

Have you ever been in the middle of preparing a recipe and discovered you were out of an important ingredient? If so, you had to decide on a solution to the problem—make a suitable substitute for that ingredient from supplies available in your pantry, or make a trip to the grocery store.

The jaunt to the store ensures that you get the ingredient specified in the recipe, but it can also take valuable time and energy you might not have.

Ingredient substitution—or using similar ingredients that perform the same function in a food—is the easiest alternative. The key to success with ingredient substitution is being able to put your finger on the information when you need it. The following information is designed to help you do just that.

Many substitutions are simply another form of the needed ingredient. For example, 1/8 teaspoon of garlic powder can be substituted for one small garlic clove. These simple substitutions are called **equivalents** because the ingredients are similar. When *equivalent* ingredients are substituted, very



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little, if any, change will be noticed in the finished product.

Another type of substitution involves using an ingredient with properties similar to the ingredient called for in the recipe. An example would be substituting plain yogurt for sour cream in a salad dressing.

Each ingredient in a recipe has a specific function. Therefore, this kind of substitution can result in a product with different quality characteristics. This means that flavor, color, or texture of the product may change because of an ingredient substitution.

¹Extension Diabetes Coordinator, Department of Extension Family and Consumer Sciences, New Mexico State University.

Ingredient Substitution Chart		
Ingredient	Amount	Substitutes
Allspice	1 tsp	• 1/2 tsp cinnamon and 1/2 tsp ground cloves
Apple pie spice	1 tsp	• 1/2 tsp cinnamon, 1/4 tsp nutmeg, and 1/8 tsp cardamom
Arrowroot starch	1 1/2 tsp	• 1 Tbsp flour • 1 1/2 tsp cornstarch
Baking powder	1 tsp	• 1/3 tsp baking soda and 1/2 tsp cream of tartar • 1/4 tsp baking soda and 1/2 cup sour milk or buttermilk (decrease liquid called for in recipe by 1/2 cup) • 1/4 tsp baking soda and 1/2 Tbsp vinegar or lemon juice used with sweet milk to make 1/2 cup (decrease liquid called for in recipe by 1/2 cup)
Bay leaf	1 whole	• 1/4 tsp crushed
Beau monde seasoning	1 tsp	• 1 tsp seasoning or seasoned salt • 1/2 tsp table salt • 1/2 tsp Mei Yen seasoning
Broth	1 cup	• 1 bouillon cube (beef or chicken) dissolved in 1 cup boiling water • 1 envelope powdered broth base dissolved in 1 cup boiling water • 1 tsp powdered broth base dissolved in 1 cup boiling water
Butter	1 cup	• 7/8–1 cup hydrogenated fat and 1/2 tsp salt • 7/8 cup lard plus 1/2 tsp salt • 1 cup margarine
Catsup	1 cup	• 1 cup tomato sauce • 1/2 cup sugar and 2 Tbsp vinegar (for use in cooking)
Chicken stock	1 1/2 tsp	• 1 cube instant chicken bouillon base
Chicken stock	1 Tbsp dissolved in 1 cup water and the second part	• 1 cup canned or homemade chicken broth or chicken stock.
Chili sauce	1 cup	• 1 cup tomato sauce, 1/4 cup brown sugar, 2 Tbsp vinegar, 1/4 tsp cinnamon, dash of ground cloves, and dash of allspice
Chives	2 tsp	• 2 tsp green onion tops, finely chopped
Chocolate chips	1 oz	• 1 oz sweet or semisweet cooking chocolate
Chocolate, semisweet	1 2/3 oz	• 1 oz unsweetened chocolate and 4 tsp sugar
Chocolate, semisweet chips, melted	6-oz package	• 2 squares unsweetened chocolate, 2 Tbsp shortening, and 1/2 cup sugar
Chocolate, unsweetened	1 oz or 1 square	• 3 Tbsp cocoa and 1 Tbsp fat

