp. = ¼ cup</td>
<td>4 qts. = 1 gal.</td>
</tr>
<tr>
<td>5 ½ tbsp. = ½ cup</td>
<td>4 cups = 1 qt.</td>
</tr>
<tr>
<td>8 tbsp. = ½ cup</td>
<td>2 cups = 1 pt.</td>
</tr>
<tr>
<td>12 tbsp. = 3/4 cup dry</td>
<td>1 cup = ½ pt.</td>
</tr>
<tr>
<td>12 tbsp. = 1 cup liquid</td>
<td>1 cup = 8 fluid ounces</td>
</tr>
<tr>
<td>16 tbsp. = 1 cup dry</td>
<td></td>
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B. Pan Sizes

Three 8-inch round equal two 9-inch round pans.
One 9-inch round equals one 8-inch square pan.
Two 9-inch round equal 13 x 9 x 2-inch pan level full.
To substitute other pan sizes in a recipe, fill pan only half full and make cupcakes out of remaining batter.
C. Batters and Doughs

1 C. liquid to: 1 C. flour in popovers, griddle cakes
2 C. flour in muffins, plain cake, fritters
3 C. flour in biscuits, drop cookies, pastry
4 C. flour in yeast dough, doughnuts

D. Food Equivalents

<table>
<thead>
<tr>
<th>Equivalent</th>
<th>Unit</th>
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<tr>
<td>Baking powder</td>
<td>3 T.</td>
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<tr>
<td>Salt</td>
<td>2 T.</td>
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<tr>
<td>Butter</td>
<td>2 C.</td>
</tr>
<tr>
<td>Shortening</td>
<td>2 1/2 C.</td>
</tr>
<tr>
<td>Cocoa</td>
<td>1 oz. or sq. chocolate</td>
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<tr>
<td>Coconut, shredded</td>
<td>6 C.</td>
</tr>
<tr>
<td>Dates</td>
<td>2 C. seeded and chopped</td>
</tr>
<tr>
<td>Nuts, chopped</td>
<td>1 C.</td>
</tr>
<tr>
<td>Baking powder</td>
<td>1/4 tsp. soda + 1/2 tsp. cream of tartar</td>
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<tr>
<td></td>
<td>1/2 tsp. soda + 1 C. sour milk, 1 tsp. tartar</td>
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<tr>
<td></td>
<td>7/8 C. milk + 3 T. fat</td>
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<td></td>
<td>3/4 C. milk + 1/3 C. fat</td>
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<td></td>
<td>1 C. sweet + 1 T. lemon juice</td>
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<tr>
<td></td>
<td>or vinegar</td>
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<td></td>
<td>1 C. + 2 T. cake flour</td>
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<td></td>
<td>2 1/4 C. granulated</td>
</tr>
<tr>
<td></td>
<td>3 1/2 C. powdered, sifted</td>
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<tr>
<td></td>
<td>2 1/4 C. brown, packed</td>
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<tr>
<td></td>
<td>1 C. honey minus 1/4 C. liquid</td>
</tr>
<tr>
<td></td>
<td>in recipe</td>
</tr>
<tr>
<td></td>
<td>1 C. corn syrup minus 1/4 C. 1/2 C. liquid</td>
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Baking, Cooking at High Altitudes

By Emma W. Rice
Research Aid in Home Economics

Through the years the problem of baking and cooking at high altitudes has puzzled the newcomer to the mountain areas. Recipes from low altitudes are usually not satisfactory in high altitudes; the greater the elevation the more unsatisfactory are some recipes. Adjusting becomes necessary at altitudes above 3,000 feet.

The lower air pressure affects the boiling point of water. Steam forms sooner and water boils at a lower temperature. This variation in boiling points affects the cooking of vegetables, eggs, candies, and cooked icings as well as the internal structure of baked products.

There are no definite rules for altitude adjustment because of the various proportions of ingredients in all baked products. Each recipe must be adjusted individually. A favorite sea-level recipe can be adjusted for
use above 3,000 ft. Only one adjustment should be made at a time. Adjustments are usually made in the order given in Tables 1 and 2.

When using low-altitude recipes in making a cake, the product tends to expand too rapidly during baking—air cells break, air escapes, and the cake falls. This results in a sticky mass, or in heavy streaks of sugar and shortening in the cake.

Cookies may need a minimum reduction in baking powder and sugar or the addition of flour and possibly a liquid in sea-level recipes.

In quickbreads, leavening may need to be decreased; the dough needs to be softer, using more liquid; and the temperature for baking must be higher. Cream puffs are not affected by altitude. Popovers can use slightly more liquid at high altitudes.

Yeast doughs rise in a shorter time at higher altitudes. If raised too long there is danger of falling, and the bread is crumbly or too porous in the upper half of the loaf. Use a damp cloth over bowl of dough or put into a covered kettle to keep dough from forming a dry crust at high altitudes.

In deep-fat frying the altitude affects the temperature of the cooking oil. (Table 3). A lower temperature must be used for this type of cooking. Some of the dough products such as doughnuts need to have adjustments made in the ingredients.

Eggs cooked in water are affected by altitude in the length of time required to cook them, due to the lower boiling point of water. (Table 4).

Vegetable cookery and canning are also affected by the boiling point of water at high altitudes. (Tables 5 and 6).

Meat cookery is not affected by altitude except in boiling meats, which require longer time for cooking because of lower boiling points of water. (Table 4). Pressure cookers are recommended for boiling tough cuts of meat and mature poultry.
TABLE 1—Adjustments To Be Made on Sea-level Cake Recipes in High Altitudes

<table>
<thead>
<tr>
<th>INGREDIENT</th>
<th>5,000 ft.*</th>
<th>7,000 ft.*</th>
<th>10,000 ft.* (estimated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leavening**</td>
<td>decrease ½ to ⅓ of total amount</td>
<td>decrease ¼ to ⅙ of total amount</td>
<td>decrease ½ to ⅜ of total amount</td>
</tr>
<tr>
<td>Baking temp.</td>
<td>increase 3°F. for each 1,000 ft.</td>
<td>increase 25°F.</td>
<td>increase 35°F.</td>
</tr>
<tr>
<td>Pan size</td>
<td>no change</td>
<td>use larger size***</td>
<td>use larger size</td>
</tr>
<tr>
<td>Flour</td>
<td>add 0 to 2 T. per C.</td>
<td>add 1 to 3 T. per C.</td>
<td>add 2 to 4 T. per C.</td>
</tr>
<tr>
<td>Liquid</td>
<td>add 0 to 3 T. per C.</td>
<td>add 1 to 4 T. per C.</td>
<td>add 2 to 4 T. per C.</td>
</tr>
<tr>
<td>Eggs</td>
<td>no change</td>
<td>use 1 more egg</td>
<td>use 1 more egg</td>
</tr>
<tr>
<td>Sugar***</td>
<td>decrease 1 to 2 T. per C.</td>
<td>decrease 2 to 3 T. per C.</td>
<td>decrease 4 T. per C.</td>
</tr>
<tr>
<td>Fats***</td>
<td>decrease ½ T. to 1 T. per ½ C.</td>
<td>decrease ½ T. to 2 T. per ½ C.</td>
<td>decrease 2 T. per ½ C.</td>
</tr>
</tbody>
</table>

*Adjustments can be used at elevations 1,000 ft. higher or lower than elevation given in Table 1. E.g., 5,000 ft. adjustments can be used for 4,000 to 6,000 ft. Use smaller adjustments for lower altitude and greater adjustment for higher altitude.

**Use maximum of 1 tsp. double-action (1½ tsp. quick-action) baking powder; or ½ tsp. soda per cup of flour at high altitudes.

***In rich cakes only—those in which the proportion of sugar is more than 1 cup to each 2 cups of flour; and more fat than ½ cup to each cup of sugar.

****Fill pans or cupcakes only half full; make cupcakes out of extra batter.

NOTE: An 8"-square layer pan is equal in volume to a 9"-round layer pan.
<table>
<thead>
<tr>
<th>INGREDIENT</th>
<th>If too much is used, cake is:</th>
<th>If too little is used, cake is:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leavening</td>
<td>Very coarse and loose, sometimes slightly fallen, with bitter taste. Runs over top of pan.</td>
<td>Small, compact, and heavy, Light in color.</td>
</tr>
<tr>
<td>Flour</td>
<td>Dry, with a peaked or cracked top; breadlike, compact, tough crust.</td>
<td>May fall. Slightly heavy or soggy.</td>
</tr>
<tr>
<td>Sugar</td>
<td>Tough, heavy, thick crust that is often cracked and sugary or sticky, coarse in texture, sometimes slightly fallen, and runs over pan.</td>
<td>May be dry and coarse, tough; does not brown readily.</td>
</tr>
<tr>
<td>Shortening</td>
<td>Crisp, uneven edges, greasy and crumbly; heavy cake, falls.</td>
<td>Coarse in texture with tough crust, dry cake, light color.</td>
</tr>
<tr>
<td>Liquid</td>
<td>Tunnels, heavy streaks, and soggy.</td>
<td>Coarse, breadlike, dry, cracks on top.</td>
</tr>
<tr>
<td>Temperature</td>
<td>Coarse, thick, tough crust, peaked and often cracked.</td>
<td>Undersized, heavy, close, crumbly texture, pale, sticky crust. Runs over top of pan.</td>
</tr>
<tr>
<td>Pan size</td>
<td>(Too large.) Undersized cake, light crust color.</td>
<td>(Too small.) Runs over top, falls in center.</td>
</tr>
</tbody>
</table>
SECTION I. The Basic Mix

Mixes have become a very popular item in the modern kitchen. Mixes are convenient because they save time in the preparation of a product, and save dishwashing.

A homemade mix can be combined in just a few extra minutes with the homemaker's own favorite ingredients, usually at a saving of 1/3 to 1/2 in cost, in comparison with commercial mixes. The homemade mix can be used for a variety of products, thus saving storage space and giving variety in the menu without extra shopping.

Refrigeration is not necessary in keeping the mix. It will keep for six weeks or longer if stored in closed containers in a cool place.

A. BASIC MIX FOR CAKES AND COOKIES

Put dry ingredients in 6-qt. bowl and blend. Cut fat into dry ingredients in 8 portions.

<table>
<thead>
<tr>
<th>6,000 to 7,000 ft.</th>
<th>Weight</th>
<th>4,000 to 5,000 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 1/2 C. ..........</td>
<td>Sugar</td>
<td>1 1/2 lb. ..........</td>
</tr>
<tr>
<td>1 T. ................</td>
<td>Salt (if shortening is used)</td>
<td>1 T.</td>
</tr>
<tr>
<td>5 1/4 C. ..........</td>
<td>Flour* all-purpose, sifted</td>
<td>1 lb. 5 oz.</td>
</tr>
<tr>
<td>3/4 C. .............</td>
<td>Cornstarch*</td>
<td>3 oz.</td>
</tr>
<tr>
<td>2 T. ................</td>
<td>Baking Powder</td>
<td>2 T. add 1 tsp.</td>
</tr>
<tr>
<td>1 tsp. .............</td>
<td>Cream of Tartar</td>
<td>1 tsp.</td>
</tr>
<tr>
<td>1 C. ................</td>
<td>Dry Milk†</td>
<td>2 oz.</td>
</tr>
<tr>
<td>3 cubes or 1 1/2 C.</td>
<td>Butter or Shortening, soft</td>
<td>3/4 lb. add 3 T.</td>
</tr>
</tbody>
</table>

Mix together until consistency of coarse cornmeal, keep pushing mixture from sides of electric mixer bowl with rubber spatula.

A hand blender may be used to cut fat into the sifted dry ingredients.

To measure the mix for a recipe: Pile into cup to overflowing, level off with knife edge.

*For finer texture, use 1 1/2 lbs. cake flour or 6 C. unsifted cake flour instead of the all-purpose flour and the cornstarch.

†When fluid milk is used in place of water in the recipes, the dry-milk powder may be replaced with an equal measure of sifted flour.
CAKES MADE FROM BASIC MIX

PLAIN CAKE
(one 9-inch layer or 8-inch square)

Put 3 cups (15 oz.) cake mix into mixer bowl. Add \( \frac{1}{2} \) cup water*, \( \frac{1}{2} \) tsp. flavoring. Beat on medium speed for 2 minutes, pushing batter into beater from edge of bowl with rubber spatula. Put 1 egg into measuring cup and fill to \( \frac{1}{2} \) cup with water. Add to mixer and beat 2 more minutes on medium speed. Bake at 375° F. for 25-30 minutes in layer pan, or in cupcakes for 15 minutes at 400° F.

*If cake seems too compact or soggy, decrease liquid 1 or 2 T. per cup. If butter or margarine is used in mix, decrease liquid about 2 T. per cup. Below 5,000 ft., decrease liquid.

For 9 x 13 x 2-inch pan use: 5 C. (25 oz.) cake mix, add 1 C. water, 1 tsp. flavoring. Put 2 eggs into measuring cup and fill to 2/3 C. with water. Bake 30-35 min. For cocoa cake, use 1/3 C. cocoa in 1/3 C. boiling water and 1/2 tsp. red coloring. For other variations add 2/3 more of ingredients.

COCOA CAKE

To plain cake add 1/4 C. cocoa mixed with 1/4 C. boiling water to consistency of melted chocolate; use 1/4 tsp. red coloring. Bake at 350° F.

WHITE CAKE

Substitute in plain cake for each egg:

Two egg whites. Use 1/4 tsp. almond flavoring. (Better texture with Shortening and cake flour.)

YELLOW CAKE

Substitute in plain cake for each egg:

Two egg yolks, 1/2 tsp. lemon or orange flavoring, few drops of yellow coloring.

SPICE CAKE

To plain cake add 1/4 tsp, cinnamon, 1/4 tsp. cloves, and 1/4 tsp. allspice to dry mix before adding liquid.

See QUICK TWO-EGG CAKE for more variations, page 18.
COOKIES MADE FROM BASIC MIX

PEANUT-BUTTER COOKIES

Mix well:

Cake Mix 2 1/2 C. Peanut Butter 1/2 C.
Eggs 1 Water 1/4 C.

Chill and put out in balls on greased cookie sheet and then criss-cross with fork to flatten. Bake at 400° F. about 10 minutes. Makes about 3 dozen 3-inch cookies.

OATMEAL COOKIES

Cake Mix 2 1/2 C. Water 1/4 C.
Eggs 2 Flour 3/4 C.
3/4 C. Quick Oats 1 C.
3/4 C. Raisins omit
1 tsp. Cinnamon omit

Butterscotch Chips 1/2 pkg.
Mix well. Drop by teaspoons onto greased sheet. Bake at 375° F. about 10 minutes; use mapleine flavoring for brown-sugar taste.

