



Aronia Berry at Winding Creek Belmond, Iowa

About the Farm

Winding Creek started as a garden center and nursery providing customers with bedding plants, hanging baskets, and a wide assortment of vegetable seeds and plants. While that business is still a significant component of the farm, Larry and Nancy have since expanded to all things aronia. Winding Creek is billed as “your aronia connection” and offers a range of services. Consumers can purchase frozen berries off the farm, as well as plants in the spring, and even some aronia products including the Aro Juice drink that is so popular. Larry and his partners also do custom harvesting using the BEI blueberry harvester they purchased in 2013. In addition to the 1,700 bushes planted for production, Larry has a test plot with five different varieties of aronia growing to test which ones do best on his farm.

Larry and Nancy Turner established Winding Creek Garden Center just outside Belmond, Iowa, in 2002. As is true of any successful business, they are always looking for ways to keep their operation healthy and profitable. When they attended an aronia berry field day at Sawmill Hollow Organic Farm in Missouri Valley, Iowa, in 2008, Larry was intrigued by the profit potential and the health benefits of this plant. “These guys were talking about getting \$10-\$12 per pound and bushes producing 25 pounds each with no disease or pest issues. I was a little skeptical, but I could also do math,” Larry says. “Even if their

projections were half-right, there appeared to be an opportunity here.”

Aronia berry, formerly referred to as black chokeberry, is grown commercially in parts of Eastern Europe, especially Poland, and is an imported commodity to the United States. In Europe it is used as a dye and as a food product. Aronia is recognized as a superfruit because of the high level of antioxidants it produces, higher than other well-known fruits like blueberries, pomegranates, and acai berries. Extensive research has documented the health benefits of aronia berries

Some growers net their bushes to keep the birds from stealing too many berries.





Larry and Nancy Turner established Winding Creek Garden Center in 2002.

for blood pressure, inflammation, cholesterol, heart attack prevention, and muscle recovery. The fruit does have one negative quality in that when eaten fresh from the bush, the berries have an unpleasant astringent taste, making them best suited for value-added products such as juice, wine, salsa, baked products, and more.

Farm Management Practices

The first 600 aronia seedlings at Winding Creek were planted in the spring of 2009, with another 1,100 seedlings added in the fall. Spacing between rows was ten to twelve feet, with four feet between each plant. Larry used black plastic to inhibit weed growth and buried drip tape to provide plenty of moisture. After the

third year Larry removed the plastic and now uses a weed trimmer under the bushes and mows between rows.

“You’ve got to be able to water these bushes during establishment, and then you’ve got to keep the weeds down. It is so important,” Larry said. “I know a grower that put in over 2,500 plants the same year we did. This last fall (2013) we harvested right around 14,400 pounds and he picked less than 1,000 pounds. I attribute the difference to weed pressure.”

Growers typically plant seedlings by hand, although some growers have experimented with mechanical planters. As with any crop, site selection is important for healthy plants and consistent yields. Aronia berries do best in well-drained, deep loamy soil and do not do well in persistently wet soils.

Aronia berries are not known to be affected by any significant disease issues, but predation can be an issue. Larry’s bushes are browsed by deer and he knows of other growers who have reported problems with varnish bugs, a fly that can ruin fruit, and

Some of the more than 1,700 aronia bushes growing at Winding Creek





Japanese beetles. Larry also is aware of another grower whose crop was completely consumed by birds.

Most growers today grow either the Viking or Nero varieties, but other varieties are also available. Some are more ornamental—such as the Autumn Magic, which produces small berries—while others, such as Galicjanka, are thought to ripen in a narrower window, facilitating improved mechanical harvesting.

Harvest of a few berries typically starts in the third year and, in Iowa, the harvest tends to start in August. Larry hand-harvested in 2011 and 2012 and quickly discovered the need for a harvesting machine. When he began, eight pounds of berries per hour was about the maximum he could pick. Now, he’s able to pick 16-18 pounds an hour by hand if he really works at it. However, with the volumes of berries being produced, hand-harvesting is not really feasible. In 2013, Winding Creek harvested just over 14,000 pounds and used a mechanical blueberry harvester made by BEI. The blueberry harvester works well for aronia berries and saves much time and labor.

