

Cloudberries

by Leslie Shallcross

FNH-00108

The small, rosy peach-colored *Rubus chamaemorus* L. is known in Alaska by several common names — low-bush salmonberry, aqpiq, baked apple berry and cloudberry. However, cloudberry is the name most often used throughout North America and in international botanical references. This berry grows almost exclusively in circumpolar regions and is prized in cultures and cuisines in Scandinavia, Russia, Canada and throughout Alaska.

Though related botanically to red raspberry (*Rubus idaeus* L.) and salmonberry (*Rubus spectabilis*), the cloudberry plant most closely resembles another highly sought arctic berry, nagoonberry (*Rubus arcticus* L.). In contrast to the prickly, tall canes of raspberries and salmonberries, cloudberries grow on very slender stems not more than two to eight inches high in boggy, open tundra and forest. Each stem has two to three circular leaves with rounded lobes and toothed edges and a single white, five-petaled flower. The berry is composed of six to eight drupelets, forming a small roundish berry. Unripe cloudberries are hard, sour and red; as the berries ripen, they soften, sweeten and lighten to a rosy peach or amber hue.



Nutrition

Cloudberries are an excellent source of vitamin C, containing more than twice the amount per serving than a glass of orange juice and more than any other Alaska berry. They also provide a small amount of vitamin A. Historical references document early use of cloudberries to prevent and treat scurvy as well as the medicinal use of the roots and leaves of the plant. Although nutrient values reported for cloudberries vary depending upon the source and perhaps upon the exact location and growing conditions of the berries, all references indicate that they are a rare, rich source of vitamin C in the Arctic. Table 1 provides a comparison of the vitamin C and A levels with levels found in commercial blueberries.

Table 1. Vitamin A and C levels for commercial blueberries and wild cloudberries

Berry 100 grams or or approx. $\frac{2}{3}$ cup	Vitamin C (mg)	Vitamin A (IU)	Vitamin E
Blueberries	9.7	54	
Cloudberries	158	210	4

In addition to vitamin C, vitamin A and vitamin E, cloudberryes contain a number of other antioxidant plant compounds, including carotenoids and ellagitanins. Antioxidants are a group of bioactive compounds that prevent cellular damage from free radicals, which are highly charged oxygen- or nitrogen-containing compounds. Research has found that free radicals contribute to aging by damaging healthy cells — berry compounds such as ellagitanins seem to protect against premature aging and cancer at least partially because of the antioxidant effects.

Since they ripen in late July through early August, the best time to gather cloudberryes is mid- to late summer, depending upon the region. Ripe berryes are very soft and amber-colored with a pink blush; they come off the stem very easily. Place picked berryes in shallow containers so that they are not damaged.

Mature cloudberryes are very juicy and can be eaten raw or made into jams, jellies and syrups. Recipes from Scandinavia use the berryes to make a “cloudberry cream” by mixing berryes or prepared jam with sweetened whipped cream. They can also be used to make a western Alaska treat, “agutak.” Jam can be spread on cake layers or used in thumbprint cookies. The cloudberry flavor combines well with vanilla or citrus. Seeds may toughen after cooking, so some recipes suggest removing seeds prior to use by pressing softened berryes through a food mill or sieve.

Storage and Preservation

How to Clean and Store

With their naturally high benzoic acid content, cloudberryes may keep without spoiling or fermenting for longer than expected. However, for best flavor and keeping quality, pick cloudberryes at their peak ripeness and either eat or preserve the same day that they are picked.

- **To sterilize canning jars**, boil in water for 5 minutes.
- **To prepare two-piece lids** (rings and tops), wash, rinse and keep in hot water until ready to use.
- **If less sugar is desired** in recipes calling for pectin, be sure to use no-sugar-needed pectin and follow the instructions on the box.
- **To use a boiling water canner**, see instructions on page 3.

Handle the soft cloudberryes gently and as little as possible. Unless they are exceptionally dusty, do not wash. Pick through the berryes to remove any leaves or debris. Refrigerate cleaned berryes in a shallow container.

How to Freeze

Spread cloudberryes in a single layer on a cookie sheet and place in the freezer. When frozen, transfer berryes to freezer bags or containers. Properly frozen cloudberryes will last up to two years.

How to Dry

Drying is not recommended for cloudberryes as they are too seedy and slow to dry. Cloudberry puree may be used to make fruit leather.

