

Home Preservation of Florida Grapes

Taken from the brochure
"Home Preservation of Florida Grapes"

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Grapes have returned to Florida and are definitely here to stay. In the 1920's, several thousand acres of grapes had become established in central Florida when a ruinous disease destroyed the plantings, delivering the devastating message that grapes do not grow in Florida. This fact was essentially true for the traditional grape types (*Vitis vinifera* and *Vitis labrusca*) of Europe, California, and the northeastern United States. Fortunately, the traditional muscadine grape of the Southland - *Vitis rotundifolia*, often known as "Scuppernong" - is relatively resistant to disease. The breeding efforts at the Institute of Food and Agricultural Sciences, Agricultural Research Center, Leesburg, and in other southern states, have resulted in a number of bunch and muscadine grape varieties that are well-suited to Florida. (See Fruit Crops Fact Sheets, "The Muscadine Grape," and "The Bunch Grape.") These varieties are a big improvement over the older plantings in cultivation characteristics and eating quality. If you have the yard space and the inclination, you are invited to try your hand at growing these varieties - from several vines to a modest vineyard. Many Floridians are doing just that as the increasing membership in the Florida Grape Growers Association (FGGA) testifies. If you would rather leave the growing to others, there are a number of pick-your-own operations which offer an abundant supply and varied source of grapes. While introducing you to Florida grapes, these also will provide you with ample raw material for processed grape products. If the present efforts of the FGGA are successful, you will soon be able to purchase these grapes in local food stores. Because of the number of Florida grape types, it is necessary to distinguish the main types from each other. Fortunately, they complement each other in eating quality and ripening season. Bunch grapes generally are smaller than muscadines and grow in clusters, resembling the grapes with which most consumers are familiar. Muscadines, native to Florida, have smaller leaves and the fruit is borne singly or in small clusters. They range in color from deep-blue (black) to bronze. Properly prepared muscadine juice has a refreshing taste and an aroma equaled by few other fruit juices. The home canner will find other products prepared from muscadines, such as sauces, jams and jellies, are deliciously different, too.

Harvesting

Since the bunch type ripens about a month earlier than muscadines in Florida, the total grape season runs from late June through September. Muscadines mature in late August through September while bunch grapes are harvested from early July through August. Food quality grapes should appear fresh, ripe and plump. Grape flavor is a combination of sweetness, tartness, aroma, and astringency. As the fruit matures, sweetness and color increase while sourness decreases. A warm, sunny season will give grapes higher sugar and lower astringency than a cool, cloudy season. The fruit of some grape varieties have berries that drop before harvest. Of this type, some may have a moist stem scar which favors spoilage. Spoilage will be reduced by selecting varieties that do not shatter from the stem. The majority of muscadines have tougher skins or hulls than bunch grapes and withstand jarring or dropping. Grapes that ripen evenly are usually harvested by shaking the vines and allowing the fruit to fall into canvass or burlap sacks spread under the vine. If the muscadines are for shipping or if bunch grapes are being harvested, hand-picking is the preferred method since the fruit must stay in good condition many days after harvest.

Storing

After harvest, grapes deteriorate in flavor and aroma relatively rapidly and should be consumed or processed as soon as possible. Grapes can be stored up to a week if you place them as soon as possible in a cold refrigerator. The longer they are held, the greater the flavor loss and the lower the quality of the finished product. Wilting of stem and berries is slowed in a high humidity environment but, in time, even refrigeration supports growth of yeast and molds, so make your grape preservation plans ahead of the harvest.

Sanitation

Sanitation is an important factor in preparing high quality, uncontaminated grape products. The fruit should be carefully washed and the processing equipment and work area thoroughly cleaned.

Deseeding

Stems and seeds usually are removed depending on the specific recipe. Although deseeding is best, it is a slow job, accomplished by cutting the grapes in half and picking out the seeds. An alternate method when a large volume of grapes is to be used in a recipe requiring pulp and/or hulls, is to push the grapes through a sieve. However, this method may be unsatisfactory with unripe fruit or varieties with hard-to-remove seeds. If so, the pulp may be boiled for five minutes and then pushed through the sieve.