SUGAR COOKIES

Cake Mix 2 1/2 C.
1/4 C. Water 1/4 C.
1 Egg 1
1/2 C. Flour ommit
1 tsp. Flavoring 1/2 C. nuts

Mapleine 1/4 tsp.
Mix and chill either in a roll as for icebox cookies and slice off to bake, or put out in balls size of walnut and flatten with a glass that has been rubbed with fat on the bottom and dipped in sugar. Bake at 400° F. for 10 min.

CHOCOLATE COOKIES

Add 1/4 C. cocoa to sugar cookies and use only 1/4 C. flour. Drop by spoonful or chill and flatten like above. Bake at 375° F. for 10 minutes.

CHOCOLATE-CHIP COOKIES

Cake Mix 2 1/2 C. Chocolate Chips 3 oz. or 1/2 C.
Egg 1 Vanilla 1 tsp.
Water if Needed 1 to 2 T.
Beat egg and add mix. Blend in chocolate chips and vanilla. Add water if needed to form dough into drop cookies. Bake at 375° F. about 10 min. Dough may be chilled before baking, if desired.
OLDEN NUGGETS

Cooked Carrots, mashed .......... 1 C.  Lemon Extract ................... 1 tsp.
Cake Mix .......................... 3 C.  Vanilla Extract .................. 1 tsp.
Egg .................................. 1

Mash carrots in mixer, add remaining ingredients and blend well. Drop on greased cookie sheet or spread in pan ¼-inch thick. Bake 375° F. about 12 min. Cut into squares while warm. Frost with powdered sugar and orange juice. Can add ½ C. raisins to dough before baking.

BANANA COOKIES

Banana, mashed ............. ¾ C.  Lemon Extract ................. ½ tsp.
Cake Mix ..................... 3 C.  Vanilla Extract ............. ½ tsp.
Egg ............................. ½

Mash bananas in mixer, add other ingredients, and blend well. Drop on greased cookie sheet. If sample cookie flattens too much, add 1 or 2 T. flour to dough for drop cookie. Or, dough may be spread ¼-inch thick in pan for sheet cookies. Bake at 375° F. about 12 minutes. Cut into squares while warm. May frost with powdered-sugar frosting.

B. PIECRUST MIX

Sift together 7 C. sifted FLOUR and 4 tsp. SALT. Cut in 1 lb. of LARD with mixer or pastry blender as for pastry dough. Store this mix, containing lard, in the refrigerator.

To use: Add about ¼ C. cold WATER to 2 C. of mix for a 2-crust pie.

C. BASIC MIX FOR QUICKBREADS

<table>
<thead>
<tr>
<th>6,000-7,000 ft.</th>
<th>Ingredients and Method</th>
<th>Weight</th>
<th>4,000-5,000 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 qt.</td>
<td>Flour</td>
<td>2 lb.</td>
<td></td>
</tr>
<tr>
<td>1½ C.</td>
<td>Dry Milk†</td>
<td>3 oz.</td>
<td></td>
</tr>
<tr>
<td>3 T.</td>
<td>Baking Powder</td>
<td>3 T.</td>
<td>Add 1½ tsp.</td>
</tr>
<tr>
<td>1½ T.</td>
<td>Salt</td>
<td>1½ T.</td>
<td></td>
</tr>
<tr>
<td>1 tsp.</td>
<td>Cream of Tartar</td>
<td>1 tsp.</td>
<td></td>
</tr>
<tr>
<td>¼ C.</td>
<td>Sugar (aids browning)</td>
<td>2 oz.</td>
<td></td>
</tr>
</tbody>
</table>

Add fat in 3 portions; Cut in with pastry blender or mixer:

1½ to 2 C. Shortening or Butter, soft
1 to 1¾ C. or Lard

Cut in fat until mix is consistency of coarse cornmeal. Don’t overmix. With electric mixer, keep pushing mixtures down side of bowl with rubber

*Amount of shortening depends on richness of dough desired.

To measure for recipe: Pile into cup to overflowing; level off with knife edge.

†When fluid milk is used in place of water in the recipes, the dry-milk powder may be replaced with an equal measure of sifted flour.
spatula. Store in a cool place in glass or tin containers with tight lids, or put amount for a recipe into plastic bags.

**QUICKBREADS FROM BASIC MIX**

**BISCUITS**

**Quickbread Mix**  
1 qt. Water  
1 C. (about)

Add enough water to the dry mix to make a soft dough. Turn out on lightly floured board, knead lightly. Roll out and fold over. Roll out \(\frac{1}{2}\) inch thick. Cut with floured 2-inch cutter, or roll into a sheet and cut 2-inch squares. Bake on greased sheet about 15 min. at 425° F.

**DROP BISCUITS**

Add \(\frac{1}{4}\) C. more water to biscuit dough. Put out on baking sheet with No. 24 ice cream scoop or large spoon.

**CHEESE BISCUITS**

Add 2 oz. (\(\frac{1}{2}\) C.) grated cheese to the dry mix, proceed as for biscuits.

**MUFFINS**  
(about 12)  
*Stir together well:*

**Basic Mix**  
3 C. Sugar  
\(\frac{1}{4}\) C.

Beat well 1 egg and 1 C. water. Add to mix and stir only to blend. Bake in greased muffin tins at 425° F. for 15-20 minutes.
CORNBREAD
(one 8-inch cake layer)
Mix well:
Quickbread Mix .. 1½ C. Sugar .. 1½ T.
Baking Powder .. ½ tsp. Cornmeal .. ½ C.
Add:
Eggs .. 1 Water .. ½ C. + 2 T.
Beat together about 2 minutes. Bake at 400° F. for 25 min. in greased baking pan.

COFFEE CAKE
(one 8-inch cake layer)
Mix well:
Quickbread Mix .. 1½ C. Nutmeg .. ¼ tsp.
Sugar .. ½ C. Cinnamon .. ¼ tsp.
Add:
Eggs .. 1 Water .. ½ C.
Beat together about 2 minutes. Put into greased baking pan and cover with sugar topping about ¼ inch thick. (See Coffee Cake on p. 46.) Bake at 400° F. for about 25 min.

FRUIT COBBLER
Mix well:
Quickbread Mix .. 1½ C. Sugar .. ½ C.
Add:
Egg .. 1 Water .. ½ C.
Put on top of hot fruit filling (about 3 cups) in 8-inch-square baking pan. Bake at 425° F. for 12 to 15 minutes. (See fruit cobbler under quickbreads for filling.)

WAFFLES or PANCAKES
(about 12 cakes)
Beat together well in mixing bowl:
Eggs .. 1 (2 in waffles) Quickbread Mix .. 2¼ C.
Water .. 1 C. Sugar .. 2 T.
Add more water if thinner cakes are desired. Bake on hot griddle or in waffle iron.

MOLASSES COOKIES
Quickbread Mix .. 1 qt. Cloves .. ½ tsp.
Sugar .. ½ C. Soda .. ½ tsp.
Cinnamon .. 1 tsp. Eggs .. 1
Ginger .. 1 tsp. Molasses .. 1 C.

(Continued on Page 16)
Chill dough for 2 or 3 hours or over night. Shape into balls the size of
a walnut and roll in sugar. Put on greased baking sheet, allow space for
them to flatten during baking. Remove from pan while cookies are still
warm to prevent breaking in handling. Bake at 375°F for about 10 min-
utes.

SECTION II. Cakes

A. BUTTERCAKES

Some of the effects of altitude on buttercakes are discussed briefly:

Leavening

Problems involved in altitude adjustment are caused by atmospheric
pressure and its effect on the formation and expansion of gases used as leav-
ening agents. In general, less leavening is used at high altitudes. For exam-
ple, one teaspoon of double-action baking powder (or 1½ teaspoons of
single-action) or ½ teaspoon of soda per cup of flour is usually the maximum
amount used at 7,200 ft.

Temperatures of baking

Baking temperatures are increased at higher altitudes. Since steam is
formed sooner in high altitudes, the cake batter does not set quickly enough
at lower oven temperatures, and the product collapses. Too low temperature
causes the product to be dry and crumbly because there is too much evapora-
tion from the dough.

Pan size

Do not fill cake or cupcake pans over one-half full, for the product ex-
pands more in baking at high altitudes. It is wise to use a slightly larger
or deeper pan than one used in low-altitude recipes; or, make cupcakes out
of the extra batter. Bake the cupcakes after the cake, however, because they
require less baking time and can use slightly higher oven temperatures than
cakes.

Sugar

The proportion of sugar to fat and flour is important in high-altitude
cake baking. Usually less sugar is used in adapting sea-level "rich cakes"
(Table 1) for use at high altitudes.

Fats or shortenings

Ordinarily all fats used in cakes are known as shortening, but, in addi-
tion to butter, lard, margarine, and cream there are vegetable shortenings
and oils. When lard, butter, or margarine is used, the recipes require 2 T.
less per cup of sugar and 2 T. less per cup of water used. When lard is used
it should be ½ less than the amount of other fats. Rendered chicken fat may
be used in chocolate or spice-flavored products or some quickbreads. Use
¼ less than shortening amount indicated.
Cream for cake baking should contain about 32% butterfat. Commercial sour cream is not high enough in butterfat, unless it is purchased from a creamery where butterfat content is known.

Flour

Since flour dries out more in the dry climates of high altitudes, most quickbreads, cookies, and cakes need more liquid. Flour should be stored in tight containers to help prevent drying out so the amount of liquid needed in baked products will be more uniform. **Flour should be sifted (before measuring),** onto waxed paper, then piled into the measuring cup to overflowing, and leveled off with the edge of a knife or spatula. There are different types of white flour: bread, all-purpose, pastry, and cake. Bread and pastry flours are used in commercial baking.

The differences in the absorption of water in the various types of flour are particularly important at high altitudes. All-purpose flour may be used in place of cake flour to give a stronger structure and to absorb the extra moisture that is sometimes recommended for high altitudes. The cake texture is not as fine or tender as when cake flour is used. Cornstarch may be substituted for part of the flour (2 T. per cup) to make more tender products. All-purpose-flour cake batters should not be beaten as much as when cake flour is used. In substituting all-purpose flour for cake flour, 2 tablespoons less per cup must be used.

Eggs

The maximum amount of egg called for in a recipe should be used because eggs help to form a firmer structure. Unbeaten whole eggs or egg whites give a finer, more moist cake than beaten eggs because more moisture is retained in the unbeaten eggs. Since less leavening is needed at high altitudes, it is usually better not to beat the eggs separately, unless a minimum amount of leavening is used.

**Eggs vary in measurement from three tablespoons to 1/3 cup.** Therefore, eggs should be measured in a cup and, if necessary, water should be added to make 1/4 cup in measure for each egg (9 shell eggs to a pound or pint). It is best to measure eggs if you wish to substitute small or large eggs in a recipe.

Liquids

Since liquids evaporate more quickly at high altitudes, there must be enough moisture in the product to prevent it from becoming dry and crumbly. Because water boils at a lower temperature at high altitudes, steam forms sooner inside the batter. This causes too much expansion before the framework of flour and eggs has a chance to "set"—and the cake collapses. In “rich cakes” (Table 1) it is wise to add the extra moisture in the form of eggs to make a stronger structure and a less crumbly cake.
QUICK TWO-EGG CAKE
(Two 8-inch layers or 9x13x2-inch pan)

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>6,000-7,000 ft.</th>
<th>4,000-5,000 ft.</th>
<th>10,000 ft. (estimated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>½ C.</td>
<td>Shortening*</td>
<td>½ C.</td>
<td>½ C.</td>
</tr>
<tr>
<td>1 C.</td>
<td>Sugar</td>
<td>1 C. + 1 T.</td>
<td>1 C.</td>
</tr>
<tr>
<td>2 tsp.</td>
<td>Baking Powder</td>
<td>2½ tsp.</td>
<td>1 tsp.</td>
</tr>
<tr>
<td>(double-action)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>½ tsp.</td>
<td>Salt</td>
<td>½ tsp.</td>
<td>½ tsp.</td>
</tr>
<tr>
<td>2¼ C.</td>
<td>Cake Flour, sifted</td>
<td>2 + ½ C.</td>
<td>2½ C.</td>
</tr>
<tr>
<td>or All-Purpose</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 C.</td>
<td>Flour, sifted</td>
<td>2 C.</td>
<td>2¼ C.</td>
</tr>
<tr>
<td>2</td>
<td>Eggs</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1 C.</td>
<td>Liquid</td>
<td>1 C. - 1 T.</td>
<td>1 C. + 2 T.</td>
</tr>
<tr>
<td>1 tsp.</td>
<td>Flavoring</td>
<td>1 tsp.</td>
<td>1 tsp.</td>
</tr>
<tr>
<td>375°F</td>
<td>Baking Temperature</td>
<td>365°F</td>
<td>400°F</td>
</tr>
</tbody>
</table>

*The term “shortening” in the recipes applies to any type of fat used in baking. Detailed explanation is on page 16.

METHOD 1. Sift dry ingredients into mixer, add shortening and ½ of liquid. Mix for two minutes at medium speed. Add egg and rest of liquid, mix for two more minutes at medium speed.

METHOD 2. Cream the shortening and the sugar; beat in eggs. Sift dry ingredients; add alternately with liquid. Fill pan half full, bake about 25 minutes in layer, or 40 minutes in large pan.

VARIATIONS FOR QUICK CAKE

CHOCOLATE: Add 6 T. cocoa dissolved in ½ C. hot water, ¼ tsp. red coloring.

WHITE CAKE: Use 4 egg whites instead of 2 whole eggs, ½ tsp. almond flavoring.

YELLOW CAKE: Use 4 egg yolks instead of 2 whole eggs, 1 tsp. lemon juice, and 1 T. rind. Add ¼ tsp. yellow coloring.

SPICE CAKE: Add ½ tsp. cinnamon, ¼ tsp. cloves, ¼ tsp. allspice, ¼ tsp. mapleine flavoring.

BROWNSTONE FRONT: To SPICE CAKE add ⅛ C. nuts and ⅛ C. raisins, chopped.

LUCKY NUT LOAF: To QUICK CAKE add ⅛ C. chopped nuts and bake in loaf pan at 350°F. about 1 hour.

BROWN-SUGAR CAKE: Use 1 C. brown sugar packed, in place of 1 C. sugar, ¼ tsp. mapleine flavoring.
MARBLE CAKE: In Quick Cake pour out 1/3 of batter. Sift over this 3 T. cocoa. Mix in thoroughly. Fold in 2 T. milk.
Put light and dark batter alternately by tablespoonfuls into a greased tube pan. Bake 350° F. for about 45 minutes, or bake in usual layer pans or loaf pan.

PEANUT-BUTTER CAKE: To Quick Cake add: 1/4 C. sugar; 1/3 C. peanut butter (add to shortening); 1/4 C. milk.

