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# **GREEN GOODS**

# A native super-edible on the rise

The black chokeberry, a North American native, is one of the world's most promising, overlooked superfruits.

Jolene Hansen



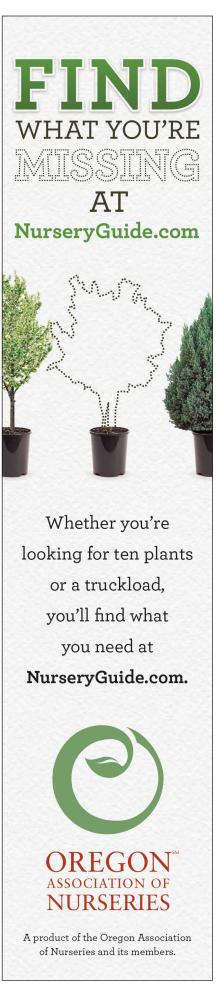
Black chokeberry DREAMSTIME.COM

Health-conscious Americans have helped spur worldwide interest in berries and other foods that yield health and medicinal benefits. Known as nutraceuticals for their marriage of nutrition with pharmaceutical-like benefits, these super-edibles pack a powerful commercial punch. On the leading edge of the nutraceutical race stand our native black chokeberry Aronia melanocarpa and its cultivars, fueled by long-term commercial production in Eastern Europe. The good news is these emerging superfruits may already be on your lot.

Interest around this "new" edible and its potential

Information about aronia berries and their benefits has been gaining attention from U.S. consumers serious about health and healthy foods. The University of Nebraska-Lincoln Institute of Agriculture and Natural Resources reports that aronia-related products accounted for more than 1,100 new SKUs between 2008 and 2013, mostly from aronia with Eastern European origins.





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'Autumn Magic' black chokeberry COURTESY OF BAILEY NURSERIES

Interest in the juice and berries continues to build, but consumers may not realize they can enjoy aronia from their own backyards.

Aronia berries themselves, actually pomes, have high tannins and an astringent taste akin to a dry red wine. At home or in commercial production, the flavor sweetens slightly with freezing or processing. Juices and concentrates lead popular uses, but aronia adds nutrition, flavor and color to everything from nutritional supplements and blended energy drinks to wines, pastries and jams.



Tim Flood, president of Wisconsin-based McKay Nursery, noticed the familiar shrub being planted through Iowa and Nebraska a few years back. What he learned from heartland growers about aronia's Eastern European superfruit success led McKay to invest in aronia's future. In addition to the nursery's production of aronia for landscapes, McKay added aronia shrub production aimed at commercial organic small-fruit growers — and the nursery will see the first harvest from its own small-scale

chokeberry NETPS PLANT FINDER TOOL

aronia berry production this fall.

#### Nutritional information customers want to hear

As Flood points out, aronia berries have extremely high antioxidant levels. University of Connecticut researcher and aronia breeder Dr. Mark Brand reports that black aronia berries have the highest known antioxidant levels of any temperate fruit. The flavonoids known as anthocyanins, those potentially health-enhancing plant pigments that give berries and other plants their red, blue and purple colors, are especially significant.

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Medical science is still uncovering how nutraceutical properties work together in the human body, but medical research with aronia berries and their anthocyanin-rich juice has yielded remarkable results. Aronia has demonstrated great medical promise for treating liver, kidney, gastric, metabolic and age-related cognitive disorders, as well as showing anti-bacterial, antiviral and antiinflammatory properties. Researchers have even seen suppression of certain types of cancer cells.

When it comes to antioxidants, USDA

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The flowers of Aronia melanocarpa create interest even when the plant is not producing fruit, and the shrubs tend to be easier to care for than other berry plants. COURTESY OF MCKAY NURSERY

favorably aronia berries compare to other, more well-known superfruits. Aronia berries offer three times the amount of total antioxidants in blueberries. In specific measures of anthocyanins and other powerful antioxidants known as proanthocyanidins, aronia berries surpass blueberries by more than 400 percent.

