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Preserving Food for Special Meal Plans

Preserving foods to meet special dietary needs can be done easily in the home. Commercially prepared food suitable for those on special meal plans is costly because the quantity handled is small and production procedures are slightly different than conventionally canned foods. Preserving food at home can be a practical way to save money if fresh produce and the necessary equipment are available.

Reduced-Salt Meal Plans

Canning

Salt can be safely omitted from home canned vegetables, meats, poultry, and fish. Salt is used as a flavor enhancer rather than a preservative in canning if the recipe calls for only 1–3 teaspoons per pint or quart of food. Use the same process times as for conventionally canned foods (vegetables, meats, poultry, fish). If using a salt substitute, add it when serving the product; an unpleasant aftertaste can develop from the canning process if a salt substitute is added before canning.

Pickling

Salt concentrations should not be changed in pickle recipes. Reduced-sodium salts such as “Lite Salt” may be used in quick process pickle recipes. However, the pickles may have a slightly different taste than expected. *Never alter salt concentrations or use reduced-sodium salt when making fermented pickles or sauerkraut. Proper fermentation depends on correct proportions of salt and other ingredients.*

Reduced-Sodium Sliced Sweet Pickles

Brining Solution

- 4 pounds (3- to 4-inch) pickling cucumbers
- 1 quart distilled white vinegar (5 percent)
- 1 Tablespoon canning or pickling salt
- 1 Tablespoon mustard seed
- 1/2 cup sugar

Canning Solution

- 1 2/3 cups distilled white vinegar (5 percent)
- 3 cups sugar
- 1 Tablespoon whole allspice
- 2 1/4 teaspoon celery seed

Yields 4 to 5 pints

Wash cucumbers and cut 1/16 inch off blossom end and discard. Cut cucumbers into 1/4-inch slices. Combine all ingredients for canning syrup in a saucepan and bring to a boil. Keep syrup hot until used. In a large kettle, mix the ingredients for brining solution. Add the cut cucumbers, cover, and simmer until cucumbers change color from bright to dull green (about 5 to 7 minutes). Drain the cucumber slices. Fill pint jars, and cover with hot canning syrup; remove air bubbles, leaving 1/2-inch headspace. Adjust lids and process pint jars for 10 minutes in a boiling water bath canner (at altitudes of 1,001–6,000 feet, increase process time to 15 minutes).

Nutrition Information for 1/4-cup serving: 88 calories, 23g carbohydrate, 0.4g protein, 0.2g fat, 0.4g fiber, 195mg sodium.

Freezing

Foods frozen at home typically have no salt added during preparation, making them an excellent choice for reduced-sodium meal plans. Add salt or reduced sodium salts at serving time, if desired.

Reduced-Sugar Meal Plan (for a Diabetic Meal Plan)

Carbohydrates affect blood-glucose more than any other nutrient. Lowering carbohydrate content in recipes can be helpful for individuals living with diabetes. However, just because a product is low in added sugar does not mean that it is free of carbohydrates. Starches and natural sugars also contribute to the total carbohydrate content of a product. Individuals with diabetes must still consider the total carbohydrate content per serving, especially if they are on a carbohydrate counting meal plan.

Granulated table sugar (sucrose) is the most frequently used sweetener in canning and freezing. Sugar helps preserve the color, texture, and flavor of the food, but is optional. The sugar in jams and jellies helps the gel to form, increases the flavor, and, in the large amount called for, acts as a preservative. Honey, corn syrup, and brown sugar can be used as substitutes for granulated sugar; however, these alternatives do not reduce calories or total carbohydrate content.

Canning

Fruit can be safely canned without sugar for the diabetic or reduced-calorie meal plan. Sugar is generally added to canned fruit to improve flavor, help stabilize color, and retain the shape of the fruit. Sugar does not act as a preservative in canned fruit. Fruit canned without added sugar will be somewhat softer than a similar product packed in syrup. Flavor changes and loss of color may also be expected. The fruit still contains natural sugars, which must be considered in the diabetic meal plan. To can fruit without added sugar, try some of the following options:

- Extract juice* from the fruit being canned for the packing liquid.
- Extract juice* from other fruit, preferably from a mild-flavored fruit, or use unsweetened apple, pineapple, or white grape juice for the packing liquid.
- Use water as the packing liquid.

Artificial sweeteners such as saccharin or aspartame should be added just before serving. At this time, Splenda® is the only artificial sweetener on the market that can be added to canning liquids before canning fruits. Bitterness

and off-flavors develop when saccharin is used in canning. The sweetness of aspartame decreases when heated.

**To extract juice, thoroughly crush ripe, sound, juicy fruit. Heat to simmering (185°F to 210°F) over low heat. Strain through a jelly bag or cheese cloth.*

Freezing

Fruits can be frozen without added sugar because sugar is not used as a preservative. It does, however, help maintain flavor, color, and texture. Plan to use frozen fruit within one year for best quality. Serve fruit before it is completely thawed. This is especially important for fruit frozen without sugar.

Sugar substitutes may be used in place of sugar. Labels on the products give the equivalents to a standard amount of sugar. Follow the directions to determine the amount of sweetener needed. Artificial sweeteners give a sweet flavor but do not furnish beneficial effects of sugar, such as thickness of syrup and color protection.

Jams and Jellies

Jams and jellies are made by cooking crushed fruit or fruit juice with sugar. Sugar must be present in the proper proportions with pectin and acid to form a gel. Sugar preserves the product, helping to prevent the growth of microorganisms. For these reasons regular jam and jelly recipes cannot be made into sugar-free, reduced sugar, or artificially sweetened products by altering the original recipe.