Marketing & Economics

Because aronia berries have an off-putting taste when eaten fresh, berries are usually processed in some way or frozen to reduce the astringent taste and maintain quality. The taste can make direct marketing berries a challenge. Frozen berries retail in a range of \$5 – \$15 per pound, but wholesale prices are much less. Growers who simply harvest their crop, put it into a cooler, and ship to a juicer or other value-added market, are receiving \$0.50 - \$1.25 per pound.

Even at a lower price per pound for wholesale sales, the consistent and productive nature of the bushes can generate an annual gross revenue of \$2,300 to more than \$6,500 per acre. The key is taking good care of the bushes so that they can start producing berries earlier and in higher volumes.

Expanding markets is a goal of growers who comprise the Midwest Aronia Association (MAA). The MAA has been investigating various value-added products including a juice drink, capsules for maintaining

“Extensive research has documented the health benefits of aronia berries for blood pressure, inflammation, cholesterol, heart attack prevention, and muscle recovery.”

Goals of the Farm

- Evaluate aronia berry as a crop
- Conduct on-farm research
- Provide retirement income
- Spread the word about significant health benefits



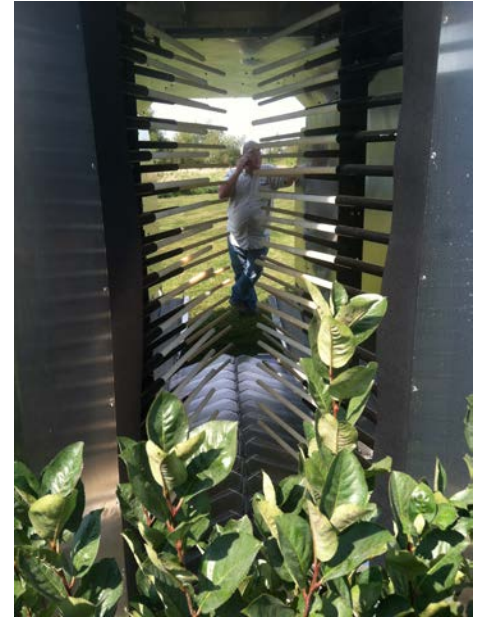
health, several food products, and wine. As the health benefits reach a wider audience, Larry is optimistic that demand will really take off.

Lessons Learned

Larry shares several helpful tips that he learned through simple observation and by talking with other growers. "In hindsight I would have spaced the rows a little farther apart," he says. In addition, the spacing between plants might vary depending on whether a grower plans to hand harvest (for growers with only a few bushes) or machine harvest (for commercial growers). Spacing plants a little farther apart, such as 5 to 6 feet, would give pickers more room to maneuver. Conversely, for machine-harvested plantings, most growers are going to tighter spacing, like two feet between plants, in order to grow a hedgerow and facilitate improved picking.

Another lesson related to machine harvest is to prune branches about 12 inches off the ground. The BEI machine simply can't "pick-up" those low-hanging branches and they are more or less lost. Larry suggests starting early in a plant's life and pruning the bushes so that the machine has the clearance to work properly when it is time for harvest.

Larry says he is always learning something new about aronia, and can name several research projects he has collaborated on. One such project is attempting to determine the best time to harvest. Most growers are checking their berries and harvesting at a specific brix number. Brix is an approximate measure of the sugar in the berry. However, because what makes aronia so valuable are the antioxidants, especially the anthocyanins, Larry is most interested in researching when the most anthocyanins are present, which in turn will determine his harvesting schedule.



Larry talks on the phone to a customer through the chute of the aronia berry picker.



This project was funded in whole or in part by the Leopold Center for Sustainable Agriculture. Established by the 1987 Iowa Groundwater Protection Act, the Leopold Center supports the development of profitable farming systems that conserve natural resources.

Join Trees Forever on its mission to plant and care for trees and the environment by empowering people, building community and promoting stewardship.
©2014 Trees Forever. All rights reserved.



(319) 373-0650 • (800) 369-1269
www.treesforever.org
770 7th Avenue • Marion, IA 52302