

Preparedness Hints

Butters, Jams, Jellies and Marmalades



Sweet spreads are a class of foods with many textures, flavors, and colors. They all consist of fruits preserved mostly by means of sugar and they are thickened or jellied to some extent. Fruit jelly is a semi-solid mixture of fruit juice and sugar that is clear and firm enough to hold its shape. Other spreads are made from crushed or ground fruit.

Jam also will hold its shape, but it is less firm than jelly. Jam is made from crushed or chopped fruits and sugar. Jams made from a mixture of fruits are usually called conserves, especially when they include citrus fruits, nuts, raisins, or coconut. Preserves are made of small, whole fruits or uniform-size pieces of fruits in a clear, thick, slightly jellied syrup. Marmalades are soft fruit jellies with small pieces of fruit or citrus peel evenly suspended in a transparent jelly. Fruit butters are made from fruit pulp cooked with sugar until thickened to a spreadable consistency.

Ingredients

For proper texture, jellied fruit products require the correct combination of fruit, pectin, acid and sugar. The fruit gives each spread its unique flavor and color. It also supplies the water to dissolve the rest of the necessary ingredients and furnishes some or all of the pectin and acid. Good quality, flavorful fruits make the best jellied products.

Pectins are substances in fruits that form a gel if they are in the right combination with acid and sugar. All fruits contain some pectin. Apples, crab apples, gooseberries, and some plums and grapes usually contain enough natural pectin to form a gel. Other fruits, such as strawberries, cherries, and blueberries, contain little pectin. They must be combined with other fruits high in pectin or with commercial pectin products to obtain gels. Because fully ripened fruit has less pectin, one-fourth of the fruit used in making jellies without added pectin should be under ripe.

Caution: Commercially frozen and canned juices may be low in natural pectins and make soft textured spreads.

The proper level of acidity is critical to gel formation. If there is too little acid, the gel will never set, if there is too much acid, the gel will lose liquid (weep). For fruits low in acid, add lemon juice or other acid ingredients as directed. Commercial pectin products contain acids which help to ensure gelling.

Sugar serves as a preserving agent, contributes flavor, and aids in gelling. Cane and beet sugar are the usual sources of sugar for jelly or jam. Corn syrup and honey may be used to replace part of the sugar in recipes, but too much will mask the fruit flavor and alter the gel structure. Use tested recipes for replacing sugar with honey and corn syrup. Do not try to reduce the amount of sugar in traditional recipes. Too little sugar prevents gelling and may allow yeasts and molds to grow.

Jam and Jellies with Reduced Sugar

Jellies and jams that contain modified pectin, gelatin or gums may be made with non-caloric sweeteners. Jams with less sugar than usual also may be made with concentrated fruit pulp, which contains less liquid and less sugar.

Two types of modified pectin are available for home use. One gels with one-third less sugar. The other is a low-methoxyl pectin which requires a source of calcium for gelling. To prevent spoilage, jars of these products must be processed longer in a boiling-water canner.

Recipes and processing times provided with each modified pectin product must be followed carefully. The proportions of acids and fruits should not be altered, as spoilage may result.

Acceptably gelled refrigerator fruit spreads also may be made with gelatin and sugar substitutes. Such products spoil at room temperature, must be refrigerated, and should be eaten within 1 month.

Preventing Spoilage

Even though sugar helps preserve jellies and jams, molds can grow on the surface of these products. Research now indicates that the mold which people usually scrape off the surface of jellies may not be as harmless as it seems. Mycotoxins have been found in some jars of jelly having surface mold growth. Mycotoxins are known to cause cancer in animals; their effects on humans are still being researched.

Because of possible mold contamination, paraffin or wax seals are no longer recommended for any sweet spread, including jellies. To prevent growth of molds and loss of good flavor or color, fill products hot into sterile Mason jars, leaving 1/4-inch head space, seal with self-sealing lids, and process 5 minutes in a boiling-water canner. Correct process time at higher elevations by adding 1 additional minute per 1,000 ft above sea level. If unsterile jars are used, the filled jars should be processed 10 minutes. Use of

sterile jars is preferred especially when fruits are low in pectin, since the added 5-minute process time may cause weak gels.

Methods of Making Jams and Jellies

There are two basic methods of making jams and jellies. The standard method, which does not require added pectin, works best with fruits naturally high in pectin. The other method, which requires the use of commercial liquid or powdered pectin, is much quicker. The gelling ability of various pectins differs. To make uniformly gelled products, be sure to add the quantities of commercial pectins to specific fruits as instructed on each package. Overcooking may break down pectin and prevent proper gelling. When using either method, make one batch at a time, according to the recipe. Increasing the quantities often results in soft gels. Stir constantly while cooking to prevent burning. Recipes are developed for specific jar sizes. If jellies are filled into larger jars, excessively soft products may result.

Personal and Family Preparedness

Vision: Each family uses principles of provident living in their daily lives.

Mission: "Increase awareness and practice of home production and storage."