How to Extract Juice

Combine 4 cups clean cloudberryes with 1 cup water. Bring to a simmer, cover and simmer for 10 minutes. Gently crush the simmering berryes to release the juice. To separate the juice from the berryes, pour the hot mixture into a jelly bag or use layers of cheesecloth placed in a colander. Let the juice drip into a bowl. For clear juice, do not twist or press the berryes while they drain. For long-term storage, the juice should be frozen or canned.
Yield: 2 cups

Hot pack for juice

Sterilize canning jars. Heat juice, stirring occasionally, until it begins to boil. Pour into hot jars, leaving ¼ inch headspace. Wipe jar rims. Adjust lids. Process in a boiling water canner.

<i>Half pints, pints or quarts</i>	5 minutes
<i>Half gallons</i>	10 minutes

How to Prepare Puree

Cooked method: Add 1 cup water to 4 cups clean cloudberryes. Cook until berryes are soft. Press berryes through a food mill or sieve. Juice can be retained with the berryes. Discard skins and seeds. *Yield: 2 cups*

Canning: Reheat prepared puree to boiling. If desired, add sugar to taste. If sugar is added, boil mixture until it dissolves. Pack puree into hot jars, leaving ¼ inch headspace. Remove air bubbles. Wipe jar rims. Adjust prepared two-piece lids. Process in a boiling water canner for 15 minutes. *Yield: 2 cups*

Freezing: Pack prepared puree into rigid containers leaving a ½ inch headspace to allow for expansion in freezing. Seal, label and place in the freezer.

Recipes

Cloudberry Freezer Jam

2 cups cloudberry juice
1 cup crushed cloudberrries
5¼ cups sugar
1 package powdered pectin (1¾ ounces)
¾ cup water

In a large bowl, mix the cloudberry juice with the crushed cloudberrries. Stir in the sugar and mix well. Set aside for 10 minutes or until the sugar is completely dissolved.

Combine the water and powdered pectin in small saucepan. Over high heat, bring mixture to a full rolling boil, stirring constantly. Continue boiling for 1 minute. Stir pectin/water mixture into the berry mixture. Stir constantly for 3 minutes.

Fill freezer containers leaving a ½ inch headspace. Cover the containers with tight lids and allow to stand at room temperature for 24 hours or until the jam is set. Store in freezer until ready to use. After opening, store jam in refrigerator for up to three weeks. *Yield:* 3 cups

Cloudberry Rhubarb Jam

1 cup cloudberrries, crushed (you may want to remove some of the seeds)
2 cups rhubarb, diced
3 cups sugar

Sterilize pint or half-pint canning jars and prepare lids. In a large saucepan, combine all ingredients and bring slowly to boiling, stirring occasionally until sugar dissolves. When sugar is dissolved, increase heat and cook rapidly to gelling point, 220° F. As the mixture thickens, stir frequently to prevent sticking.

Pour jam into hot jars, leaving ¼ inch headspace. Wipe jar rims and add prepared two-piece lids. Process 5 minutes in a boiling water canner. *Yield:* 3 cups

Cloudberry Jelly

4 cups cloudberry juice
1 package powdered pectin (1¾ ounces)
5½ cups sugar

Sterilize pint or half-pint canning jars and prepare lids. Measure sugar and set aside. Measure cloudberry juice into a large saucepan. Add pectin and stir until dissolved. Over high heat, bring the mixture to a full rolling boil that cannot be stirred down. Stir constantly.

Remove from heat and quickly skim off foam. Immediately pour jelly into hot canning jars leaving ¼ inch headspace. Wipe jar rims and add prepared two-piece lids. Process 5 minutes in a boiling water canner.

Yield: 6 cups

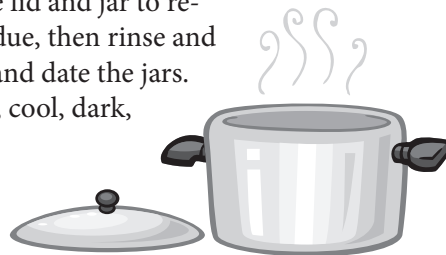
To process in a boiling water canner, follow these steps:

Fill the canner halfway with water. Preheat water to a low boil. Place filled jars, fitted with lids, into the canner on the rack. Add more boiling water, if needed, so the water level is at least 1 inch above jar tops. Turn heat to its highest position until water boils vigorously. When the water boils, set a timer for the recommended processing time indicated in the recipe. Cover with the canner lid and lower heat setting to maintain a gentle boil throughout the processing time. Add more boiling water, if needed, to keep the water level above the jars.