BURNT-SUGAR CAKE: In Quick Cake use 3/4 C. sugar instead of 1 C.
Add 3 T. caramel syrup with the vanilla.
To make Caramel Syrup: Caramelize 1/2 C. sugar by stirring in heavy skillet or pan until quite dark but not burned; add 1/2 C. boiling water and boil until it makes 6 T. syrup. What remains from the cake may be used in icing.

PINEAPPLE-SAUCE CAKE: In Quick Cake use 2/3 C. crushed pineapple with 1/4 tsp. soda stirred into it, instead of the 1 C. liquid.

UPSIDE-DOWN CAKE: In Quick Cake use 1 C. all-purpose flour instead of cake flour in 1/2 of recipe. Melt 1/4 C. butter in heavy skillet, add 1 C. brown sugar and melt slightly. Place pineapple or any drained fruit over the sugar mixture. Pour batter over fruit and bake about 30 minutes at 375° F. When done, turn it out on a platter with the fruit side up.

HOT-FUDGE PUDDING: Make 1/2 recipe of Chocolate Quick Cake, omitting egg. Add 1 C. chopped nuts. Spread in 9-inch-square pan. Blend 1 C. brown sugar, 1/4 C. cocoa and 1 3/4 C. hot water. Pour over batter. Bake about 35 minutes at 375° F. During baking, cake mixture rises to top and chocolate sauce settles to bottom. Serve warm in sauce dishes.

APPLESAUCE CAKE
Grease loaf pan or 9x13x2-inch pan
Set oven for 350° F.

6,000-7,000 ft. Baking time: 35 min. 
Loaf 45 min.

Ingredients and Method 4,000-5,000 ft.

Sift into mixer bowl:

- 2 C. All-Purpose Flour, sifted
- 1 tsp. Cinnamon
- 1/2 tsp. Cloves
- 1/2 tsp. Nutmeg
- 1 tsp. Soda
- 1/2 tsp. Salt
- 1 C. Sugar

(Continued on Page 20)
Add and beat for 2 minutes on medium speed:

\[
\begin{align*}
\frac{1}{2} \text{ C.} & \quad \text{Shortening}^* & \frac{1}{2} \text{ C.} \\
1 \text{ C.} & \quad \text{Applesauce} & 1 \text{ C.}
\end{align*}
\]

Add and beat 2 minutes longer:

\[
\begin{align*}
2 \quad & \quad \text{Eggs} & 2 \\
\frac{1}{2} \text{ C.} & \quad \text{Raisins} & 1 \text{ C.} \\
\frac{1}{2} \text{ C.} & \quad \text{Nuts} & \frac{1}{2} \text{ C.}
\end{align*}
\]

Put batter into pan and bake.

Can add:

\[
\begin{align*}
1 \text{ C.} & \quad \text{Candied Fruit} & 1 \text{ C.}
\end{align*}
\]

*The term “shortening” in the recipes applies to any type of fat used in baking. Detailed explanation is on page 16.

POOR MAN’S CAKE OR COOKIES

Grease loaf pan or sheet pan.

6,000-7,000 ft. \hspace{1cm} Ingredients and Method \hspace{1cm} 4,000-5,000 ft.

Boil for 3 minutes:

\[
\begin{align*}
1 \text{ C.} & \quad \text{Brown Sugar} & 1 \text{ C.} + 1 \text{ T.} \\
1 \text{ C.} & \quad \text{Hot Water} & 1 \text{ C.} + 1 \text{ T.} \\
\frac{1}{2} \text{ C.} & \quad \text{Shortening} & \frac{1}{2} \text{ C.} \\
\frac{1}{4} \text{ tsp. each} & \quad \text{Salt, Nutmeg, Cloves} & \frac{1}{4} \text{ tsp. each} \\
1 \text{ tsp.} & \quad \text{Cinnamon} & 1 \text{ tsp.} \\
1\frac{1}{2} \text{ C.} & \quad \text{Raisins} & 1\frac{1}{2} \text{ C.}
\end{align*}
\]

Cool mixture and add sifted:

\[
\begin{align*}
1 \text{ tsp.} & \quad \text{Soda} & 1\frac{1}{2} \text{ tsp.} \\
2 \text{ C.} & \quad \text{All-Purpose Flour, sifted} & 2 \text{ C.} \\
\frac{1}{2} \text{ tsp.} & \quad \text{Baking Powder} & \frac{1}{2} \text{ tsp.}
\end{align*}
\]

Bake in loaf pan about 45 minutes or spread on 10x15-inch sheet pan and bake for about 15 min. Cut into squares when cool, or frost with thin icing while warm before cutting into squares. More flour can be added and dough dropped for Drop Cookies. Candied fruit may be added to make Fruit Cake.

ALL-HONEY CHOCOLATE CAKE

Line bottom of 8-inch square or 9-inch round pan with wax paper.

6,000-7,000 ft. \hspace{1cm} Ingredients and Method \hspace{1cm} 4,000-5,000 ft.

Sift together:

\[
\begin{align*}
2 \text{ C.} & \quad \text{Sifted Cake Flour} & 2 \text{ C.} \\
\frac{3}{4} \text{ tsp.} & \quad \text{Soda} & 1 \text{ tsp.} \\
1 \text{ tsp.} & \quad \text{Salt} & 1 \text{ tsp.}
\end{align*}
\]
Add and mix for 1 minute, medium speed:

| 1/2 C. | Shortening* |
| 1 3/4 C. | Honey |
| 1/3 C. | Water |

Add and mix for 2 minutes, medium speed:

| 3 | Eggs, unbeaten |
| 2 1/2 oz. | Melted Chocolate |
| 1/3 C. | Water |

Fill pans only half full of batter. Bake. Cool for 10 minutes before turning out on rack. Remove wax paper at once.

1/4 C. water may be used to replace 1 egg, but at higher altitudes, cake will be crumbly.

*The term “shortening” in the recipes applies to any type of fat used in baking. Detailed explanation is on page 16.

**HONEY ICING**

| 1 C. Honey | 2 Egg Whites | 1/2 tsp. Salt |

Heat honey to 238° F. (or soft-crack thread in cold water). Pour slowly into beaten egg whites, add flavoring. Beat until it holds shape.

**SOUR-CREAM CHOCOLATE CAKE**

8-inch square pan or 9-inch round.

Set oven: 375° F.

Line bottom with wax paper.

Baking time: 25-30 min.

Ingredients and Method: 4,000-5,000 ft.

6,000-7,000 ft.

Melt chocolate in hot water, add soda, and cool:

| 1 sq. | Chocolate |
| 1/2 C. | Boiling Water |
| 1/2 tsp. | Soda |

Whip cream, slowly add sugar, beat in eggs one at a time:

| 3/4 C. | Sour Whipping Cream* |
| 3/4 C. | Sugar |
| 1 large | Egg |

Add chocolate mixture alternately with:

| 1 1/8 C. | Cake Flour |
| 1/2 tsp. | Salt |
| 1/2 tsp. | Vanilla |

Fill pans half full of batter. Bake. Cool for 5 minutes in pan on rack. Turn out on rack and remove wax paper immediately.

*Sweet cream may be substituted for sour cream; use 1 tsp. baking powder instead of 1/2 tsp. soda. In chocolate cake add 1/4 tsp. red coloring.

**PLAIN SOUR-CREAM CAKE**

In chocolate sour cream cake, substitute 1/4 C. cold water instead of 1/2 C. boiling water. Omit chocolate. Sift soda with flour and salt.
SOUR-CREAM SPICE CAKE
To plain sour-cream cake add.
\( \frac{1}{4} \) tsp. cinnamon, \( \frac{1}{8} \) tsp. each of cloves, allspice, sifted with flour. May add \( \frac{1}{8} \) tsp. mapleine flavoring.

CHOCOLATE FUDGE CAKE
(Without baking powder or soda. For use only above 3,000 ft.)
Two 9-inch round or 8-inch square pans.
Line bottom with wax paper.
Set oven: 350° F.
Baking time: 30-40 min.

Ingredients and Method

6,000-7,000 ft.

2 C. Sugar
1 C. - 1 T. Butter or Shortening*
Separate eggs, add yolks into creamed mixture one at a time while beating:
4 Eggs
Add alternately to above mixture:
2 C. Cake Flour, sifted
1 C. Milk
Add:
2 sq. Chocolate, melted
2 tsp. Vanilla
1 C. Nuts, chopped (optional)

Fold in beaten whites. Fill pans half full of batter. Bake. Cool for 5 minutes in pan on rack. Turn out on rack and remove wax paper immediately.

*The term “shortening” in the recipes applies to any type of fat used in baking. Detailed explanation is on page 16.

DELUXE CHOCOLATE CAKE
Two 9-inch round or 8-inch square pans.
Line bottom with waxed paper.
Set oven: 350° F.
Baking time: 25-30 min.

Ingredients and Method

6,000-7,000 ft.

3 sq. Chocolate

3 sq.
Sift together well:

<table>
<thead>
<tr>
<th>1 3/4 C.</th>
<th>Cake Flour, sifted</th>
<th>1 3/4 C.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 tsp.</td>
<td>Salt</td>
<td>1 tsp.</td>
</tr>
</tbody>
</table>

Cream together until light and fluffy:

<table>
<thead>
<tr>
<th>1 1/4 C.</th>
<th>Shortening*</th>
<th>1 1/4 C.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 1/4 C.</td>
<td>Sugar</td>
<td>1 1/4 C. + 2 T.</td>
</tr>
</tbody>
</table>

Add, one at a time, beating thoroughly after each:

| 3                             | Eggs, unbeaten           | 3        |

Add chocolate and blend.

Add dry ingredients and liquid alternately, at medium speed in 3 minutes:

<table>
<thead>
<tr>
<th>1 C. + 2 T.</th>
<th>Milk</th>
<th>1 C. + 2 T.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 tsp.</td>
<td>Vanilla</td>
<td>1 tsp.</td>
</tr>
</tbody>
</table>

*The term “shortening” in the recipes applies to any type of fat used in baking. Detailed explanation is on page 16.

Fill pans half full of batter. Bake. Cool on rack 10 minutes; turn out on another rack, remove paper and turn right side up to cool before frosting.
WHITE LAYER CAKE
(Silver Moon Cake)
Two 9-inch round or 8-inch square pans.
Line bottom with wax paper.

Ingredients and Method
6,000-7,000 ft.  4,000-5,000 ft.

Set oven: 375°F.
Baking time: 25-30 min.

Sift into mixer bowl:

2 1/2 C. Cake Flour, sifted 2 1/4 C.
1 tsp. Salt 1 tsp.
1 C. + 2 T. Sugar 1 1/4 C.

Add and beat 2 minutes at medium speed:

1/2 C. Shortening* 1/2 C.
1/4 C. Milk 1/4 C.

Add and beat 2 minutes at medium speed:

1/2 C. Milk 1/2 C.
1 tsp. Vanilla 1 tsp.
1/2 tsp. Almond Extract 1/2 tsp.

Beat into soft peaks at high speed; then beat into batter for 1 minute at slow speed:

5 Egg Whites, unbeaten 5
1/2 C. Sugar, added gradually 1/2 C.

Pour batter into pans. Bake. Cool for 10 minutes before removing from pans. Remove wax paper immediately after cake is turned out of pan onto rack.

*The term “shortening” in the recipes applies to any type of fat used in baking. Detailed explanation is on page 16.

GOLD CAKE
Line 9x5x3-inch loaf pan with waxed paper.

Ingredients and Method
6,000-7,000 ft.  4,000-5,000 ft.

Set oven: 350°F.
Baking time: 50-60 min.

Sift into mixer bowl:

2 C. Cake Flour, sifted 2 C.
1 1/2 tsp. Baking Powder 1 1/4 tsp.
1/2 tsp. Salt 1/2 tsp.
1/2 C. Sugar 1/2 C.

In small mixer bowl beat for 2 minutes at high speed:

1/2 C. Egg Yolks (about 5) 1/2 C.

Gradually add and beat 2 minutes at high speed:

1/2 C. Sugar 1/2 C.
To dry ingredients add and beat 2 minutes on medium speed:

\[
\begin{align*}
\frac{1}{2} \text{ C.} & \quad \text{Shortening}\* \\
1 \text{ T.} & \quad \text{Lemon or Orange Juice} \\
1\frac{1}{2} \text{ T.} & \quad \text{Lemon or Orange Rind} \\
\frac{3}{4} \text{ C.} & \quad \text{Milk}
\end{align*}
\]

On slowest speed fold in egg-yolk mixture for 2 minutes.

Fold through batter several times by hand, pour into pan and bake. Cool in pan 5 minutes before turning out onto rack. Remove waxed paper immediately.

**HONEY SOUR-CREAM SPICE CUPCAKES**

Yield: 2 doz. cupcakes or two 9-inch layers.

Set oven: 375° F.  
Baking time: 18 min.  
(Layers: 25-30 min.)

6,000-7,000 ft.  
Ingredients and Method  
4,000-5,000 ft.

Mix:

\[
\begin{align*}
\frac{1}{4} \text{ C.} & \quad \text{Shortening}\* \\
\frac{1}{2} \text{ C.} & \quad \text{Brown Sugar packed} \\
\frac{1}{2} \text{ C.} & \quad \text{Honey} \\
2 & \quad \text{Small Eggs (Scant } \frac{1}{2} \text{ C.)}
\end{align*}
\]

Sift together and add to above, mix for 1 minute:

\[
\begin{align*}
1\frac{3}{4} \text{ C.} & \quad \text{Flour, sifted} \\
\frac{1}{4} \text{ tsp.} & \quad \text{Salt} \\
\frac{1}{4} \text{ tsp.} & \quad \text{Cloves} \\
\frac{1}{4} \text{ tsp.} & \quad \text{Allspice} \\
\frac{1}{4} \text{ tsp.} & \quad \text{Cinnamon} \\
\frac{1}{4} \text{ tsp.} & \quad \text{Soda} \\
1\frac{1}{4} \text{ tsp.} & \quad \text{Baking Powder}
\end{align*}
\]

Add and mix for 1 minute more:

\[
\begin{align*}
\frac{1}{2} \text{ C.} & \quad \text{Sour Whipping Cream} \\
\frac{1}{2} \text{ C.} & \quad \text{Water}
\end{align*}
\]

Fill cupcake cups only \( \frac{1}{2} \) full. Bake.

*The term “shortening” in the recipes applies to any type of fat used in baking. Detailed explanation is on page 16.*
B. FRUIT CAKES

DARK FRUIT CAKE

Line loaf pan with foil or heavy wax paper.
Extend 1/2 inch above all sides.
Set oven: 250° F.
Baking time: 3 1/2 to 4 hours.

6,000-7,000 ft.