Equipment

If this is your first canning experience, information available from your county extension office can help you. The canning books listed at the end of this publication also are excellent references and list necessary equipment such as long-handled spoons, measuring utensils, cheesecloth, thermometer and timer. Home-canning of less than five gallons of juice is easily done using the boiling water bath method. This method is recommended for canning grapes and all other acid foods which can be safely processed at boiling temperature, see Food Science Fact Sheet, "Safety in Home Canning". Boiling water bath canners are available commercially, but any kettle large enough for the canning jars to be covered by one to two inches of boiling water will do. The canner should have a lid so that a rolling boil may be maintained throughout processing. The canning jars must be held off the bottom for proper heat penetration and they must be divided to prevent bumping and cracking during boiling. A metal basket fitting into the kettle will keep the jars off the bottom and separate them from each other. Use only standard-type canning jars with the manufacturer's imprinted name. Do not use commercial jars in which one would buy peanut butter, mayonnaise, instant coffee, baby food or the like. Most of these jars are designed for a single use only and are made of thin glass for high-speed packaging machines. Choose a jar size that fits in well with your meal planning: pint and quart-size jars are most popular. Wide mouth jars are best for packing whole grapes or canning jellies, jams, sauces and marmalades. Narrow-mouth jars should be used for canning grape juice. Check canning jars for defects and discard any chipped or cracked jars. A two-piece-self-seal lid (with a metal disk and a metal ring) is advantageous because it seals itself as the jar cools and indicates a proper seal by its concave surface. The ring should not be tightened after processing and during cooling, or the seal may break.

Processing Grapes

Muscadine juice is a pleasant beverage with dark grapes giving a deep, red juice and bronze grapes producing a pale, gold juice.

Crushing and Pressing

Crushing the fruit is the first step in preparing grape juice. A potato masher or other blunt instrument can be used to smash the grapes until a small amount of juice collects in the crushing vessel. Mechanical crushers are sometimes included as a feature on fruit presses. Many methods of pressing grapes are possible, depending on the type of equipment available. Crushers, Rack and Frame or Basket presses are efficient tools for those who produce large volumes of juice. They are available at wine equipment supply stores. A type of Rack and Frame press can be built with the instructions contained in Special Report No.8 issued by the New York State Agricultural Experiment Station, Geneva, N.Y. (July 1972). When you lack a press and are pressing small quantities of grapes, the simplest, manual pressing method is to place the crushed grapes in strong sack cloth of medium mesh and twist the ends in opposite directions with a stick. An alternate procedure is to place the grapes in a medium-meshed cloth and mash them with a heavy, blunt instrument. Have ready a container large enough to catch the juice as it flows from the cloth. You can increase and make juice extraction easier by warming the grapes to 140°F, while stirring, before pressing.

Treating Juice Supersaturated with Tartrates

In the presence of the mineral, potassium, naturally-occurring tartaric acid forms bitartrates which will settle out as crystals when the freshly pressed juice is stored. To prevent these crystals in the final product, allow the pressed juice to stand at the coldest possible refrigerator temperature (near 32°F) for two to three days. Some of the tartaric acid as tartrate crystals, which provides acid taste, will settle out along with other impurities. Adjustments in flavor of the juice also are made at this point: the longer the freshly pressed juice is refrigerated, the less tart it becomes and the sweeter it will taste. Storage in the refrigerator for longer than three days may yield a slightly fermented juice caused by inherent wild yeasts. Tartrate crystals will be seen as tiny, gold-brown particles on the sides and bottom of the juice container and should not be disturbed. Carefully pour the clear juice off its sediment into a clean container. Sugar may be added to taste. Stir the juice thoroughly to dissolve the sugar.

Canning Juice

Before hot juice is poured into canning jars, they must be tempered. This is done by pouring boiling water inside and out or by running the jars through an automatic dishwasher with a very hot rinse cycle. Heat the pressed and de-tartrated juice to simmering (185-205°F), stirring constantly. Pour the juice into the clean, hot jars, leaving approximately 1/4 inch of headspace. Tighten lids and use tongs to immediately lower jars into a bath of simmering (NOT boiling) water. The duration of this heat treatment should be 5 minutes for pint jars and 10 minutes for quart jars. Heating too long will give a cooked off-flavor juice and heating too short a time will not kill organisms associated with spoilage. After heat processing, promptly remove the jars from the canner, invert and place on cloths or wire racks to cool. The jars should be kept a few inches apart to aid cooling and out of drafts to prevent breakage. Remove the metal ring when juice is entirely cool. If the ring sticks, cover with a hot, damp cloth for a minute or two to loosen. Test the seal by tipping the jar slightly and observing for leakage or bubbles rising from the lid.

