

# ALL ABOUT PECTIN

## For Jams, Jellies and Preserves

Pectin is a complex, non-nutritive polysaccharide extracted from apples or citrus fruit. It helps form a gel when combined with the correct amount of acid and sugar. Fruits have varying amounts of pectin. The chart below groups fruits according to the amount of natural pectin and acid found inside the fruit.

### Pectin and Acid Content of Common Fruits Used to Make Jelly

**Group I:** If not overripe, has enough natural pectin and acid for gel formation with only added sugar

**Group II:** Low in natural acid or pectin, and may need addition of either acid or pectin

**Group III:** Always needs added acid, pectin or both

Group I	Group II	Group III
Apples, sour	Apples, ripe	Apricots
Blackberries, sour	Blackberries, ripe	Blueberries
Crabapples	Cherries, sour	Figs
Cranberries	Chokecherries	Grapes (Western Concord)
Currants	Elderberries	Guavas
Gooseberries	Grapefruit	Peaches
Grapes (Eastern Concord)	Grape Juice, bottled (Eastern Concord)	Pears
Loganberries	Grapes (California)	Plums (Italian)
Plums (not Italian)	Loquats	Raspberries
Quinces	Oranges	Strawberries

Traditional commercial pectins (i.e. SureJell®, MCP®, Ball®, Certo®, Mrs. Wages Home-Jell® etc.) are made from apples or citrus fruit and are available in both powdered and liquid forms. These high-methoxyl pectins require a sugar concentration above 55 percent to gel.

Some commercial pectins are “low-methoxyl” which means the gelling power is activated by calcium, not by sugar content. SureJell® Pectin for Lower or No Sugar, Mrs. Wages Lite Home-Jell®, and Pomona’s Universal Pectin are examples of low-methoxyl pectins. Because they gel more slowly, the jams tend to have more fruit float than jams made from faster gelling, high-methoxyl pectins.



Pomona’s Universal Pectin contains a packet of pectin plus a separate packet of food grade monocalcium phosphate (the calcium needed to gel). Each one-ounce box of Pomona’s will make 2-4 jam or jelly recipes. Pomona pectin does not contain sugar, just powdered pectin.

SureJell’s low sugar pectin (pink box) and Mrs. Wages Lite pectin (<http://www.mrs wages.com>) make one recipe per box and the calcium is incorporated into the pectin.

Recipes in cookbooks and other sources calling for one box of powdered pectin generally refer to the traditional 1.75 ounce boxes of full-sugar pectins. When using recipes found inside the pectin boxes, follow those directions *exactly*.

**NOTE #1:** Uncooked or “freezer jams” are commonly made with commercial pectin.

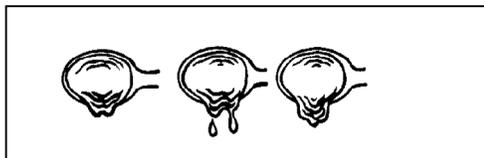
**NOTE #2:** Traditional, cooked jam and jellies have a sweet taste and a distinctive “gelled” texture. Consider the kind of taste and texture you prefer before making quantities of low or no sugar added jam.

## TESTING FRUIT JUICE FOR PECTIN

Here are two reliable ways to test fruit juice for natural pectin:

**Cooking test:** Measure 1/3 cup juice and 1/4 cup sugar into a small saucepan. Heat slowly, stirring constantly until all the sugar is dissolved. Bring the mixture to a boil, and boil rapidly until it gives the spoon or sheet test\*\* for doneness. Pour the jelly into a clean, hot jelly glass or sauce dish, and cool. If the cooled mixture gels, your fruit juice contains enough natural pectin. If not, use a recipe calling for added pectin.

\*\*Sheet Test:



Dip a cool metal spoon into the boiling jelly; raise it high above the pot; turn the spoon so the syrup runs off the side. If the syrup forms 2 drops that blend together and fall off the spoon as one “sheet” the jelly should be done.

**Alcohol test:** Add 1 tablespoon juice to 1 tablespoon of 70% rubbing alcohol. To mix - stir or shake a closed container slightly so all the juice comes in contact with the alcohol. (DO NOT TASTE!) Fruit high in pectin will form a solid jelly-like mass you can pick up with a fork. If the juice shows little clumping, there is not enough pectin for jelly. Discard test results.

## HOMEMADE LIQUID APPLE PECTIN

Making pectin at home is a simple process, much like making jelly. The pectin can be frozen or processed in 1 or 2-cup portions which is the likely amount needed for a recipe.

### Ingredients:

- Green apples (not Granny Smiths, but tart under-ripe green apples,) washed, and cut into eighths - do not core or peel.
- 2 cups water for every pound of apples

### Directions:

- Place cut up apples and water in large stock pot or soup kettle
- Cover and bring to a boil
- Reduce heat and simmer 20 minutes or until apples are tender
- Remove from heat and allow to cool slightly
- Pour pulp and all juice through a jelly bag, or line a large bowl with dampened cheesecloth, pour in apples and juice, gather corners of cheesecloth and tie in a knot. Suspend and allow to drip into a bowl or pot overnight.

### Next day:

- Measure apple juice and pour into a large saucepan.
- Bring to a boil over high heat and continue cooking until juice is reduced by half.
- Pectin can be processed in a boiling water canner like any jelly, refrigerated (use within 4 days) or poured into containers and frozen for as long as 6 months.

**Note:** Adding homemade pectin stock to fruits which are low in natural pectin will not affect the flavor of the original fruit and will help bring the fruit mixture to a "soft-set" without excessive cooking.