When the jars have been boiled for the recommended time, turn off the heat and remove the canner lid. Using a jar lifter, remove the jars and place them on a towel, leaving at least 1 inch of space between the jars during cooling.

After cooling jars for 12 to 24 hours, remove the screw bands and test seals. Press the middle of the lid with a finger. If the lid springs up when finger is released, the lid is unsealed. If a lid fails to seal on a jar, remove the lid and check the jar-sealing surface for tiny nicks. If necessary, change the jar, add a new, properly prepared lid and reprocess within 24 hours using the same processing time. Alternately, adjust headspace to 1½ inches and freeze, or store in the refrigerator and use within three days.

If lids are tightly sealed on cooled jars, remove screw bands, wash the lid and jar to remove food residue, then rinse and dry jars. Label and date the jars. Store in a clean, cool, dark, dry place.



Cloudberry Fruit Leather

2 cups cloudberry puree
2 tablespoons honey (to taste)

Prepare puree and combine with honey. Line a cookie sheet with microwaveable plastic wrap. Spread puree mixture evenly, about 1/8 to 1/4 inch thick, over the plastic, but do not push it completely to the sides. Leave a bit of plastic showing for easy removal.

Oven dry at 140°F for 10 to 18 hours. Leave oven door slightly open so moisture can escape. Test periodically for dryness. Fruit leather dries from the outside edge toward the center. Test for dryness by touching the center of the leather; no indentation should be evident. Continue drying until pliable and leatherlike.

Dehydrator: To ensure a quality product follow manufacturer's directions. Standard instructions follow, but they may need to be adjusted according to variations among dehydrators.

Lightly oil plastic leather tray or spread the puree on parchment paper cut to fit the dryer rack. Do not push the puree completely to the sides. Dry at 140°F for 6 to 8 hours until puree is evenly dry and leathery. While warm, peel fruit leather from plastic and roll up; allow to cool. Wrap rolled fruit leather in plastic. Store at room temperature up to one month. Freeze tightly-wrapped rolls for storage up to one year. *Yield:* 1 sheet

Cloudberry Syrup

1 cup cloudberry juice
1 teaspoon lemon juice
2 cups sugar

Combine all ingredients in a medium saucepan. Using a candy thermometer, heat mixture to 160°F; do not boil. The syrup is ready to use over waffles, pancakes, hot biscuits, ice cream and other desserts. The syrup will keep up to six months in the refrigerator.

For long-term storage: Sterilize pint or half-pint jars and prepare lids. Immediately pour syrup into hot canning jars, leaving 1/4 inch headspace. Wipe jar rims and add prepared two-piece lids. Process 5 minutes in a boiling water canner. *Yield:* 2 cups

Variation: For cloudberry-rhubarb syrup, use 3/4 cup cloudberry juice and 1/4 cup rhubarb juice to equal 1 cup juice.

UAF Cooperative Extension Service Resources

Jams and Jellies – Lesson 5, Food Preservation Series,
FNH-00562E

Canning Overview – Lesson 2, Food Preservation Series,
FHN-00562B

Collecting and Using Alaska's Wild Berries and Other
Wild Products (\$10), FNH-00120

Fruit Leather, FNH-00228

Canning Basics DVD (\$5), FNH-01280

Jams and Jellies DVD (\$5), FNH-01290

References

Alaska Wild Berry Guide and Cookbook. 1982. Anchorage: Alaska Northwest Publishing Company.

Holloway, P., R. Dinstel and R. Leiner. 2006. *Antioxidants in Alaska Wild Berries.* Georgeson Botanical Notes No. 27.

Traditional Food Guide: For Alaska Native Cancer Survivors. 2008. Anchorage: Alaska Native Tribal Health Consortium Cancer Program.

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Published by the University of Alaska Fairbanks Cooperative Extension Service in cooperation with the United States Department of Agriculture. The University of Alaska Fairbanks is an affirmative action/equal opportunity employer and educational institution.

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8-13/LS/8-14

New August 2013