Jams and jellies without added sugar can be made in the following ways:

1. Regular pectin with special recipes — These special recipes have been formulated so no added sugar is needed. However, each package of regular pectin does contain some sugar. Artificial sweetener is often added.
2. Special modified pectins — These pectins are not the same as regular pectin. They will say “light” or “less sugar” on the label. Follow the directions on the package. Some products are made with less sugar and some with artificial sweeteners.
3. Recipes using gelatin — Some recipes use unflavored gelatin as the thickener for the jam or jelly. Artificial sweetener is often added.
4. Long-boil methods — Boiling fruit pulp for extended periods of time will make a product thicken and resemble a jam, preserve, or fruit butter. Artificial sweetener may be added.

Because these products do not have sugar as a preservative, be sure to process or store them as directed. Some require longer processing in a boiling water bath while some require refrigeration.

Apple Jelly with Gelatin

- 2 Tablespoons unflavored gelatin powder
- 1 quart unsweetened apple juice
- 2 Tablespoons liquid sweetener**
- 2 Tablespoons lemon juice
- Food coloring, if desired

Yields 4 half-pints

Sterilize jars. In a saucepan, soften the gelatin in the apple and lemon juices. To dissolve gelatin, bring to a full rolling boil and boil 2 minutes. Remove from heat. Stir in sweetener and food coloring, if desired. Fill jars, leaving 1/4-inch headspace. Adjust lids. Do not process or freeze. **Caution: Store in refrigerator and use within 4 weeks.**

Nutrition Information for 1 tablespoon: 8 calories, 2g carbohydrate, 0.2g protein, 0g fat, 0g fiber, 1mg sodium.

Grape Jelly with Gelatin

- 2 Tablespoons unflavored gelatin powder
- 3 cups unsweetened grape juice
- 2 Tablespoons lemon juice
- 2 Tablespoons liquid sweetener**

Yields 3 half-pints

Sterilize jars. In a saucepan, soften the gelatin in the grape and lemon juices. Bring to a full rolling boil to dissolve gelatin. Boil 1 minute and remove from heat. Stir in sweetener. Fill jars quickly, leaving 1/4-inch headspace. Adjust lids. Do not process or freeze. **Caution: Store in refrigerator and use within 4 weeks.**

Nutrition Information for 1 tablespoon: 11 calories, 2.4g carbohydrate, 0.3g protein, 0g fat, 0g fiber, 1mg sodium.

****Note:** 1/8 teaspoon of liquid sweetener equals the sweetening power of 1 teaspoon of sugar (1 tablespoon liquid sweetener equals the sweetening power of 1/2 cup sugar). If other forms of sweeteners are used, substitute on an equivalent sweetening basis. Aspartame sweeteners may not be successful because they are affected by heat. If used, add aspartame sweeteners after mixture is heated.

Sulfite-Free Meal Plans

Sulfuring fruits prevents light fruits from darkening and helps retain the nutritive values during drying and storage. Sulfuring fruits before drying is fairly common in commercially dried, light-colored fruits. Sulfuring can be done at home using a sulfur solution or by exposing fruit to fumes from burning sulfur. Sulfur solutions are now banned as a preservative for fresh produce sold in supermarkets or at salad bars in restaurants. Drying fruits at home allows you to eliminate the use of sulfuring agents. Use an alternate method to prevent darkening of fruits, such as blanching in steam or syrup (see table 1), or dipping in an anti-darkening treatment (see table 2). Sulfuring agents are not used in canning or freezing processes.

Table 1. Steam and Syrup Blanching

Steam Blanching	
Steam blanching helps retain color and slow oxidation. However, the flavor and texture of the fruit is changed.	Place several inches of water in a large saucepot with a tight-fitting lid. Heat to boiling. Place fruit not more than 2 inches deep in a steamer pan or wire basket over boiling water. Cover tightly with lid and begin timing immediately. See below for blanching times. Check for even blanching halfway through the blanching time. Some fruit may need to be stirred. When done, remove excess moisture using paper towels and place on dryer trays.
Syrup Blanching	
Blanching fruit in syrup helps it retain color fairly well during drying and storage. The resulting product is similar to candied fruit. Fruits that can be syrup blanched include apples, apricots, figs, nectarines, peaches, pears, plums, and prunes.	Combine 1 cup sugar, 1 cup light corn syrup, and 2 cups water in a saucepot. Bring to a boil. Add 1 pound of prepared fruit and simmer 10 minutes. Remove from heat and let fruit stand in hot syrup for 30 minutes. Lift fruit out of syrup, rinse lightly in cold water, drain on paper toweling, and place on dryer trays.

Option 1	Use a commercial ascorbic acid mixture, available in grocery and drug stores. Prepare according to package instructions. Drain fruit before proceeding.
Option 2	Drop fruit in a solution of 1 teaspoon (or 3000 milligrams) ascorbic acid (Vitamin C) and 1 gallon water. Vitamin C tablets also may be used. Drain fruit before proceeding.
Option 3	Drop fruit into a citric acid or lemon juice solution made from 1 teaspoon of food-grade citric acid or 3/4 cup lemon juice and 1 gallon water. Drain fruit before proceeding.

References

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Information Compiled by Marcia Jess, Extension Educator, Family and Consumer Sciences.

Reviewed by Christine Kendle, Extension Educator, Family and Consumer Sciences; Daniel Remley, Extension Educator, Family and Consumer Sciences; and Katharine Shumaker, Extension Educator, Family and Consumer Sciences.

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Keith L. Smith, Ph.D., Associate Vice President for Agricultural Administration and Director, Ohio State University Extension
 TDD No. 800-589-8292 (Ohio only) or 614-292-1868