## Ease in culture that translates to superfruit sales



Aronia berries are packed with antioxidants, and have three times the amount of total antioxidants as another super edible, blueberries. NORTH AMERICA ARONIA COOPERATIVE

The same qualities that made Aronia *melanocarpa* and its cultivars landscape staples lay a foundation that aronia's nutraceutical benefits can build on. As Flood notes, McKay has been growing the species for landscape use since at least 1929. Long-lived and non-invasive, this native shrub bears beautiful apple-blossom-like flowers that complement its shiny foliage and provide nectar for pollinators. Add stunning fall color plus edible blue-black berries that hang around for a prolonged show — unless streamlined into smoothies and homemade treats — and in Flood's words, you have a "landscape winner."

Aronias are much less fussy when it comes to soil pH requirements, too. Joseph Rothleutner, tree and shrub breeder at The Morton Arboretum, says, "Aronia melanocarpa are widely adaptable to soil textures and pH." Although the shrubs prefer moist, slightly acidic soil, black aronia does well on neutral and moderately alkaline soils and acclimates to drier conditions. Extended production trials conducted through the University of Wisconsin-Madison found that even though full sun is best, light shade had little negative impact on aronia fruit production. Homeowners can expect respectable crops of homegrown berries from these self-fertile shrubs with little or no pruning in the landscape.

#### Familiar cultivars that deserve more edible attention

Eastern Europe and Russia have had aronia breeding programs in place for many decades. Several breeding programs are underway in the U.S., including Dr. Brand and his team's work to improve Aronia melanocarpa landscape and commercial fruit cultivars with an emphasis on improving berry flavor, increasing fruit size and increasing antioxidant levels and anticancer properties of the berries. New cultivars are on the horizon, but readily available cultivars can put aronia's beauty and health benefits in customer landscapes now:

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Iroquois Beauty black chokeberry (Aronia melanocarpa 'Morton') is a compact cultivar selected at The Morton Arboretum from seed that was collected in the wild in Kane County., Ill. Known for beautiful flowers and outstanding red fall color, this cultivar offers dark, purple-black fruits. Though the fruits are smaller than most commercial chokeberries, Rothleutner personally attests that the berries make delicious chokeberry syrup, crushed and simmered in sweetened water and used to top ice cream or mixed with carbonated water to make "Aronia pop."

### 'Autumn Magic' black chokeberry

(Aronia melancocarpa 'Autumn Magic') is a mid-sized University of British Columbia introduction valued for its landscape contribution of large fruit, attractive form, glossy foliage and brilliant red-purple fall color. The fruit is comparable in flavor to the species — tart and astringent, but not bitter — but it's consistently larger and glossier. A good choice for milder climates, this cultivar fruits reliably through USDA Zone 9.



'Viking' black chokeberry (Aronia

melanocarpa 'Viking') is the leading commercial cultivar in Europe and the United States. Best suited for

Iroquois Beauty black chokeberry 'Morton' THE MORTON ARBORETUM

larger landscapes, this European selection was intended for commercial fruit production, but its ornamental beauty won a place on nursery lots. Believed to have descended from European and Russian intergeneric breeding dating back to the late 1800s, 'Viking' offers sweeter, less astringent, extra-large berries ideal for backyard or commercial production. Sell fragrant flowers and vivid red-orange fall color as added bonuses.

With *Aronia melancocarpa* as part of your edible marketing plans, you can offer customers an outstanding ornamental that's a nutraceutical knock-out, too. As Flood says, "[Aronia is] an easy-togrow shrub, with few problems, hardy, has multi-seasonal interest, and the fruit has incredible health benefits. It seems to be a nobrainer to me."

Jolene is a freelance writer and former hort professional. She lives, writes and gardens in Wisconsin's Driftless Area.

## Aronia berries resources:

The National Aronia Council:

https://nationalaroniacouncil. wordpress.com (http://www.nationalaroniacouncil. wordpress.com)

**Midwest Aronia Association:** 

http://midwestaronia.org (http://www.midwestaronia.org)

Mid-Atlantic Aronia Growers Association:

http://midatlanticaronia.org (http://www.midatlanticaronia.org)

North America Aronia Cooperative:

http://aroniacoop.com (http://www.aroniacoop.com)