Mix in large bowl:

1/2 lb. Nut Meats, cut in halves 1/2 lb.
1/2 lb. Dates, cut in eighths 1/2 lb.
1 1/4 lb. Candied Fruit Mix 1 1/4 lb.
1/2 lb. Raisins 1/2 lb.
1/4 lb. Shredded Cocoanut 1/4 lb.

Sift together:

2 C. Cake Flour 2 C.
1 tsp. Cinnamon 1 tsp.
1/2 tsp. Nutmeg and Allspice 1/2 tsp.
1 tsp. Salt 1 tsp.
1 tsp. Baking Powder 1 tsp.

Cream well in mixer bowl:

1 C. Shortening* 1 C.
1/2 C. — 1 T. Sugar 1/2 C.
1/2 C. — 1 T. Honey 1/2 C.
5 Eggs 5

To creamed mixture add, alternately, dry ingredients and:

7 T. Fruit Juice 6 T.

Pour batter over fruit and nuts, mix until all fruit is well covered. Pour batter into tins, spread lightly into corners. Decorate top with fruit and nuts.

For a glace and for moist texture, place a flat pan containing water in bottom of oven while baking the cake.

The cake may be steamed in a pressure cooker. Line bottom and sides of a 1-pound coffee can with several layers of waxed paper. Fill 1/2 full, cover with tight lid. Place on rack in cooker. Use 4 to 5 cups of water in cooker. Steam at 5 lbs. of pressure for 50 to 60 minutes.

WHITE FRUIT CAKE

No altitude change.
Set oven: 275° F.

Two 9x5x2 loaf pans.
Lined with foil or heavy wax paper.
Baking time: 2 1/2 hours.

Cream together with spoon or electric mixer for 4 minutes:

1 C. Cooking Oil 4 Egg Yolks
1 1/4 C. Sugar

*The term "shortening" in the recipes applies to any type of fat used in baking. Detailed explanation is on page 16.
Sift together:
2 C. sifted All-Purpose Flour       2 tsp. Salt
1 tsp. double-action Baking Powder

Mix:
1 C. Pineapple Juice or other mild, 1 tsp. Vanilla Extract
light fruit juice         ½ tsp. Almond Extract
Add the liquid alternately with the sifted dry ingredients to the oil-and-sugar mix.

Then fold into this mixture:
4 Egg Whites, beaten until light

Dredge with 1 C. sifted flour (additional from that already measured):
3 C. Seedless White Raisins (1 lb.)   2 C. Nuts, cut into rather large pieces
3 C. Candied Fruit Mix

Pour the cake batter over the dredged fruit and nuts and mix thoroughly. Pour the cake batter into the pans. Place a pan of water on lower oven rack. After baking, let cakes stand for 15 minutes before removing from pans. Fruit cakes will not cut well until they have been stored for several weeks. Wrap each cake separately in waxed paper, then in aluminum foil; cover closely. They may then be stored in a covered jar or a metal cake box. Fruit cakes also freeze well. Seal each cake separately in pliofilm bags, then sharp-freeze. They may be stored in a home freezer for several months.

C. SPONGE-TYPE CAKES

ANGEL-FOOD CAKES

The leavening agent is air. At higher altitudes it is important not to incorporate too much air in beating egg whites. They should be beaten until they form peaks which bend over slightly. This also retains the moisture of the cake.

The amount of cream of tartar is increased at higher altitudes to help stabilize the cells and to prevent shrinking of the cake during baking and cooling.

A higher temperature for a shorter time is recommended for baking angel foods at higher altitudes.

YELLOW SPONGE CAKES

Leavening in the true sponge cake is accomplished by beating air into the meringue. The single meringue method gives the best sponge cake at high altitudes. The whole egg or yolk and all the ingredients except flour are beaten until the meringue forms ribbon folds off the beater, but not peaks. The cake flour is added slowly over a period of about 6 minutes at slow speed of mixer.
Sponge-cake batter must not be too light at high altitudes, or the cake will fall. If the batter is too light, the extra air can be stirred out, not folded. (Folding adds air to batters.) But if too much air is stirred out, a heavy cake will result. Experience is the best teacher for this batter consistency.

Too light a batter is caused by beating the meringue too stiff.

CHIFFON CAKES

Chiffon cakes are sponge-type cakes using leavening and vegetable oil. Chiffon cakes differ from angel or sponge cakes in method of mixing. A very important point is to beat egg whites to very stiff peaks. When adding egg yolks to dry ingredients, avoid letting eggs become coated with flour. Drop them into the oil in the “well” formed in the dry ingredients.

Sea-level recipes are adjusted for high altitudes by reducing leavening (½ of total amount at 7,200 ft.) and adding flour (2 T. per cup at 7,200 ft.). Baking temperatures are not increased.

ANGEL-FOOD CAKE

Ungreased 10-inch tube pan. Set oven: 375°F. Baking time: 35 min.

6,000-7,000 ft.

Sift ½ C. of the sugar with the flour.

Put into mixer bowl:

<table>
<thead>
<tr>
<th>1½ C. (about 11)</th>
<th>Egg Whites (at room temperature)</th>
<th>1½ C.</th>
</tr>
</thead>
<tbody>
<tr>
<td>½ tsp.</td>
<td>Salt</td>
<td>½ tsp.</td>
</tr>
<tr>
<td>1 tsp.</td>
<td>Vanilla</td>
<td>1 tsp.</td>
</tr>
<tr>
<td>½ tsp.</td>
<td>Almond Extract</td>
<td>½ tsp.</td>
</tr>
<tr>
<td>1½ tsp.</td>
<td>Cream of Tartar</td>
<td>1¼ tsp.</td>
</tr>
</tbody>
</table>

Gradually add, beat to SOFT peak on high speed (about 2 minutes):

| 1½ C.            | Sugar (½ C. sifted with flour)   | 1½ C. + 2 T. |

Sift in on lowest speed (about 1 minute):

| 1½ C.            | Cake Flour, sifted               | 1¼ C. |

Fold for 1 minute more on lowest speed, pushing mixture from edge of bowl into beaters with rubber spatula.

Put into ungreased tube pan or two ungreased loaf pans. Cut through batter with knife to remove larger bubbles, also tap bottom of pan on table; bake. Turn pan upside down on cake rack to cool. If cake is over top of pan, put tube into a glass to hold off the rack. If cake has not left the pan when cold, loosen edges with knife.

CHOCOLATE ANGEL-FOOD

Substitute ½ C. Cocoa for ½ C. Flour, sifted together well.
EGG-YOLK SPONGE CAKE
Ungreased 10-inch tube pan. Set oven: 350° F.
Baking time: 50 min.

Put in mixer bowl:

1 C. .......... (about 12) Egg Yolks (at room temperature) .......... 1 C.

Gradually add and beat for 5 minutes on high speed:
1¼ C. .......... Sugar .......... 1¼ C.

Gradually add and beat for 4 minutes on medium-high speed:
¾ C. .......... Water .......... ¾ C.

Mix together and sift in on lowest speed for 2 minutes:
2 C. .......... Flour .......... 2 C. — 2 T.

Fold in by hand:
1 tsp. .......... Lemon Juice .......... 1 tsp.
1 T. .......... Lemon Rind .......... 1 T.

Put into ungreased pans and follow directions for baking angel-food cake.

WHOLE-EGG SPONGE CAKE
Ungreased 10-inch tube pan. Set oven: 350° F.
Baking time: 50 min.

Put in mixer bowl, beat ½ minute on medium speed:
1¼ C. .......... Eggs (6) (at room temperature) .......... 1¼ C. (6)
¼ C. .......... Water .......... 2 T.
1 tsp. .......... *Vanilla .......... 1 tsp.
½ tsp. .......... Cream of Tartar .......... ½ tsp.

Gradually add, and beat on high speed for 10 to 16 minutes until meringue folds off beater in ribbons but does not stand in peaks:
1 C. .......... Sugar .......... 1 C.

Sift in on lowest speed for 7 minutes: (6 minutes below 5,000 ft.)
1½ C. .......... Cake Flour, sifted .......... 1¼ C.

*Instead of extracts fold in last:
1 tsp. .......... Lemon Juice .......... 1 tsp.
1 T. .......... Lemon Rind .......... 1 T.

Put into pan and follow directions for angel-food cake.
ORANGE OR PINEAPPLE CHIFFON CAKE

Ungreased 10-inch tube pan. Make ½ recipe for 9x13x12-inch pan.

<table>
<thead>
<tr>
<th>Set oven: 350° F.</th>
<th>Baking time: 50-60 min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingredients and Method</td>
<td>4,000-5,000 ft.</td>
</tr>
</tbody>
</table>

6,000-7,000 ft.

Sift together into medium-sized bowl, make a “well”:

2¼ C. Cake Flour (spoon lightly into cup) 2¼ C.
1½ C. Sugar 1½ C.
1 tsp. Salt 1 tsp.

Add into “well,” then stir until smooth:

½ C. Cooking (Salad) Oil ½ C.
7 or 8 Egg Yolks, unbeaten 7 or 8
2 T. Orange Rind, grated 2 T.
¾ C. Orange Juice or Pineapple Juice ¾ C.

Whip to very stiff peaks in large mixer bowl:

1 C. (7 or 8) Egg Whites 1 C.
½ tsp. Cream of Tartar ½ tsp.

Pour egg-yolk mixture gradually over whipped egg whites, folding gently with rubber scraper just until blended. Pour into ungreased pan and bake as for angel food.

COCOA CHIFFON CAKE

Ungreased 10-inch tube pan.

<table>
<thead>
<tr>
<th>Set oven: 350° F.</th>
<th>Baking time: 50-60 min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingredients and Method</td>
<td>4,000-5,000 ft.</td>
</tr>
</tbody>
</table>

6,000-7,000 ft.

Boil for 2 minutes, stir constantly, measure and make up to 1 C. with water; cool:

1 C. Boiling Water 1 C.
½ C. Cocoa ½ C.

Sift together into medium-size bowl, make a “well”:

1 + ¼ C. Cake Flour, sifted 1 + ¾ C.
1½ C. + 2 T. Sugar 1½ C. + 3 T.
1 tsp. Baking Powder 1 tsp.
½ tsp. Salt ½ tsp.

Add into “well,” then stir until smooth:

½ C. Cooking (Salad) Oil ½ C.
7 Egg Yolks, unbeaten 7
1 C. Cooled Cocoa Mixture 1 C.
1½ tsp. Vanilla 1½ tsp.
¼ tsp. Red Coloring ¼ tsp.
Whip to very stiff peaks in large mixer bowl:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egg Whites</td>
<td>1 C.</td>
</tr>
<tr>
<td>1/2 tsp. Cream of Tartar</td>
<td>1/2 tsp.</td>
</tr>
<tr>
<td>1/4 tsp. Baking Powder</td>
<td>1/2 tsp.</td>
</tr>
<tr>
<td>1 tsp. Salt</td>
<td>1 tsp.</td>
</tr>
</tbody>
</table>

Pour egg-yolk mixture gradually over whipped egg whites, folding gently with rubber scraper just until blended. Pour into ungreased pan and bake as for angel food.

**"LOVELIGHT" YELLOW CHIFFON CAKE**

Two 9-inch layers or one 13x9x2-inch pan.

6,000-7,000 ft. Ingredients and Method 4,000-5,000 ft.

Beat egg whites until frothy, gradually beat in sugar; beat until very stiff and glossy:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Eggs, separated</td>
<td>2</td>
</tr>
<tr>
<td>1/2 C. Sugar</td>
<td>1/2 C.</td>
</tr>
</tbody>
</table>

Sift into mixer bowl:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4 C. Sugar</td>
<td>3/4 C.</td>
</tr>
<tr>
<td>2 1/4 C. Cake Flour, sifted</td>
<td>2 1/4 C.</td>
</tr>
<tr>
<td>1/2 tsp. Salt</td>
<td>1/2 tsp.</td>
</tr>
</tbody>
</table>

Mix together and add to dry ingredients, mix for 1 minute at medium speed; scrape sides and bottom of bowl constantly:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2 C. Salad Oil</td>
<td>1/2 C.</td>
</tr>
<tr>
<td>1 C. + 2 T. Milk (divide in 2 portions, use half here)</td>
<td>1 C.</td>
</tr>
<tr>
<td>1 tsp. Orange Extract</td>
<td>1 tsp.</td>
</tr>
<tr>
<td>or 1 tsp. Lemon Extract</td>
<td>1 tsp.</td>
</tr>
</tbody>
</table>

Add remaining milk and egg yolks, beat 1 more minute, scraping bowl constantly. Fold in meringue. Bake layers for 25-30 minutes, oblong for 35-40 minutes. For cupcakes, pour batter into 24 muffin cups, bake 18-20 minutes at 375° F.

**CHOCOLATE LOVELIGHT**

Substitute:

1 + 3/4 C. of Cake Flour for the 2 1/4 C. of Cake Flour
1/4 tsp. of Soda for the 3/4 tsp. Baking Powder
1 C. Buttermilk for the 1 C. + 2 T. Sweet Milk

Add:

2 squares of Melted Chocolate—This is added with the remaining milk and egg yolks.
HOT-MILK SPONGE CAKE

Heat to the boiling point:

\[
\frac{1}{2} \text{ C. Milk} \quad 1 \text{ T. Butter}
\]

Beat 2 eggs until very light

Beat in 1 C. – 2 T. sugar:

\[
\frac{1}{4} \text{ tsp. Salt} \quad 1 \text{ tsp. Flavoring}
\]

Beat in boiling milk and butter

Sift and beat into egg mixture:

\[
1\frac{1}{4} \text{ C. sifted Cake Flour} \quad 1 \text{ tsp. Baking Powder}
\]

Pour very quickly into 8-inch square pan and bake immediately at 350°F for 30-35 minutes.

JELLY ROLL

Line 15x10-inch pan with waxed paper and grease paper well.

Beat 3 Eggs well

Add \(\frac{3}{4}\) C. Sugar and beat until it is thick and forms folds off the beater

Sift and add on slowest speed of mixer:

\[
1\frac{1}{2} \text{ C. all purpose Flour, sifted} \quad \frac{1}{4} \text{ tsp. Salt}
\]

\[
1 \text{ tsp. Baking Powder}
\]

Add 1/3 C. milk on slow speed:

\[
1 \text{ tsp. Lemon Extract}
\]

Pour batter into pan. Bake until top is light brown. Turn out of pan onto cloth with powdered sugar sifted on it. Remove paper at once; cut off any side crusts. Roll up in cloth from narrow side and place on rack to cool about 10 min. Unroll and spread with jelly. Roll again and wrap in cloth to keep shape. When cool, slice and serve. Jelly will make roll soggy after standing a day.
SECTION III. Sugar Cookery

One of the important points in making homemade candy and frostings is the temperature to which the syrup is cooked. This can be measured accurately only by a thermometer. At high altitudes the markings indicating soft ball, hard ball, etc. cannot be used. The higher the altitude, the lower is the temperature of boiling water and solutions. (Table 4, page 58.) A new set of temperatures must be adapted for each altitude. Changes in altitude do not affect the point of caramelization, however.

