

## Aronia Berries – What's Their Potential?

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**Aronia** (*Aronia melanocarpa* / *Photinia melanocarpa*), sometimes called [black chokeberry](#), is a deciduous shrub native to eastern North America, used by landscapers primarily for its clusters of creamy white flowers in late spring, and colorful flame-colored autumn foliage contrasting with dark berries. The thick bushes grow to 6 to 8 feet in height, and are sometimes used as a windbreak in border plantings. Aronia requires a damp, acid soil with sufficient rain during the growing season. The pea-sized, violet-black berries are harvested in autumn. Berries have a strong, stable and natural color, with a dry and sour strong flavor. For those interested in a dual-purpose plant for **edible landscaping**, the recent introduction "[Autumn Magic](#)" from the University of British Columbia was selected for large fruit size, superior fall color and overall form.

Aronia was well known to natives and early settlers, but has not been commercially cultivated in the U.S. since the turn of the century. However, in **Denmark, eastern Europe and Russia (especially Siberia)** the strongly colored, pungently flavored fruit is quite popular for juice and even wine production. Breeding programs there have produced fruiting clones that are highly productive, and amazingly uniform in berry size and quality. For the **best fruit production**, clones that have been selected for high yield should be chosen, rather than

those intended for landscaping. Plants from these breeding lines, for example "Nero" and "Viking," are available from several specialist nurseries such as [Raintree](#) and [One Green World](#).

### Culture & Commercial Production

Aronia is cold hardy (to about -20°F) and the late blooming period (late April to May in the Puget Sound region) avoids damage by spring frosts. Plants can tolerate wet soil, but not drought. Plants are vigorous, growing to 8' tall, and mature plants may have up to 40 canes/bush. In addition, numerous suckers are produced from the roots. In his [report](#) on aronia production, **Steven McKay** of Cornell suggests a planting distance of 2.5 to 3 ft (0.8–1.0 m) between plants, allowing plants to sucker and fill in the space like a hedgerow. Thinning of the older canes is recommended every few years. If bushes are not thinned, they grow too dense and the poor light exposure leads to reduced productivity. In the Pacific Northwest, the extremely vigorous plants will bear a small crop one year after rooted cuttings are planted.

Yields of up to 37 lbs (17kg) per bush with **22 lbs(10 kg) per bush average** from mature plantings are reported in Eastern Europe. Fruit **can be mechanically harvested** with equipment similar to that available for blueberries. In non-commercial plantings the fruit is often hand harvested by cutting the fruit clusters. Harvest is usually in late August to September, when the fruit are at 19 to 21° Brix (percent soluble solids).

The bushes we have on trial at Mount Vernon, planted in 1998, yielded nearly 27 pounds of clean berries per bush in 2001. The bushes were netted to protect the crop from bird damage, however this does not seem to be a major problem in commercial plantings. The plant is well adapted to many areas of North America, its original home, and appears to be little affected by either pests or disease, so it clearly has potential for use as an **alternative commercial fruit crop** that may be suited to organic growing.

### Market Potential

The commercial use of aronia is **mainly for juice**, either alone or blended with other fruit juices such as grape or apple. Other reported uses are for syrup, tea, soft spreads and food coloring. The main source for juice at present seems to be fruit grown in Europe, though the Cornell report mentions a small (unnamed) commercial grower in Oregon. Test plantings have also been established by the USDA's Plant Materials Program at 11 sites in North Dakota, South Dakota and Minnesota.

Interest in the **health benefits of aronia juice** is based on its very high levels of anthocyanins and flavonoids, five to ten times higher than cranberry juice, with beneficial nutrients such as antioxidants, polyphenols, minerals and vitamins, that may include compounds that specifically fight cancer and cardiac disease. **Dr. David Siegler** at the University of Illinois is presently engaged in research to evaluate the health potential of aronia. Other research by **Dr. Bernadine Strik** at Oregon's North Willamette Research Station involves testing of a number of aronia varieties to determine the ones that perform best in quality and production.

Fruit consultant **Lon Rombough** reports that in Russia, aronia and apple juices are combined and fermented to produce red wine. In Lithuania prize winning dessert wines have been made using aronia juice, alone or blended with other fruits. **Tom Plocher** at Minnesota has been experimenting with aronia as a blending agent to improve the color, tannin level and sugar of grape wines (aronia has measured up to 24 brix when fully ripe.) Plocher has been trying a European technique to graft aronia onto sorbus trunks to raise the fruiting area up higher for ease of picking. With fruit from the Mount Vernon trials, [Drew Zimmerman](#) of the Northwest Cider Society successfully used a blend of aronia and apple juice for a test production of hard (fermented) cider, and we look forward to results of his further trials.

### Home Preparation & Recipes

Not much general information is available on efficient juice extraction methods, but Plocher has used both steam extraction of juice and crushing as for grapes. He reports that the steam extracted juice (using a Finnish Meju Meja steam juice extractor) gave a much better product, with less "green" flavor and better color. He also noted that the juice is rather low in total acidity so for winemaking or jam making, it is necessary to add acid. To reduce the tannins he suggested treating the

juice with a gelatin fining material, such as is used in winemaking.

For home and kitchen uses, either steam extraction or the mash-and-let-drip method is effective. Freezing the berries first, before grinding or crushing, releases more juice. In Europe, it is reported, the juice is made into syrup and then mixed with sparkling water for a soda-pop-like beverage. Sugar may need to be added to the syrup to counteract the strong tannic flavor.

### **Aronia-Apple Juice**

(recipe courtesy Georgene Lee, WWFRF)

Steam Aronia berries to extract juice (Yield approximately 2 cups of juice per pound of berries). Mix half and half with apple juice, either commercial or home produced, and chill.