

AGROFORESTY ON THE FARM

WINDING CREEK ARONIA BERRY

BELMOND, IOWA

LARRY & NANCY TURNER | 2014



TREES FOREVER
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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 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 they 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 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. 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 Japanese beetles. Larry 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 works well for aronia berries and saves much time and labor.

Marketing and 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 in a cooler, and ship to a juicer or other value-added market, are receiving \$0.50 - \$1.25 per pound.

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



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

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 father 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 the 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.



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

To learn more, visit www.TreesForever.org/acceleratingagroforestry or contact us at info@treesforever.org.

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