Correct temperatures may be calculated for different altitudes by subtracting $1^\circ$ F. for every 500 feet of rise in altitude; e.g., subtract $14^\circ$ F. from sea-level temperature for use at 7,000 feet. To test your own candy thermometer for your altitude: place the thermometer into boiling water and note the temperature. Subtract this temperature from $212^\circ$ F. (the boiling point at sea-level). This is the number of degrees you will subtract from sea-level recipes for candy and frostings; e.g., water boils at $199^\circ$ F., this subtracted from $212^\circ$ F. leaves a difference of $13^\circ$ F., which must be deducted from sea-level temperatures.

Different ingredients and proportions may vary the end temperature for each product. The more accurate method is to obtain a sea-level temperature for the recipe and subtract to get the correct altitude temperature for the particular product. Another method is to use the coldwater test to determine the doneness of a certain product and the temperature then recorded. The coldwater test is done by dropping a teaspoonful of boiling candy mixture into a half cup of cold water; the hardness of the ball formed is the degree of doneness.

A. FROSTINGS

BOILED WHITE FROSTING

Put into kettle, cover for first few minutes.

Boil to temperature $47^\circ$ F.** above boiling water ($246^\circ$ F. at 7,200 ft.):

1 C. Sugar

1/4 C. Corn Syrup

Pour slowly over:

2 Egg Whites*

Pinch of Salt

1 tsp. Vanilla

Beat until stands in peaks. Spread on cake.

*1 egg white may be used if cake is served the same day. Boil syrup to $36^\circ$ F. above boiling water (to $235^\circ$ F. at 7,200 ft.) or to firm ball in cold water.

Egg whites may be beaten or unbeaten, when syrup is added. Unbeaten egg whites require longer beating with syrup.

**Cold-water test is a very hard ball, or syrup spins a thread quickly from spoon.
DOUBLE-BOILER FROSTING (7-Minute Frosting)
Put into top of double boiler over boiling water:

- 1 C. Sugar
- 1/4 C. Water
- 1/4 tsp. Cream of Tartar
- 1 T. Corn Syrup
- 1 Egg White

Beat with electric beater while cooking for 5 minutes. Remove from heat and beat until frosting stands in peaks. Add flavoring and spread on cake. Cake should be served soon; frosting will lose fluffiness and break off when cake is cut after long standing.

FUDGE FROSTING
Put into kettle over slow fire:

- 2 C. Sugar
- 2 sq. Chocolate, in small pieces
- 2/3 C. Milk
- 2 T. Corn Syrup
- 2 T. Butter
- Pinch of Salt

Stir until sugar is dissolved. Boil gently to a very soft ball or 20° F. above boiling water (to 219° F. at 7,200 ft.).

Cool to lukewarm (110° F.) before beating.

Add 1 tsp. vanilla and beat until thick enough to spread on cake. If too thick to spread, add a few drops of hot water and stir until smooth.

WHITE-FUDGE FROSTING
Omit chocolate and use thin coffee cream instead of milk in fudge frosting.

BROWN-SUGAR FROSTING
Use brown sugar in place of 1/2 of the white sugar, and omit chocolate.

EGG CHOCOLATE FROSTING
Beat together until fluffy enough to spread:

- 2 C. Powdered Sugar
- 1/2 tsp. Salt
- 1 Egg
- 1/4 C. Cocoa
- 1/2 C. soft Shortening

If too stiff to spread, add 1 to 3 T. milk.

QUICK CARAMEL FROSTING
Bring quickly to boiling point:

- 2 C. Brown Sugar
- 1/2 C. Thin Cream
- 2 T. Butter
- Pinch of Salt

Boil slowly for about 5 minutes, stirring occasionally.

Remove from heat and thicken with about

- 2 C. Powdered Sugar

Make it of consistency to spread well.
COCONUT PECAN FROSTING
Yield: 3 layers.
Cook over medium heat, stirring constantly until mixture thickens, about 12 minutes:

1 C. Evaporated Milk 3 Egg Yolks
1 C. Sugar ¼ lb. Butter

Remove from heat and add:

1 C. Chopped Pecans 1 tsp. Vanilla
1½ C. Coconut

Beat until cool and of spreading consistency.

B. FILLINGS

CREAMY NUT FILLING AND FROSTING
Blend in a small kettle:

2½ T. Cake Flour ½ C. Milk
Cook to very thick paste (about 7-10 minutes), stirring constantly. Cool to lukewarm.

Cream together and add to lukewarm paste:

½ C. Butter ¼ tsp. Salt
½ C. Sugar
Beat until fluffy.

Fold in:

½ tsp. Vanilla ½ C. Chopped Nuts
Use about 1/3 for filling between two layers.
Add 1 C. powdered sugar to rest of filling and spread on top and sides of cake.

LADY BALTIMORE FILLING
Scald and chop:

½ C. Seeded Raisins ½ C. Dates
½ C. Figs

Add:

½ C. Chopped Nuts ½ recipe of Boiled or Double-boiler Frosting

Spread filling between layers and use frosting on top and sides of cake.

C. CANDIES

FONDANT
Temperature: 37° F. above boiling water (to 236° F. at 7,200 ft.)
Combine and cook to the medium-ball stage without stirring:

3 C. Sugar 1½ C. Water
½ tsp. Cream of Tartar ¼ tsp. Salt
3 T. Corn Syrup, White
Place lid on kettle the first few minutes to wash down crystals. Remove lid, boil without stirring. Remove from fire and pour into a platter which has been dipped into cold water. Let stand undisturbed until a dent can be made in the surface. Work with a spatula until it becomes creamy. Knead with the hands until perfectly smooth. Place in bowl. Cover, and set away to ripen for at least 24 hours before using.

**MINTS**

Melt fondant over hot water in a glass pitcher or a narrow, deep bowl. Add ¼ tsp. peppermint extract and coloring if desired. Remove pitcher from water, wrap in cloth to hold heat, and work fast. Dip by teaspoon onto waxed paper; or, use clamp spout on pitcher to regulate pouring of mixture into small portions.

**FUDGE**

Temperature: 19° F. above boiling water (218° F. at 7,200 ft.) or soft ball. Boil, stirring almost constantly:

| 3 C. Sugar | 3 T. Corn Syrup |
| 1/2 C. Cocoa | 1/4 tsp. Salt |
| 1 C. Evaporated Milk |

Add 1 tsp. vanilla and cool to lukewarm (110° F.). Beat until gloss leaves. Pour into greased 8-inch pan; cut into squares before candy gets cold.

**DIVINITY**

Temperature: 32° above boiling water (232° F. at 7,200 ft.). Stir only until mixture boils:

| 3 C. Sugar | 1/2 C. White Corn Syrup |
| 2/3 C. Water | 1/4 tsp. Salt |

Boil above ingredients without stirring to the soft-crack stage or the correct temperature. Beat 3 egg whites stiff in mixer bowl. Add above syrup slowly, beating all the time. Add 1 1/2 tsp. flavoring (and coloring if desired). Beat by hand until gloss leaves and mixture holds its form when dropped from a teaspoon. Pour into oiled pans or drop by teaspoons onto waxed paper.

**GELATIN DIVINITY**

Beat egg whites to the foamy stage, add 1 package of flavored gelatin, and continue as for plain Divinity.

**PEANUT BRITTLE**

Place in kettle on medium heat, stir until dissolved:

| 2 C. Sugar | 1 C. Water |
| 1 C. White Corn Syrup |

Cook to soft-ball stage (to 224° F. at 7,200 ft.) without stirring.

Add:

| 1 1/2 C. Raw Peanuts | Pinch of Salt |

— 36 —
Stir and cook until syrup is golden brown (to 274° F. at 7,200 ft.). Remove from fire and stir in:

\[ \frac{1}{4} \text{ tsp. Soda} \quad 1 \text{ tsp. Butter} \]

Turn out on greased platter and spread as thin as possible. Cool a little and turn the candy over. Break into pieces.

**WHITE TAFFY**
Temperature: 52° F. above boiling water (to 252° F. at 7,200 ft.), or soft-crack stage.

*Cook without stirring:*

\[ 2 \text{ C. Sugar} \quad \frac{1}{2} \text{ C. White Syrup} \quad \frac{1}{2} \text{ C. Water} \quad \frac{1}{4} \text{ tsp. Cream of Tartar} \]

*Remove from heat, add:*

\[ 1 \text{ tsp. Flavoring} \]

Pour on greased platter. When cool enough to handle, pull until taffy is white and porous. Twist into ropes. Cut with scissors, or cool and break into pieces.

**CARAMELS**
Temperature: 19° F. above boiling water (to 218° F. at 7,200 ft.), or firm ball.

*Bring to a boil, stirring constantly:*

\[ 2 \text{ C. Sugar} \quad \frac{1}{2} \text{ C. Butter} \quad \frac{1}{2} \text{ C. Evaporated Milk} \]

*Stir in slowly so boiling does not stop:*

\[ 1 + \frac{1}{2} \text{ C. Evaporated Milk} \]

Cook slowly to firm ball, stirring occasionally. Remove from heat; add 1 tsp. vanilla. Pour into greased 8-inch square pan. Mark into squares when partly cooled. Cut when cool, wrap in waxed paper.

**D. JELLIES**

The cooking time for jellies is affected by altitude because of the lower boiling point of water. The time for cooking jellies needs to be increased as altitude increases in order to get the proper jelly test.

**JELLY TEST**

When two drops from a spoon run together and slip off in one large flake or sheet, the jelly has cooked sufficiently.

The most accurate test is made by using a candy and jelly thermometer, but you need to make the same correction in the final reading that is made for candies and frostings at your altitude. Most jellies are done at 6° to 12° F. above boiling-water temperature, depending on the ingredients.

**CHOKECHERRY JELLY**

Cover very ripe chokecherries with water. Boil until very soft and strain off the juice. Mix in 3-qt. kettle and heat to a hard boil.

(Continued on Page 38)
5 C. Chokecherry Juice 1 pkg. (about 1/2 C.) Granulated Pectin
1/2 C. Lemon Juice
Stir in all at once and bring to full rolling boil:
5 C. Sugar
Boil to 6° F. above boiling-water temperature or jelly test. Pour in hot sterilized glasses and cover with melted paraffin.

SECTION IV. Cookies

At higher altitudes, cookies baked from sea-level recipes may need the minimum reduction in baking powder and sugar, or the addition of flour and liquid to improve the quality (Table 1).

The recipes in this booklet are adjusted for 7,000 ft. but can be used at lower altitudes.

A. ROLL COOKIES

SUGAR COOKIES
Ungreased cookie sheet. Yield: 50 small cookies.

Set oven: 400° F. Baking time: 8-10 min.

Sift together:

1 + 3/4 C. all purpose Flour 1/2 tsp. Salt
1 tsp. Baking Powder

Cream together in mixer bowl:

3/4 C. + 2 T. Sugar 1 Egg
1/2 C. Shortening 1 tsp. Flavoring

Add dry ingredients slowly, stirring by hand.

Add 1 T. water or more, if needed.

Cover dough and let stand 1/2 hour or longer. Roll it out 1/4-inch thick on lightly floured board and cut it out. Bake on cookie sheet. When bottom is light brown, place pan on top oven rack for a few minutes to brown top of cookies. Remove cookies from pan to rack while warm.

For quick cookies, put balls of dough on greased pan and flatten with bottom of a glass that has been greased and dipped into sugar.

CHOCOLATE COOKIES
In sugar cookies substitute 1/4 C. Cocoa for 1/4 C. Flour.

FILLED COOKIES
Combine:

1 1/2 C. Chopped Dates or Raisins 1/2 C. Water
1/2 C. Sugar

Cook for 15 minutes or until thickened, stirring constantly. Remove from heat.
Blend in:

<table>
<thead>
<tr>
<th>1/2 tsp. Grated Lemon Rind</th>
<th>1/4 C. Chopped Nuts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 tsp. Lemon Juice</td>
<td></td>
</tr>
</tbody>
</table>

Fill cookies as directed below.

To fill cookies:

1. Cut sugar-cookie dough into rounds with 2 1/2-inch cutter.
2. Place a tablespoon of raisin or date filling in center of half of the rounds. Top with the remaining rounds.
3. Seal edges together with fork; prick top.
4. Bake in a moderately hot oven (400° F.) for 10 to 12 minutes or until done.

B. DROP COOKIES

COCONUT MERINGUE KISSES

Baking sheet covered with greased waxed paper.

Gradually add sugar and beat until a peak forms with slight tip at top:

| 4 Egg Whites | 1 C. — 1 T. Sugar |

Fold in:

<table>
<thead>
<tr>
<th>1/4 tsp. Almond Extract</th>
<th>1 tsp. White mild Vinegar</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2 tsp. Vanilla</td>
<td>3 C. moist Coconut</td>
</tr>
</tbody>
</table>

Drop by small teaspoonfuls on a baking sheet. Bake at 325° F. until delicately brown, for 12-14 minutes. Remove from paper immediately with a spatula.

HONEY CHOCOLATE-CHIP COOKIES

Greased cookie sheet.

Set oven: 375° F.
Baking time: 12 min.

Cream together well:

<table>
<thead>
<tr>
<th>1/2 C. Shortening</th>
<th>1 small Egg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2 C. Honey</td>
<td></td>
</tr>
</tbody>
</table>

Sift together and blend in well:

<table>
<thead>
<tr>
<th>1 C. sifted Flour (2 T. more if less crisp cookie is desired)</th>
<th>1 tsp. Baking Powder</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1/4 tsp. Salt</td>
</tr>
</tbody>
</table>

Fold in:

<table>
<thead>
<tr>
<th>1/2 C. Semi Sweet Chocolate Chips</th>
<th>1/2 tsp. Vanilla Extract</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1/4 C. Nut Meats, chopped</td>
</tr>
</tbody>
</table>

Chill and drop by teaspoonfuls on a greased cookie sheet.
HONEY PEANUT-BUTTER COOKIES

Lightly greased baking sheet.  
Set oven: 375° F.  
Baking time: 8-10 minutes.

Mix thoroughly:

\[ \begin{align*}
\frac{1}{4} & \text{ C. Butter} \\
\frac{1}{2} & \text{ C. Peanut Butter} \\
\frac{1}{2} & \text{ C. Sugar} \\
\frac{1}{2} & \text{ C. Honey} \\
1 & \text{ Egg} \\
\end{align*} \]

Sift together and stir into above mixture:

\[ \begin{align*}
1 & \text{ C. Sifted all-purpose Flour} \\
\frac{1}{2} & \text{ tsp. Soda} \\
\frac{1}{4} & \text{ tsp. Baking Powder} \\
\frac{1}{2} & \text{ tsp. Salt} \\
\end{align*} \]

Chill dough. Roll into ball size of large walnuts. Place 3 inches apart on lightly greased baking sheet. Flatten with fork dipped in flour—criss-cross. Bake until set but not hard.