Canning Whole Grapes

Whole grapes for canning should be firm, washed and free of seeds. Pack into jars, cover with medium-heavy syrup or juice (*Five and one-half cups of medium-heavy syrup is prepared by dissolving three cups sugar in four cups water. In the interest of reducing calories you may wish to use a lighter syrup or grape juice.*) and shake down. Exhaust the container by placing it in boiling water for 30 minutes, adding syrup if necessary. Seal the jars and heat-process pint jars for 10 minutes and quarts for 12 minutes in a boiling water bath at 212°F.

Grape Sauce

Grape sauces are a delicious and colorful topping on cheesecake, ice cream or whatever your imagination and taste buds allow. Wash the fruit and separate skin and pulp. Cook the hulls until tender with one cup water to three cups hulls. Heat the pulp and push through a sieve to remove seeds. Combine hulls and pulp and add one cup sugar to six cups pulp. Bring to a boil and cook for five minutes. Pack into clean, hot jars and seal. Process pint jars for 5 minutes and quart jars for 8 minutes in a boiling water bath at 212°F.

Grape Freezing

If fresh grapes are to be frozen for later use, they should be washed and the stems removed. Fill a container with fruit and pour in medium-heavy syrup* to cover, leaving enough headspace for expansion. Press the grapes down under the syrup and hold in place with a crumpled piece of waxed paper, foil or saran film. Close and seal container while in the refrigerator, at room temperature or in a pan of cold water. The fruit should be served immediately after thawing while a few ice crystals still remain.

Commercial Publications.

Good detailed cookbooks or equipment manufacturer's booklets may discuss grape products, although it's unlikely that Muscadines will be mentioned; several good ones are:

Putting Food By,
The Stephen Greene Press,
Brattleboro, VT 05301.

Better Homes and
Gardens New Cook Book,
8th Edition,
Better Homes and Gardens,
Brooks, NY, N.Y.

Ball Blue Book,
30th Edition,
Ball Corporation
345 S. High Street,
Muncie, IN 47302.

Kerr Home Canning Book,
Kerr Glass Manufacturing Corp.,
Sand Springs, OK 74063.

Home Canning: The Last Word;
Farm Journal, Inc., Philadelphia. PA.

Bulletins

A large number of states with grape industries have published information on grape production and preservation (Georgia and North Carolina are particularly active with Muscadines). If you travel or have friends in other states you may be able to obtain interesting publications from various Cooperative State Extension Services. The Florida Cooperative Extension Service, University of Florida, Gainesville, FL 32611 or your County Extension Office can supply you with the following publications.

Home Wine Making in Florida:

Food Science Fact Sheet FS-3

Safety in HomeCanning:

Food Science Fact Sheet FS-6

The Muscadine Grape:

Fruit Crops Fact Sheet FC-16

The Bunch Grape:

Fruit Crops Fact Sheet FC-17

Using Florida Fruits & Grapes:

Extension Home Economics 127

The Federal Government, Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 has a number of bulletins on home food preservation appropriate to grape products. These are:

Home Canning of Fruits & Vegetables

Home & Garden Bulletin No.8

Home Freezing of Fruits & Vegetables

Home & Garden Bulletin No.10

Drying Food at Home

Home & Garden Bulletin No.217

How to Make Jams, Jellies and Preserves at Home

Home & Garden Bulletin No.56

With these sources and your own initiative and imagination you should be able to add Florida grapes to your list of favorite foods.

Grape Spreads

Grape jelly, jams, preserves and butter provide excellent ways to utilize ripe to unripe grapes and are fun to make. The various spreads differ primarily in consistency. Most of them contain the four essential ingredients: fruit, pectin, acid and sugar. The grapes supply the spread with color and flavor. The best flavored grape spreads are made with a mixture of ripe and slightly under-ripe grapes. An overly-ripe fruit will give thin, sweet jelly and commercial pectin must be added. Pectin is a natural component of fruit and causes the jelly to gel. The presence of pectin varies with the degree of ripeness - unripe grapes contain more pectin than over-ripe grapes. Many recipes call for the addition of pectin. Two types are commercially available: liquid and powdered. The two kinds cannot be used interchangeably, so be sure to use the type the recipe calls for. Acid enhances flavor and aids gel formation. Unripe fruit usually contains more acid and will result in a tart spread. Sugar helps preserve the mixture, contributes to flavor and helps set the gel. Granulated, white cane or beet sugar may be used.