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Ingredient	Amount	Substitutes
Cocoa	1/4 cup	• 1 oz (or 1 square) chocolate; for every 4 Tbsp fat called for in recipe, decrease by 1/2 Tbsp
Coconut	1 Tbsp grated, dry	• 1 1/2 Tbsp fresh coconut, grated
Coconut cream	1 cup	• 1 cup whipping cream
Coconut milk	1 cup	• 1 cup whole or 2% milk
Corn syrup	1 cup	• 1 cup sugar and 1/4 cup liquid (use whatever liquid is called for in the recipe) • 1 cup honey
Cornstarch (for thickening)	1 Tbsp	• 2 Tbsp all-purpose flour • 2 Tbsp granular tapioca
Cracker crumbs	3/4 cup	• 1 cup dry bread crumbs
Cream, half-and-half	1 cup	• 7/8 cup milk and 1/2 Tbsp butter or margarine • 1 cup evaporated milk, undiluted
Cream, heavy (36–40% fat)	1 cup	• 3/4 cup milk and 1/3 cup butter or margarine (for use in cooking and baking)
Cream, light (18–20% fat)	1 cup	• 3/4 cup milk and 3 Tbsp butter or margarine (for use in cooking and baking) • 1 cup evaporated milk, undiluted
Cream, whipped		• Chill a 13-oz can of evaporated milk for 12 hours. Add 1 tsp lemon juice. Whip until stiff.
Dill plant, fresh or dried	3 heads	• 1 Tbsp dill seed
Egg	1 whole (3 Tbsp)	• 3 Tbsp and 1 tsp thawed frozen egg • 2 1/2 Tbsp sifted, dry whole egg powder and 2 1/2 Tbsp lukewarm water • 2 yolks and 1 Tbsp water (in cookies) • 2 yolks (in custards, cream fillings, and similar mixtures)
Egg white	1 white (2 Tbsp)	• 2 Tbsp thawed frozen egg white • 2 tsp sifted, dry egg white powder and 2 Tbsp lukewarm water
Egg yolk	1 yolk (1 1/2 Tbsp)	• 2 Tbsp sifted, dry egg yolk powder and 2 tsp water • 1 1/3 Tbsp thawed frozen egg yolk
Flour, all-purpose (for thickening)	1 Tbsp	• 1 1/2 tsp cornstarch, arrowroot starch, potato starch, or rice starch • 1 Tbsp granular tapioca • 1 Tbsp waxy rice flour • 1 Tbsp waxy corn flour • 2 Tbsp browned flour • 1 1/2 Tbsp whole wheat flour • 1/2 Tbsp whole wheat flour and 1/2 Tbsp all-purpose flour

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Flour, all-purpose Note: Specialty flours added to yeast bread recipes will result in a reduced volume and a heavier product.	1 cup sifted	<ul style="list-style-type: none"> • 1 cup and 2 Tbsp cake flour • 1 cup minus 2 Tbsp unsifted all-purpose flour • 1 1/2 cup bread crumbs • 1 cup rolled oats • 1/3 cup cornmeal or soybean flour and 2/3 cup all-purpose flour • 1/2 cup cornmeal, bran, or rice, rye, or whole wheat flour and 1/2 cup all-purpose flour • 3/4 cup whole wheat flour or bran flour and 1/4 cup all-purpose flour • 1 cup rye or rice flour • 1/4 cup soybean flour and 3/4 cup all-purpose flour
Flour, cake	1 cup sifted	• 1 cup minus 2 Tbsp sifted all-purpose flour
Flour, self-rising	1 cup	• 1 cup minus 2 tsp all-purpose flour and 1 1/2 tsp baking powder and 1/2 tsp salt
Flour, whole wheat		• substitute whole wheat flour for 1/4–1/2 of white flour called for in recipe
Garlic	1 clove, small	• 1/8 tsp garlic powder
Gelatin	3-oz package	• 1 Tbsp plain gelatin and 2 cups flavored fruit juice
Ginger, powdered	1/8 tsp	<ul style="list-style-type: none"> • 1 Tbsp candied ginger rinsed in water to remove sugar, and finely cut • 1 Tbsp raw ginger
Herbs, fresh and finely cut	1 Tbsp	• 1 tsp dried herbs
Honey	1 cup	• 1 1/4 cups sugar and 1/4 cup liquid (use liquid called for in recipe)
Horseradish	1 Tbsp, fresh	• 2 Tbsp bottled
Lemon	1 tsp juice	• 1/2 tsp vinegar
Lemon	1 medium	• 2–3 Tbsp juice and 1–2 tsp rind
Lemon peel, dried	1 tsp	<ul style="list-style-type: none"> • 1–2 tsp grated fresh lemon peel • grated peel of 1 medium lemon • 1/2 tsp lemon extract
Macaroni (4 cups cooked)	2 cups, uncooked	<ul style="list-style-type: none"> • 2 cups spaghetti, uncooked • 4 cups noodles, uncooked
Maple sugar	1/2 cup	• 1 cup maple syrup
Maple sugar	1 Tbsp	• 1 Tbsp white, granulated sugar
Marshmallows, miniature	1 cup	• 10 large marshmallows
Mayonnaise (for use in salads and salad dressings)	1 cup	<ul style="list-style-type: none"> • 1/2 cup yogurt and 1/2 mayonnaise • 1 cup sour cream • 1 cup cottage cheese puréed in a blender