OATMEAL CHOCOLATE-CHIP COOKIES

Greased cookie sheet.  
Set oven: 375° F.  
Baking time: 10-15 min.

Yield: About 6 dozen.

Beat well:

\[ \begin{align*}
\frac{3}{4} & \text{ C. Shortening} \\
\frac{3}{4} & \text{ C. Sugar} \\
\frac{3}{4} & \text{ C. Brown Sugar} \\
2 & \text{ Eggs} \\
1 & \text{ tsp. Vanilla} \\
\end{align*} \]

Sift together and add to above mixture:

\[ \begin{align*}
1\frac{1}{2} & \text{ C. all-purpose Flour (sifted)} \\
\frac{1}{2} & \text{ tsp. Soda} \\
1 & \text{ tsp. Salt} \\
\end{align*} \]

Add:

\[ \begin{align*}
2 & \text{ C. Quick Oatmeal} \\
1 & \text{ C. Chocolate Bits} \\
1 & \text{ C. Nuts} \\
\end{align*} \]

Add:

2 to 3 T. Water, if needed, to blend dough.  
Drop from teaspoon onto pan. Bake.

C. PRESS or SPRITZ COOKIES

Important things to remember in making pressed cookies:

Prepare a soft, not a crumbly, dough.

Save out some of flour specified in recipe before sifting with baking powder and salt. Try dough for its consistency in the cookie press with the particular brand of flour in use.

Do not raise press from cookie sheet before enough dough has been forced through to form the cookie.

Wash press thoroughly before using the first time and always after use in hot, soapy water.
PRESS COOKIES
Ungreased cookie sheet.
Yield: About 5 dozen.
Beat together well:

1 C. Butter
¾ C. Sugar
1 Egg (or 2 Yolks)

½ tsp. Orange or Almond Flavoring
¼ tsp. Lemon Flavoring

Sift together and add to creamed mixture:

2½ C. sifted all-purpose Flour
½ tsp. Baking Powder

½ tsp. Salt

Fill a cookie press according to directions of the manufacturer of the press used. Form cookies on ungreased cookie sheets, using desired shapes. Cookies may be decorated with candied cherries, colored sugar, etc. Bake. Thin cookies will bake in less time. Remove at once from baking sheet.

D. SHEET COOKIES

BROWNIES
Greased 8-inch square pan.
Melt over low heat or hot water:

½ C. Shortening

Set oven: 400° F.
Baking time: 8-10 min.

Beat together well:

1 C. Sugar
2 Eggs

Add cooled chocolate mixture and blend well.

Add:

1 tsp. Vanilla
½ tsp. Salt
½ C. Nuts

Spread dough in pan and bake. Cut into squares while warm.

GOLDEN NUGGETS
Greased cookie sheet.

Beat together well:

1 C. Sugar
¾ C. Shortening
1 Egg

1½ tsp. Vanilla
1 tsp. Lemon Extract

Add:

1 C. cooked mashed Carrots

Sift together and add:

2 C. Flour, sifted
2 tsp. Baking Powder

¼ tsp. Salt

Drop by teaspoons onto pan, or spread in thin layer in pan. May need small amount of water added to dough to spread more easily.

(Continued on Page 42)
Bake. Spread with orange frosting when removed from oven. Cut sheet into squares while warm.

**Frosting:**

2 T. Orange Juice  
1 tsp. Orange Rind  
½ C. (or more) Powdered Sugar

---

**HONEY DATE BARS**

Bake in greased 9-inch square pan.

Set oven: 350° F.  
Baking time: 35 min

6,000-7,000 ft.  
Ingredients and Method  
4,000-5,000 ft.

Sift together:

| ¾ tsp. | Baking Powder | ¾ tsp. |
| ¼ tsp. | Salt          | ¼ tsp. |
| 1 C.   | All-Purpose Flour | 1 C. |

In mixer bowl beat for 2 minutes at medium speed:

Blend in dry ingredients.

| 2 | Eggs | 2 |
| ¼ C. | Shortening | ¼ C. |
| ¼ C. | Honey | ¼ C. |

Fold in:

| 1 C. | Dates, chopped | 1 C. |
| ½ C. | Nuts | ½ C. |

Spread into pan and bake. Cut into bars. Dip in confectioner's sugar if desired. 24 bars.

---

**E. REFRIGERATOR COOKIES**

**BUTTERSCOTCH REFRIGERATOR COOKIES**

Yield: About 8 dozen.

Set oven: 375° F.  
Baking time: 8-10 min

Beat together well:

| 1 C. Butter 2 C. Brown Sugar  
2 Eggs 1 tsp. Vanilla |

Sift and add to above mixture:

| 3½ C. Flour ½ tsp. Salt  
2 tsp. Baking Powder |

Add 2 or 3 T. milk to blend dough.

Add 1 C. nuts, if desired.

Form in a roll about 2 inches in diameter, or put into square, flat cartons. Place in refrigerator for at least an hour. May be kept longer. Slice off ¼ inch thick and bake as needed. Remove from pan while warm.

---
VANILLA REFRIGERATOR COOKIES
Substitute white sugar for brown sugar in butterscotch recipe. May add 1 C. chopped dates or raisins.

LEMON COOKIES
Add 1½ tsp. lemon juice and 1 T. grated lemon rind instead of vanilla.

CHOCOLATE COOKIES
To vanilla refrigerator cookies add 2 oz. melted chocolate or replace ¼ C. flour with ¼ C. cocoa.

COCONUT COOKIES
Add 2 C. shredded coconut to vanilla refrigerator cookies.

SPICE COOKIES
Add 1 tsp. cinnamon, ¼ tsp. cloves, or 1 tsp. ginger.

CHOCOLATE PINWHEEL COOKIES
Make chocolate and vanilla refrigerator dough. Form into a ball. Flour slightly and wrap in lightly floured waxed paper. Chill 1 hour. Roll part of each dough between two layers of floured waxed paper. Place one rolled dough on top of another and roll like jelly roll and chill. Slice ¼-inch slices to bake.

DATE PINWHEELS
Make vanilla refrigerator dough. Form into a ball. Flour slightly and wrap in lightly floured, waxed paper. Chill an hour. Divide dough into thirds. Roll each between two layers of floured waxed paper; chill. Remove and spread with date filling. Roll up like a jelly roll, chill again before slicing ¼ or ¼ inch thick. Bake on greased cookie sheet at 350°F for 10 to 12 minutes.

Filling:
Boil for about 10 minutes:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1¼ C. Dates, chopped</td>
<td></td>
</tr>
<tr>
<td>¼ C. Water</td>
<td></td>
</tr>
<tr>
<td>2 T. Lemon Juice</td>
<td></td>
</tr>
<tr>
<td>3¼ C. Sugar</td>
<td></td>
</tr>
<tr>
<td>½ to ¾ C. Nuts, chopped</td>
<td></td>
</tr>
</tbody>
</table>

OATMEAL REFRIGERATOR COOKIES
Yield: About 4 dozen.

Set oven: 350°F.
Baking time: 10 min.

(Continued on Page 44)
Beat together well:

\[
\frac{1}{4} \text{ C. Butter} \quad \frac{1}{2} \text{ C. Brown Sugar} \\
3 \text{ T. Shortening} \quad 2 \text{ small Eggs} \\
\frac{1}{2} \text{ C. White Sugar} \quad 1 \text{ tsp. Vanilla}
\]

Sift together and add to above mixture:

\[
1 \frac{1}{2} \text{ C. Flour, sifted} \quad 1 \frac{3}{4} \text{ C. Flour at 4000-5000 ft.} \\
\frac{1}{2} \text{ tsp. Salt} \quad \frac{1}{2} \text{ C. Nuts, if desired}
\]

Add:

\[
1 \text{ C. Quick Oats}
\]

Add:

\[
2 \text{ or 3 T. Milk, if dough is too stiff, or more Flour if not stiff enough.}
\]

Shape and store as in butterscotch refrigerator cookies.

SECTION V. Quickbreads

Altitude does not affect biscuits and muffins as much as it does cakes. These baked products expand to a larger volume as elevation increases; the texture becomes looser and fluffier. The amount of baking powder (or soda) and fat can be slightly decreased; the dough needs to be softer, using more liquid, and the temperature for baking must be higher. Since one of the B vitamins (thiamine) is partially destroyed by increasing the alkalinity, it is suggested that baking powder (or soda) be used in as small a proportion as possible. Using milk and cream of tartar in a product helps retain this vitamin.

BISCUITS

Add \(\frac{1}{2}\) to 1 tsp. Salt

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>6,000-7,000 ft.</th>
<th>10,000 ft. (estimated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flour</td>
<td>2 C.</td>
<td>2 C.</td>
</tr>
<tr>
<td>Baking Powder</td>
<td>2 tsp.</td>
<td>2 \frac{3}{4} tsp.</td>
</tr>
<tr>
<td>Cream of Tartar</td>
<td>(\frac{1}{4}) tsp.</td>
<td>(\frac{1}{4}) tsp.</td>
</tr>
<tr>
<td>Sugar (aids browning)</td>
<td>1 T.</td>
<td>1 T.</td>
</tr>
</tbody>
</table>

Cut into dry ingredients:

\[
\frac{1}{2} \text{ C.} \quad \text{Shortening*} \quad \frac{1}{2} \text{ C.} \quad \frac{1}{4} \text{ C.}
\]

Add until soft dough is formed:

\[
\frac{3}{4} \text{ C.} + 1 \text{ T.} \quad \text{Milk (about)} \quad \frac{3}{4} \text{ C.} + 1 \text{ T.}
\]

Knead several times on floured board. Roll out \(\frac{1}{4}\) inch thick. Fold over double and cut out. Bake on greased cookie sheet.

<table>
<thead>
<tr>
<th>Baking temperature</th>
<th>450° F</th>
<th>425° F</th>
<th>475° F</th>
</tr>
</thead>
<tbody>
<tr>
<td>(10-12 min.)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**MUFFINS**

Add ¼ to 1 tsp. Salt

6,000-7,000 ft.  Ingredients and Method 4,000-5,000 ft. (estimated)

Sift together:

- 2 C. Flour
- 2 tsp. Baking Powder
- ¼ tsp. Cream of Tartar
- ¼ C. Sugar

Mix and add to dry ingredients. Mix only until blended:

- ½ C. Shortening*, melted
- 1 C. Milk
- 1 Egg

Put into greased muffin pans. Fill only half full of dough.

425° F.  Baking temperature 410° F.  450° F.
(25 min.)

*The term “shortening” in the recipes applies to any type of fat used in baking. Detailed explanation is on page 16.

**CORNBREAD**

In muffin recipe add to dry ingredients:

- 1 tsp. Baking Powder
- 1 C. Cornmeal
- 2 T. Sugar

Add:

- ¼ C. more Milk

Bake as muffins or in cake pans at 400° F. for 25 minutes.

**PANCAKES or WAFFLES**

Use muffin recipe but add about ½ C. more milk to make thinner cakes as desired. Can use 2 eggs in waffles. Beat batter about 1 minute. Bake on hot griddle or in waffle iron.

**SOUR-MILK or BUTTERMILK BISCUITS, PANCAKES, and CORNBREAD**

Substitute sour or buttermilk for sweet milk. Use ½ tsp. soda and 1 tsp. baking powder instead of 2 tsp. baking powder. May use 1 tsp. soda instead of 2 tsp. baking powder if product is baked at once.

**COFFEE CAKE**

In muffin batter use ½ C. sugar and add ½ tsp. nutmeg, ½ tsp. cinnamon. Put into greased 9x12 pan and cover with topping about ¼ inch thick. Bake at 400° F. for about 25 minutes.
Topping for Coffee Cake

Blend until well mixed and crumbly:

- ½ C. Brown Sugar
- 1½ T. Butter
- ½ tsp. Salt
- ¼ tsp. Cinnamon
- ½ C. Flour

Add:

- ½ C. Chopped Nuts

Sprinkle over coffee-cake batter to a depth of ⅛ inch and bake.

Fruit Cobbler

Cherry Filling for Cobbler

In a quart sauce pan, mix:

- 3 T. Sugar (more or less to taste)
- 1½ T. Flour or ½ T. Tapioca

Add gradually and cook until thick (about 4 min.):

- 1 C. Cherry Juice and Water

Add:

- 2 C. Pie Cherries, fresh or canned, and put into 3-inch-deep pan or casserole and cover with batter.

Batter for Fruit Cobbler

6,000-7,000 ft. Ingredients and Method 4,000-5,000 ft. (estimated)

Sift together:

- 2 C. Flour
- 2 tsp. Baking Powder
- ¼ tsp. Cream of Tartar
- ½ C. Sugar

Mix and add to dry ingredients. Mix only until blended:

- ½ C. Shortening*, melted
- 1 C. Milk
- 1 Egg

Pour batter over heated fruit filling. Bake at 450°F for about 12 minutes or until light brown, lower heat to 350°F to finish baking, about 5 minutes or until toothpick comes out of dough clean.

*The term “shortening” in the recipes applies to any type of fat used in baking. Detailed explanation is on page 16.

Popovers

Sizzling hot, greased muffin tins.

Set oven: 450°F.

Bake: 15 min. at 450°F; reduce to 350°F for 20 min.
Sift together:

1 C. Flour, sifted
1/4 tsp. Salt
1 tsp. Sugar

Combine and add to dry ingredients:

1 C. Milk
2 Eggs
1 T. Shortening, melted

Beat in mixer for 4 minutes. Fill sizzling hot pans half full and bake. Steam is the leavening agent that causes them to “pop.”

**CREAM PUFS**

Put in a quart saucepan:

1 C. Boiling Water
1/2 C. Shortening (use butter for good flavor)

Stir in 1 C. flour thoroughly, remove from fire and add one at a time, beating well with a spoon each time:

4 Eggs

Drop by spoonfuls on a greased pan about 2 inches apart, form into circles with higher center. Bake at 400°F. for 10 minutes, reduce heat to 350°F. and bake about 30 minutes more. Take one out, if it does not fall, remove them from oven. Center should be an air space with dough baked around it. Cool, cut small top off, fill with filling or whipped cream. Replace top. Serve immediately.

**BANANA BREAD**

Greased loaf pan 9x5 inch.

Bottom lined with wax paper.

Crush in mixer:

1 1/2 C. Bananas (when crushed)

Add and beat together well:

1/2 C. Shortening
1/2 C. Sugar
2 Eggs

Sift together, add to above mixture and blend (use 2 1/4 C. flour below 5,000 ft.):

2 C. Flour, sifted
1/2 tsp. Soda
1 tsp. Baking Powder
1/4 tsp. Salt

Add:

1/4 C. Chopped Nuts

Put in pan and bake. Cool well before slicing. Easier to slice the next day.