Jelly

In making jellies, the fruit is used in a form called "jelly stock," which is prepared as follows: Wash the grapes, crush them to provide a small amount of juice in a crushing vessel. Add 1/2 cup water for each six pounds of fruit and bring slowly to a simmer in a covered kettle. Simmer for 10 minutes. Remove from the heat and allow to stand for 10 minutes. Meanwhile, line a large container with two to three layers of damp cheesecloth. Place the collander over a large bowl, pour the cooled grapes into the collander and allow the juice to drip out. Too much pressure on the grapes will release unpleasant flavors from the seeds and hulls of some varieties, so, do not push the grapes through the collander. Allow the juice to stand refrigerated overnight, then warm to room temperature and strain it through a flannel jelly bag. Do not add sugar to the jelly stock and use it according to the specific recipe being followed. Jelly stock may be canned or frozen for later

use.

Making jelly with ripe to unripe fruit:

4 cups jelly stock 3 cups sugar Heat jelly stock to boiling, add sugar and stir until dissolved. Boil rapidly until temperature reaches 223°F. This is the "Jelly point." Skim and pour into hot, clean, half-pint jars, leaving 1/4 inch headspace. Seal with a two-piece-self-seal lid. Invert hot jar for at least 30 seconds to destroy spoilage microbes on the lid.

Making jelly with very ripe fruit:

4 cups jelly stock (from ripe grapes) 7 cups sugar 1/2 bottle liquid pectin Measure juice into kettle and stir in sugar. Place on high heat and, stirring constantly, bring quickly to a full, rolling boil that cannot be stirred down. Add pectin and heat again to a full, rolling boil. Boil for one minute. Remove from heat and quickly skim off foam. Pour at once into hot glasses and seal.

Jams

Jams are made from crushed or ground fruit and have a softer consistency than jellies. However, the fruit should again be ripe to under-ripe unless commercial pectin is added. Use the following: 2 quarts stemmed grapes, 6 cups sugar. Separate pulp and skins. Chop skins in a food blender, if desired, and cook skins gently for 15 to 20 minutes, adding enough water to prevent sticking to the pan. Cook pulp without water until soft and press through a collander to remove seeds. Bring pulp, skins and sugar to a boil, stirring constantly. Cook for about 10 minutes at 220°F until mixture has thickened somewhat. Pour the boiling hot mixture into hot jars, leaving 1/4 inch headspace. Seal and process half-pint jars in a boiling water bath for 15 minutes.

Storing Spreads

Store jams and jellies in a cool, dry place. The shorter the storage time, the better the eating quality of the finished product.

Raisins

As commercial raisins become exorbitantly expensive, consider drying Florida grapes for a source of raisin-like fruit bits. First of all, be prepared and patient for deseeding which is advantageous in that it will speed the drying process by opening the skin. A drying procedure involves prolonged, mild heat to extract moisture and moving air to carry the released water away (see U.S.D.A. Bulletin 217). Outdoor drying conditions are ideal with continued sunshine, high temperatures and low humidity. However, grapes are among the more difficult fruits to dry and the humid, Florida summers will not hasten the process. The grapes should be cleaned, deseeded and spread on wire racks to dry in the sun. If you live near a busy highway or in a smoggy, airpolluted city, use your oven instead of the sun to dry the grapes. Keep the oven racks at least six inches away from the heat source and, when using an electric oven. Crack the door open about 2 to 3 inches. Start the oven at its lowest temperature setting (120°-140°F) and place a single layer of grapes on a wire rack or cookie sheet. Gradually increase the oven temperature to 145°F and hold there until nearly dry. The fruit is dry enough when it feels leathery and moisture cannot be squeezed from it (raisin-like texture). Since grapes taken directly from the heat source will seem softer and more pliable than they really are, cool a test handful a few minutes before deciding they are done. During the last hour of oven drying, reduce the temperature to 135°F if there seems to be danger of scorching. In an oven, the total drying time should be less than eight hours while sun drying may take as long as one week. Cool and store the finished product in a dry place. The fruit bits may be added to cookie, cake, quick bread and pie recipes or consumed as they are. Further

research into drying Florida agricultural products will undoubtedly generate information on other drying procedures and add to the versatility and utility of dried Florida grape products.

Additional Information

The Florida Grape Growers Association, consists of both commercial and backyard growers. A number are in the pick-your-own or retail business and represent a good source of Florida grapes and other fruits. Members are active throughout the state and conduct several meetings annually involving grape field days in cooperation with IFAS Agricultural Research Centers. Incidentally, attendance at these meetings and visits to nearby vineyards can be a valuable introduction to Florida grapes.

Equipment.

Your kitchen is the place to get started simply with small quantities of grapes. As you deal with large amounts the wine hobby section of department stores, wine hobby shops, available in the Yellow Pages, and mail order firms, are a good source of grape crushers, presses, strainers, etc.

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