Ingredient Substitution Chart		
Ingredient	Amount	Substitutes
Mei Yen seasoning	1 tsp	<ul style="list-style-type: none"> • 1 tsp Beau Monde seasoning • 1/2 tsp table salt
Milk, buttermilk	1 cup	<ul style="list-style-type: none"> • 1 cup plain yogurt • 1 cup minus 1 Tbsp milk and 1 Tbsp lemon juice or vinegar (allow to stand 5–10 minutes) • 1 cup milk and 1 3/4 tsp cream of tartar
Milk, evaporated (whole or skim)	1/2 cup, plus 1/2 cup water	• 1 cup liquid whole milk
Milk, skim	1 cup	• 4–5 Tbsp non-fat dry milk powder and enough water to make one cup, or follow manufacturer's directions
Milk, skim	1/4 cup	<ul style="list-style-type: none"> • 4 tsp non-fat dry milk powder plus enough water to make 1/4 cup, or follow manufacturer's directions • 2 Tbsp evaporated skim milk and 2 Tbsp water
Milk, sweetened	1 can (about 1 1/3 cup) 1 cup	<ul style="list-style-type: none"> • Heat the following ingredients until sugar and butter are dissolved: 1/3 cup plus 2 Tbsp evaporated milk, 1 cup sugar, 3 Tbsp butter or margarine • Heat the following ingredients until sugar and butter are dissolved: 1/3 cup evaporated milk, 3/4 cup sugar, 2 Tbsp butter or margarine • Add 1 cup plus 2 Tbsp dry milk to 1/2 cup warm water. Mix well. Add 3/4 cup sugar and stir until smooth.
Milk, whole	1 cup	<ul style="list-style-type: none"> • 1 cup reconstituted non-fat dry milk and 2 tsp butter or margarine • 3/4 cup evaporated milk and 3/4 cup water • 4 Tbsp whole dry milk and 1 cup water, or follow manufacturer's directions • 1 cup fruit juice or 1 cup potato water (for use in baking) • 1/4 cup non-fat dry milk and 2 tsp butter or margarine and 7/8 cup water
Mushrooms	1 pound, fresh	<ul style="list-style-type: none"> • 3 oz dried mushrooms • 1 10-oz can (8 oz drained weight)
Mushrooms, powdered	1 Tbsp	<ul style="list-style-type: none"> • 3 Tbsp whole, dried mushrooms • 4 oz fresh • 2 oz canned
Mustard, dry	1 tsp	• 1 Tbsp prepared mustard
Onion, fresh	1 small	• Rehydrate 1 Tbsp instant minced onion
Onion, instant minced	1 Tbsp	• 2 Tbsp fresh onion, chopped
Onion powder	1 Tbsp	<ul style="list-style-type: none"> • 1 medium onion, chopped • 4 Tbsp fresh chopped onion
Orange	1 medium	• 6–8 Tbsp juice