To serve warm: slice and put back into pan to heat. Cover with foil or another pan to prevent drying out.
DATE NUT BREAD
Greased loaf pan 9x5 inch. Bottom lined with wax paper.
Pour 1 C. Boiling Water over 1 C. Chopped Dates and cool
Sift together (use 2½ C. flour below 5,000 ft.):
- 2 C. Flour, sifted
- 2 tsp. Baking Powder
- ¼ tsp. Cream of Tartar
Cut in:
- ½ C. Shortening
Add and beat for 2 minutes at medium speed:
- ½ C. of Date Liquid
- 1 Egg
Fold in:
- Dates and remainder of liquid
Bake. Cool well before slicing.

GINGERBREAD
Greased 9x13x2-inch pan. Baking time: 25-30 min.
Beat well in mixer:
- ½ C. Shortening
- ½ C. Sugar
Sift dry ingredients and add alternately with water:
- 2 + ¾ C. Flour
- 3/4 tsp. Salt
- 3/4 tsp. Cinnamon
- 3/4 tsp. Cloves
1 C. Molasses
2 Eggs
1 + ½ tsp. Ginger
1 tsp. Soda —
1½ tsp. Soda at 4,000-5,000 ft.
1 C. Hot Water
Put into greased pan and bake. Serve with applesauce, crushed pineapple, or diced peach topping, or with whipped cream.

HONEY ORANGE NUT BREAD
Baking temperature: 350° F. Baking temperature: 325° F.
Bake in loaf pan 9x5x3 inches for about 1 hour, or until it is brown and begins to shrink from pan.
6,000-7,000 ft. Ingredients and Method 4,000-5,000 ft.
Mix:
- ¼ C. Shortening*
- ¾ C. Honey
- 1 Egg
- 1 ½ T. Grated Orange Rind
- 1 C. Orange Juice
- ¼ C. C. Sugar
- ½ tsp. Salt
- 1 C. C. Nuts

*The term “shortening” in the recipes applies to any type of fat used in baking. Detailed explanation is on page 16.
**HONEY ORANGE ALL-BRAN BREAD**

Use wet ingredients as above recipe. Stir in 1 C. All-Bran and let stand 10 minutes.

<table>
<thead>
<tr>
<th>6,000-7,000 ft.</th>
<th>Ingredients and Method</th>
<th>4,000-5,000 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sift and stir in until blended:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 + 3/4 C.</td>
<td>Flour</td>
<td>3 C.</td>
</tr>
<tr>
<td>2 + 1/2 tsp.</td>
<td>Baking Powder</td>
<td>2 + 1/2 tsp.</td>
</tr>
<tr>
<td>1/4 tsp.</td>
<td>Soda</td>
<td>1/4 tsp.</td>
</tr>
<tr>
<td>1/2 tsp.</td>
<td>Salt</td>
<td>1/2 tsp.</td>
</tr>
</tbody>
</table>

**SECTION VI. Yeast Dough**

Yeast doughs rise in a shorter time at higher altitudes. Dough reaches a maximum height at which it stops for a short period of time before the dough reaches its breaking point and falls. The dough should be turned and folded before reaching this point. It has raised enough if it remains indented when pressed with the finger. If raised too long there is danger of falling and the bread is crumbly or becomes too porous in the upper half of the loaf.

Preventing the drying and crusting of the surface of the exposed dough during the rising period is difficult in dry atmospheres. The bowl of dough can be placed in a preserving kettle with a close-fitting lid; in a warm, closed cupboard with a pan of hot, steaming water; or it can be covered with a damp cloth.

High baking temperatures aid in retaining moisture and freshness in bread. The oven temperature and the length of time for baking depend on the type and size of loaf. To check the action of the yeast and to stop further rising, the oven temperature should be about 415°F for the first 10 minutes, then reduced to 375°F for the remainder of the baking time, about 30 minutes. Cottage loaves need 375°F for the first 15 minutes, reduced to 350°F for the remainder of the baking period. Time should be increased, depending on the size of loaf and the number in oven.
A. WHITE BREAD
(one loaf)

Dissolve 1/2 cake or 1/2 pkg. dry yeast in
1 C. lukewarm Water, or Milk (90-110° F.)

Measure into mixing bowl:

<table>
<thead>
<tr>
<th>2 T. Sugar</th>
<th>1 tsp. Salt</th>
<th>2 T. Fat</th>
</tr>
</thead>
</table>

Add yeast mixture to mixing bowl, stir well.

Add 2 1/2 C. flour gradually, mix well.

Put 1/2 C. flour onto bread board and knead into bread.

Put dough into warm, greased, large bowl. Let rise in warm, moist place until doubled in size, for about 30 minutes, knead down, and let it rise again. Knead down and put into loaves. Let rise in pan until dough does not "spring back" when pressed in with finger, about 45 minutes.

Bake at 410° F. for 10 minutes, reduce to 375° F. for about 25 minutes.

For two loaves: double all the ingredients and increase rising time in bowl to about 1 hour, and in pan to about 1 hour.

WHOLE-WHEAT BREAD
(one loaf)

In white-bread recipe substitute:

<table>
<thead>
<tr>
<th>1 1/2 C. Whole Wheat Flour for 1 1/2 C. White Flour</th>
</tr>
</thead>
</table>

Scald:

<table>
<thead>
<tr>
<th>1 C. Milk</th>
</tr>
</thead>
</table>

Stir in and cool to lukewarm:

<table>
<thead>
<tr>
<th>1/4 C. Sugar</th>
<th>1/4 C. Shortening</th>
</tr>
</thead>
</table>

Measure into large bowl and stir until dissolved:

<table>
<thead>
<tr>
<th>1/2 C. lukewarm Water</th>
<th>1 pkg. Dry or Cake Yeast</th>
</tr>
</thead>
</table>

Stir in lukewarm milk mixture.

Add and beat until smooth:

<table>
<thead>
<tr>
<th>2 1/4 C. sifted Flour</th>
</tr>
</thead>
</table>

Stir in additional (about) 2 1/4 C. sifted flour.

Turn out on lightly floured board. Knead until smooth and elastic. Place in greased bowl; brush with shortening. Cover. Let rise in warm place, free from draft until doubled in bulk, for about 1 hour.

Punch down and turn out on lightly floured board.

Proceed according to directions for shapes. For faster roll dough (action-quick dough): Use 2 pkgs. or cakes of yeast; bowl-rise for about 40 minutes.
WHOLE-WHEAT ROLLS

*In roll dough:*

Use Molasses instead of Sugar.
Use 1¼ C. Whole Wheat Flour and 1 C. White Flour.

**C. WHITE REFRIGERATOR YEAST ROLLS**

*Mix in small bowl:*

1 pkg. Yeast

*Mix in large bowl and cool to lukewarm:*

1 C. boiling Water or Milk

¼ C. Sugar

*Add and beat well:*

1 Egg

1½ to 2 C. Flour

Stir in 1½ to 2 C. flour until dough can be handled. Place on lightly floured board and knead slightly. Oil surface lightly; place in bowl, cover with slightly dampened cloth, and store in refrigerator. Shape into rolls. Cover lightly. Let rolls rise for 60 minutes or until double in bulk. Bake at 425° F. for 15 minutes.

**WHOLE-WHEAT REFRIGERATOR YEAST ROLLS**

*In white refrigerator roll substitute:*

¼ C. Molasses for Sugar and 2 C. Whole Wheat Flour for 2 C. White Flour

**QUICK FEATHERBED ROLLS**

(about 30 medium rolls)

*Combine in small bowl; stir until dissolved:*

1 cake Compressed Yeast or

1 pkg. Dry Yeast

*In large bowl, cream well:*

½ C. Shortening (part butter for flavor)

2½ C. lukewarm Milk

2 T. Sugar

2 tsp. Salt

Add alternately to creamed mixture the milk-yeast and 5 C. flour. Beat well after each addition. Cover bowl with damp cloth and let rise in warm place (85° F.) until double in bulk, about 1 hour. Punch down and drop by tablespoons into lightly greased muffin cups, filling cup 2/3 full. Cover with damp cloth and let rise again until double in bulk about 20 minutes. Bake in 425° F. oven 18 to 20 minutes.

**D. SWEET DOUGH**

(straight-dough method)

*Scald:*

½ C. Milk

*Stir in and cool to lukewarm:*

½ C. Sugar

1½ tsp. Salt

¼ C. Shortening

(Continued on Page 52)
Measure into large bowl:

\[
\frac{1}{2} \text{ C. lukewarm Water} \quad 2 \text{ pkgs. dry or cake Yeast}
\]

Stir until dissolved. Stir in lukewarm milk mixture.

Add and beat until smooth:

- 2 Eggs, beaten
- 3 C. sifted Flour
- Stir in additional (about) 2 C. sifted Flour

Turn dough out on lightly floured board. Knead until smooth and elastic. Place in greased bowl; brush top with soft shortening. Cover. Let rise in warm place, free from draft, until double in bulk, in about 1 hour.

Punch down* and turn out on lightly floured board. Proceed according to directions for shapes selected.

For faster sweet dough (action-quick dough):
Use 3 pkgs. or cakes Yeast; bowl rise for about 45 min.

**QUICK COFFEE CAKE**

*Put dough into greased shallow pan to depth of about 1 inch. Cover with favorite topping and bake, when doubled in size, for about 20 minutes. May use layer-cake pans or oblong pans.

**SECTION VII. Deep-Fat Frying**

The best temperatures for deep-fat frying at high altitudes are lower than those recommended for use at sea level. The lowering of the frying temperature is the main adjustment and, in some cases, is the only adjustment required for deep-fat frying at high altitudes.

**A. CROQUETTES**

Regular cookbook recipes may be used for croquettes. Use frying temperatures indicated in Table 3.

**B. FRITTERS**

If the fritter batter contains baking powder, you will have better results by using \( \frac{3}{8} \) to \( \frac{3}{4} \) of the total amount of leavening used in the sea-level recipe. Use the lower frying temperature given in Table 3.

**FRITTER BATTER WITH FRUIT**

\[
\begin{align*}
1 + \frac{1}{3} \text{ C. sifted all-purpose Flour} & \quad \frac{1}{2} \text{ tsp. Salt} \\
1 + \frac{1}{4} \text{ tsp. Baking Powder} & \quad 1 \text{ Egg} \\
3 \text{ T. Sugar} & \quad 1 \text{ T. Fat} \\
\frac{3}{4} \text{ C. finely chopped Fruit} & \quad \frac{2}{3} \text{ C. Milk}
\end{align*}
\]
Mix and sift flour, baking powder, sugar, and salt. Beat the egg until light and to it add the milk and melted fat. Add to the dry mixture. Add the chopped fruit. Pineapple or apples are usually preferred. Drop the batter by teaspoonfuls into deep fat which has been heated to 360° to 365° F., first dipping the spoon in the hot fat. Cook for 3 to 4 minutes, depending on the size of the fritters. Turn after the first minute of cooking if they do not turn themselves. Re-turn once. Drain on brown paper. Serve with a sauce or syrup.

C. POTATO CHIPS AND FRENCH-FRIED POTATOES

The sugar in potatoes is controlled by the storage temperature. Potatoes stored for several months at 34°-42° F. are high in sugar. Removing whole potatoes from cold storage to warm temperatures, 50°-60° F., for a few days gives improved color and mealiness of chips and French fries. When the sugar content is high, the frying temperatures must be lowered. *See Table 3 for temperatures. When storage conditions of the potatoes are unknown, the homemaker must rely on testing the potatoes herself by trying various temperatures for frying.

TABLE 3—Deep-Fat Frying Temperatures at 7200 Ft.

<table>
<thead>
<tr>
<th></th>
<th>Temperature of fat operating temperatures</th>
<th>Cooking period (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Croquettes</td>
<td>360-365</td>
<td>1-2</td>
</tr>
<tr>
<td>Doughnuts</td>
<td>350-355</td>
<td>3</td>
</tr>
<tr>
<td>Fritters</td>
<td>360-370</td>
<td>3-4</td>
</tr>
<tr>
<td>Timbale cases</td>
<td>355-360</td>
<td>1-2</td>
</tr>
<tr>
<td>French-fried potatoes</td>
<td>330-340</td>
<td>10-12</td>
</tr>
<tr>
<td></td>
<td>280-290 (If high in sugar)*</td>
<td></td>
</tr>
<tr>
<td>Potato chips</td>
<td>350-360</td>
<td>4-5</td>
</tr>
<tr>
<td>Shoestring potatoes</td>
<td>350-360</td>
<td>4-5</td>
</tr>
<tr>
<td>Fish (Fillet of sole, etc.)</td>
<td>365-370</td>
<td>6-7</td>
</tr>
<tr>
<td>Scallops</td>
<td>360-365</td>
<td>3-5</td>
</tr>
</tbody>
</table>

NOTE: The fat should be heated to a high enough temperature to cover the average drop when the food is added, in order to quickly regain the desirable temperature listed above. A drop of 50-70 degrees takes place with potatoes, whereas the drop with doughnuts is only 3 to 4 degrees. Frying temperatures at high altitudes are lower than those used at sea level.

D. DOUGHNUTS

Doughnuts made at high altitudes from most sea-level recipes crack and become fat soaked. These are indications of too rich a dough. To remedy these difficulties, the leavening and the fat can be reduced slightly. Adding mashed potatoes tends to lessen fat absorption and to produce doughnuts with better keeping qualities. Dipping the fried doughnuts in glace will prevent rapid staling.

A relatively soft dough will make a more satisfactory product than will a stiff dough. On the other hand, if the dough is too soft, the doughnuts will tend to be fat soaked. The dough should be of a medium soft consistency that can be rolled without sticking to the board.

The amount of flour required to make a medium soft dough will depend upon the amount of moisture in the flour itself. It may be necessary to make slight changes in the proportion of flour each time a recipe is used.

The doughnuts from the first rolling of the dough tend to be the most tender. As the dough is re-rolled it produces tougher doughnuts.

Use the frying temperature indicated in Table 3.

GLACES FOR DOUGHNUTS

1. Plain Gelatin Glace

| &frac12; C. Water | &frac14; tsp. Cream of Tartar |
| &frac34; tsp. White Corn Syrup | &frac13; C. Sugar |

Mix the above ingredients and boil for only two minutes. If boiled longer the glace may become sticky. Pour hot over &frac12; tsp. plain gelatin that has soaked in 1 T. cold water for 5 minutes. Cool mixture to about 120° F. or lukewarm. Dip the warm doughnuts quickly in and out of the glace. Place on a wire rack or, preferably, suspend on a glass rod to allow excess to drip off. Place paper beneath to catch drip.

CAKE DOUGHNUTS
(for 7,200-ft. altitude)

Beat in mixing bowl:

2 Eggs
1 C. Sugar

Add dry ingredients and 1 C. milk alternately to above mixture.

If dough is too sticky, add more flour. Dough should be soft enough just to handle easily. Roll out to 1/3-inch thickness. Cut with doughnut cutter. Fry at 350°-355° F. for 3 minutes. Turn after first 1½ minutes. Drain. Roll doughnuts in granulated or powdered sugar if desired.
CHOCOLATE DOUGHNUTS
Substitute ½ C. cocoa for ½ C. flour in the plain-cake doughnut recipe.

ORANGE DROP DOUGHNUT BALLS
(3 dozen 1½-inch doughnut balls)
Beat 2 large eggs well

Beat in:
½ C. Sugar and 2 T. Soft Shortening

Sift together:
2 C. all-purpose Flour
2 tsp. Baking Powder

Stir into egg mixture alternately with:
½ C. Orange Juice
2 T. Orange Rind

Drop by small teaspoonful into deep fat at 355° F. Dip spoon into fat before taking up a spoonful of dough. Place about 4 into fat, turn when brown on under side. Drain. Roll in sugar or glace.

YEAST-RAISED DOUGHNUTS

¾ C. scalded Milk
1 cake compressed Yeast or
1 pkg. dry Yeast dissolved in
¼ C. lukewarm Water
¼ C. Sugar
3 T. Fat

½ tsp. Salt
1½ tsp. Salt
1 Egg
1 tsp. Nutmeg
3¼ to 3½ C. sifted all-purpose Flour

Scald the milk and pour over sugar, fat, spice, and salt. Cool to lukewarm and add the beaten egg. Dissolve the yeast in the lukewarm water and add to the above mixture. Add flour to make a medium-soft dough. Knead as with bread. Grease top of dough and place in a covered vessel. Let rise in a moderately warm place (80° to 83° F.) until double in bulk, which will require about 1½ hours. Punch down and let rise again. Roll out on a floured board ½ inch in thickness. Cut with doughnut cutter. Place on floured board, cover with clean towel, let rise for an hour or until quite light. Fry at 350 to 355° F. for 3 to 4 minutes, depending upon the thickness of the dough. Place in frying fat with raised side down. These doughnuts may be served plain or dipped in the plain glace or thin, white frosting. They may be freshened by reheating in the oven just before serving.

Variations
The dough may be made in different shapes as:

FRIED KNOTS—Roll dough ½ inch thick. Cut in strips 1x4 inches. Measure accurately. Tie each strip in a knot and cover with a clean towel. Let rise until very light. Fry at 350 to 355° F. for 4 to 5 minutes, as with the plain yeast doughnuts. Dip in a gelatin glace. Serve hot.
The boiling point of water at high altitudes affects the cooking time of eggs. An egg cooked for 3 minutes at sea level would require about 5 minutes at 7,200 ft. for the same degree of doneness.

Eggs are toughened when cooked in boiling water or at high temperatures of frying or baking. Therefore, it is better to put cold eggs into cold water which is brought to the simmering point and the eggs timed according to altitude. Time needs to be increased as altitude increases.

OMELETS

Omelets at high altitudes need the addition of cream of tartar (about ⅛ tsp. per egg); or, acid such as grapefruit or orange juice may be added, using 1 T. per egg to make a more firm structure.

FLUFFY OMELET

4 Eggs
*⅛ C. Grapefruit Juice
½ tsp. Salt
1. Separate eggs, beat yolks until lemon colored.
2. Beat egg whites until foamy.
3. Add grapefruit juice at foamy stage and continue to beat until egg whites will hold a peak but are not stiff.
4. Add egg yolks and mix lightly.
5. Heat butter in skillet on low heat.
6. Pour in egg mixture and cook for 1 minute, then place into 350° F. oven and bake until paring knife comes out clean.

*Or, ½ tsp. Cream of Tartar and ¼ C. Water.

MERINGUES

Meringues made at high altitudes are better if sugar is added slowly to unbeaten egg whites. Kisses, macaroons, etc. should be baked at a 25° F. higher temperature at 7,200 ft. Pie meringues may be baked at 425° F. for about 4 minutes using 2 T. sugar per egg white.

MERINGUE SHELLS

Yield: 12 large or 25 small shells.  
Baking sheet covered with brown paper.  
Oven temperature: 275° F.

Beat, adding sugar gradually, until it stands in soft peaks:

3 Egg Whites
⅛ tsp. Cream of Tartar
⅜ C. Sugar
Add and beat until smooth and glossy:

| 1 T. mild White Vinegar | 1 tsp. Vanilla Extract |

Form individual shells with a teaspoon, using \( \frac{1}{4} \) C. of mixture for large shells or 1 heaping tablespoon for smaller shells. Put 2 inches apart on cookie sheet covered with brown paper. Bake 25 minutes or until firm to the touch, but not brown. Turn off heat and leave in oven to cool. Remove from paper. Serve by filling with ice cream or whipped cream and fruit.

**SOUFFLES**

Soufflés are improved by adding \( \frac{1}{4} \) tsp. cream of tartar for each egg used at high altitudes, or 1 tsp. lemon juice per egg in fish dishes.

**CHEESE SOUFFLE**

*In small saucepan melt:*

- 3 T. Butter

*Add:*

- \( \frac{1}{4} \) C. Flour
- \( \frac{1}{4} \) tsp. Salt

*Slowly add:*

- 1 C. Milk

*Add and stir until cheese is melted:*

- 3 Egg Yolks, beaten slightly
- 4 oz. or 1 C. Cheese, grated

Slowly fold above mixture into egg whites beaten to soft peaks with \( \frac{1}{2} \) tsp. cream of tartar. Pour into ungreased 1\(\frac{1}{4} \) qt. casserole, cut through with knife 1 inch from edge of casserole in a circle to form a “top hat” effect when baked. Set casserole in a shallow pan of hot water. Bake at 375°F for 40 to 45 minutes. Serve at once.

**TUNA SOUFFLE**

Make white sauce and add egg yolks as in cheese soufflé.

Drain 1 C. or 6\(\frac{1}{2} \) oz. can tuna and add 2 tsp. lemon juice, add to sauce. Proceed as for cheese soufflé.

**CHICKEN SOUFFLE**

Make white sauce and add egg yolks as in cheese soufflé.

Add 1 C. or 6\(\frac{1}{2} \) oz. can ground chicken (drain canned chicken) to sauce. Proceed as for cheese soufflé.
SECTION IX. Vegetable Cookery and Canning

The length of time required for cooking foods in water is influenced by its boiling point at various altitudes (Table 4). Because of the lower temperature of boiling water in high altitudes, vegetables require longer cooking time (Table 5).

Cutting vegetables such as potatoes into halves or small portions speeds cooking, but this procedure also causes more vitamins and minerals to be dissolved. Cooking water should be used in gravies and soups to conserve nutrients.

FROZEN VEGETABLES require slightly longer cooking periods than directions on the package indicate.

Vegetables may be BAKED in high altitudes in approximately the same time at temperatures similar to those required in low altitudes. In potatoes, the variety greatly affects the baking quality.

PRESSURE PANS speed the cooking time of vegetables in high altitudes and conserve the nutrients. However, the temperatures in high altitudes within either the large pressure cooker or the smaller pressure pan are lower than at sea level. The pressure may be increased, or the time for cooking lengthened, to obtain the same results as are obtained at low altitudes. It is better to increase the time from 25 to 50 percent. A pressure pan is especially convenient for cooking such vegetables as dried beans, which require long cooking periods at high altitudes.

Because of the increased cooking time required, sufficient water should be added to vegetables, 1/4 cup more for short periods, and 1/2 cup for longer periods.

CANNING

Pressure cookers are a necessity in canning low-acid vegetables (beans, peas, corn, greens) in high altitudes in order to raise temperatures high

<table>
<thead>
<tr>
<th>Altitude</th>
<th>Temperature of boiling water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea level</td>
<td>212°F 100°C</td>
</tr>
<tr>
<td>3,000 ft.</td>
<td>206.4°F 96.7°C</td>
</tr>
<tr>
<td>4,000 ft.</td>
<td>204.6°F 95.8°C</td>
</tr>
<tr>
<td>5,000 ft.</td>
<td>202.8°F 94.8°C</td>
</tr>
<tr>
<td>6,000 ft.</td>
<td>201.0°F 93.8°C</td>
</tr>
<tr>
<td>7,200 ft.*</td>
<td>198.9°F 92.7°C</td>
</tr>
<tr>
<td>8,000 ft.</td>
<td>197.5°F 91.9°C</td>
</tr>
<tr>
<td>9,000 ft.</td>
<td>195.7°F 90.9°C</td>
</tr>
<tr>
<td>10,000 ft.</td>
<td>194.0°F 90.0°C</td>
</tr>
</tbody>
</table>

*Laramie, Wyo.
enough to kill microorganisms on the vegetables. See Table 6 for canning
temperatures and times. Since the boiling point of water lowers as altitude
increases, the hot-water bath method does not reach high enough tempera-
tures. Much longer time has to be used in the hot-water method than at
sea level.

**Complete instructions for canning and freezing at high altitudes may be
obtained from County Home Demonstration Agents or the University Agricul-
tural Extension Service Mailing Room at Laramie, Wyo.**

**TABLE 5—Time Table for Boiling Vegetables at High Altitudes**

<table>
<thead>
<tr>
<th>Vegetables</th>
<th>How prepared for cooking</th>
<th>Cooking time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asparagus</td>
<td>Cut into 1-inch pieces</td>
<td>15-25 minutes</td>
</tr>
<tr>
<td>Beans, green wax</td>
<td>Cut into 1-inch pieces</td>
<td>45-50 minutes</td>
</tr>
<tr>
<td>Beets (old)</td>
<td>Whole</td>
<td>3½ to 4 hours</td>
</tr>
<tr>
<td>Beets (new)</td>
<td>Whole</td>
<td>2½ to 2½ hours</td>
</tr>
<tr>
<td>Broccoli</td>
<td>Buds and 3-in. stalk</td>
<td>8-9 minutes</td>
</tr>
<tr>
<td>Brussels sprouts</td>
<td>Sprouts 1½ x 1 inch</td>
<td>20 minutes</td>
</tr>
<tr>
<td>Cabbage</td>
<td>Shredded</td>
<td>13-15 minutes</td>
</tr>
<tr>
<td>Carrots</td>
<td>Cut into thirds, lengthwise</td>
<td>35-40 minutes</td>
</tr>
<tr>
<td>Cauliflower</td>
<td>Flowerettes</td>
<td>18-24 minutes</td>
</tr>
<tr>
<td>Chard</td>
<td>Large leaves with midrib</td>
<td>20-22 minutes</td>
</tr>
<tr>
<td>Kale and mustard greens</td>
<td>Midrib and stem removed</td>
<td>7-10 minutes</td>
</tr>
<tr>
<td>Onions</td>
<td>Partially quartered</td>
<td>45-55 minutes</td>
</tr>
<tr>
<td>Parsnips</td>
<td>Cut into thirds, lengthwise, and across once</td>
<td>30-38 minutes</td>
</tr>
<tr>
<td>Peas (immature)</td>
<td>Shelled</td>
<td>10-15 minutes</td>
</tr>
<tr>
<td>Peas (mature)</td>
<td>Shelled</td>
<td>25-30 minutes</td>
</tr>
<tr>
<td>Potatoes (Irish)</td>
<td>Peeled thin, cut in halves, lengthwise</td>
<td>32-34 minutes</td>
</tr>
<tr>
<td>Rutabagas</td>
<td>Cut lengthwise in slices ½ inch thick</td>
<td>32-38 minutes</td>
</tr>
<tr>
<td>Spinach</td>
<td>Stems discarded in older leaves</td>
<td>6-10 minutes</td>
</tr>
<tr>
<td>Squash, Hubbard</td>
<td>Pared, cut in 2 x 3-inch cubes</td>
<td>20-25 minutes</td>
</tr>
<tr>
<td>Sweet potatoes</td>
<td>Cut crosswise once and lengthwise in halves</td>
<td>20-30 minutes</td>
</tr>
<tr>
<td>Turnips (old)</td>
<td>Pared, cut in ¾-inch cubes</td>
<td>20-30 minutes</td>
</tr>
<tr>
<td>Turnips (new)</td>
<td></td>
<td>17-23 minutes</td>
</tr>
</tbody>
</table>

**NOTE:** Salted water must be boiling rapidly when vegetables are put in.
### TABLE 6—Time Table for Pressure-Cooker Canning at High Altitudes

<table>
<thead>
<tr>
<th>Product</th>
<th>Type of Pack*</th>
<th>Pts.</th>
<th>Qts.</th>
<th>5,000 ft.</th>
<th>7,000 ft.</th>
<th>10,000 ft. (estimated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meats, boneless</td>
<td>raw or hot</td>
<td>75</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poultry, rabbit</td>
<td>hot</td>
<td>75</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Giblets</td>
<td>hot</td>
<td>75</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poultry, with bone</td>
<td></td>
<td>65</td>
<td>75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asparagus</td>
<td></td>
<td>25</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bean, snap</td>
<td></td>
<td>20</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beets</td>
<td></td>
<td>30</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carrots</td>
<td></td>
<td>25</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corn, whole kernel</td>
<td></td>
<td>55</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corn, cream style</td>
<td>raw</td>
<td>95</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>hot</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peas</td>
<td></td>
<td>40</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pumpkin or Winter squash</td>
<td>hot</td>
<td>55</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spinach and other Greens</td>
<td>hot</td>
<td>70</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Either raw or hot pack may be used where no indication is given in table.

### TABLE 7—Time Table for Hot-Water-Bath Canning at High Altitudes

<table>
<thead>
<tr>
<th>Product</th>
<th>Type of Pack*</th>
<th>Time in water bath in minutes (estimated)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>5,000 ft.</td>
</tr>
<tr>
<td>Apples</td>
<td>hot</td>
<td>20</td>
</tr>
<tr>
<td>Applesauce</td>
<td>hot</td>
<td>15</td>
</tr>
<tr>
<td>Apricots, Peas</td>
<td>raw</td>
<td>35</td>
</tr>
<tr>
<td>Peaches</td>
<td>hot</td>
<td>25</td>
</tr>
<tr>
<td>Berries (except Strawberries)</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Cherries</td>
<td>raw</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>hot</td>
<td>15</td>
</tr>
<tr>
<td>Plums</td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>Rhubarb</td>
<td>hot</td>
<td>15</td>
</tr>
<tr>
<td>Sauerkraut</td>
<td>hot</td>
<td>20</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>raw</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>hot</td>
<td>15</td>
</tr>
<tr>
<td>Tomato Juice</td>
<td>hot</td>
<td>15</td>
</tr>
</tbody>
</table>