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Orange peel, dried	1 Tbsp	<ul style="list-style-type: none"> • 2–3 Tbsp grated fresh orange peel • grated peel of 1 medium orange
Orange peel, dried	2 tsp	<ul style="list-style-type: none"> • 1 tsp orange extract
Parsley, dried	1 tsp	<ul style="list-style-type: none"> • 3 tsp fresh parsley, chopped
Peppermint, dried	1 Tbsp	<ul style="list-style-type: none"> • 1/4 cup fresh mint, chopped
Peppers, green bell	1 Tbsp, dried	<ul style="list-style-type: none"> • 3 Tbsp fresh green pepper, chopped
Peppers, red bell	1 Tbsp, dried	<ul style="list-style-type: none"> • 3 Tbsp fresh red pepper, chopped • 2 Tbsp chopped pimento
Pimento	2 Tbsp	<ul style="list-style-type: none"> • Rehydrate 1 Tbsp dried red bell peppers • 3 Tbsp fresh red bell pepper, chopped
Pumpkin pie spice	1 tsp	<ul style="list-style-type: none"> • 1/2 tsp cinnamon, 1/4 tsp ginger, 1/8 tsp allspice, and 1/8 tsp nutmeg
Rennet	1 tablet	<ul style="list-style-type: none"> • 1 Tbsp liquid rennet
Rice (3 cups cooked)	1 cup regular, uncooked	<ul style="list-style-type: none"> • 1 cup uncooked converted rice • 1 cup uncooked brown rice • 1 cup uncooked wild rice
Shortening, melted	1 cup	<ul style="list-style-type: none"> • 1 cup cooking oil (cooking oil should not be substituted if recipe does not call for melted shortening)
Shortening, solid (used in baking)	1 cup	<ul style="list-style-type: none"> • 1 cup minus 2 Tbsp lard • 1 1/8 cups butter or margarine (decrease salt called for in recipe by 1/2 tsp)
Sour cream	1 cup	<ul style="list-style-type: none"> • 3/4 cup sour milk and 1/3 cup butter or margarine • 3/4 cup buttermilk and 1/3 cup butter or margarine • Blend until smooth: 1/3 cup buttermilk, 1 Tbsp lemon juice, and 1 cup cottage cheese • 1 cup plain yogurt • 3/4 cup milk, 3/4 tsp lemon juice, and 1/3 cup butter or margarine
Spearmint, dried	1 Tbsp	<ul style="list-style-type: none"> • 1/4 cup fresh mint, chopped
Sugar, brown	1 cup firmly packed	<ul style="list-style-type: none"> • 1 cup granulated sugar
Sugar, white	1 tsp	<ul style="list-style-type: none"> • 1/8 tsp noncaloric sweetener solution, or follow manufacturer's directions

Ingredient Substitution Chart		
Ingredient	Amount	Substitutes
Sugar, white	1 cup	<ul style="list-style-type: none"> • 1 cup corn syrup (decrease liquid called for in recipe by 1/4 cup) • 1 1/3 cup molasses (decrease liquid called for in recipe by 1/3 cup) • 1 cup powdered sugar • 1 cup brown sugar, firmly packed • 1 cup honey (decrease liquid called for in recipe by 1/4 cup) • 1 3/4 cup confectioners' sugar, packed
Tapioca, granular	1 Tbsp	<ul style="list-style-type: none"> • 2 Tbsp pearl tapioca
Tomato juice	1 cup	<ul style="list-style-type: none"> • 1/2 cup tomato sauce and 1/2 cup water
Tomatoes, fresh	2 cups	<ul style="list-style-type: none"> • 1 16-oz can (may need to drain)
Worcestershire	1 tsp	<ul style="list-style-type: none"> • 1 tsp bottled steak sauce
Yeast, active dry	1 Tbsp	<ul style="list-style-type: none"> • 1 cake yeast, compressed • 1 package (1/4 oz) active dry yeast
Yogurt, plain	1 cup	<ul style="list-style-type: none"> • 1 cup buttermilk • 1 cup cottage cheese, blended until smooth • 1 cup sour cream

***Original authors:** Barbara Willenberg, Extension Assistant; and Karla Vollmar Hughes, State Specialist, University of Missouri. Adapted (with permission) by Alice Jane Hendley, Diet and Health Specialist. Subsequently reviewed by Martha Archuleta, Extension Food and Nutrition Specialist.*



***Cassandra Vanderpool** is the Extension Diabetes Coordinator in the Department of Extension Family and Consumer Sciences at NMSU. She earned her B.S. at NMSU and her M.S. at the University of New Mexico. She is dedicated to making effective nutrition programs available to the New Mexicans who need them.*

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