

A MISSOURI *Berry*

The native elderberry is high in antioxidants.

STORY AND PHOTOGRAPHY BY NINA FURSTENAU

ELDERBERRIES could elbow out all the bottles in your medicine cabinet. Nearly 2,400 years ago, Hippocrates called the elder plant “the medicine chest of the country people,” says Deni Phillips in the *Elderberry Value-Added Sourcebook*. In fact, the elder leaf, flower, and berry can be used in salves, infusions, and syrups to relieve coughs, colic, diarrhea, sore throat, asthma, and the flu. And get this: You can chase mice away with an infusion made with fresh elder leaves or use elder flowers to soothe a burn. It’s a talented plant. And it’s native to Missouri.

Elderberries (*Sambucus canadensis* or *nigra*) grow in Missouri without special attention, even sprouting along road ditches in summer, and they thrive here with good husbandry. The plants are lush, loaded with huge delicate white blossoms or rich purple BB-sized fruit depending on the month. Some forward-thinking farmers and university researchers want to encourage this abundance.

They want Missouri’s wild elderberries planted in rows for harvest as the next super food. Like the pomegranate, the acai berry, and others lauded in the media, the elder is high in antioxidants. Its flu-fighting ability is prized, but it may also lower cholesterol, boost the immune system, improve vision, and help heart

health. Folk remedies in North America, Europe, Western Asia, and North Africa have told us so for centuries.

Elderberries may be small, but they’re mighty. The elder leaf, flower, and berry are loaded with polyphenols, flavonoids, and anthocyanins—all of which host the elder’s antioxidant capacity. Antioxidants neutralize free radical buildup, but it’s the balance between naturally occurring free radicals and antioxidants that fight stress effects to and in our bodies. (See chart on page 77.)

The elder’s small clusters of berries are also a high producer for farmers. Tim Wright and Larry Buck of Hermann planted 900 elderberry plants on an acre in 2006, and the plants produced at a level that encouraged Tim to plant three additional acres of elderberries in 2010 and two more acres in 2011. He mostly grows the Bob Gordon variety of elderberry but is testing Wyldewood and Ranch varieties. He predicts his yield should be around 3,000 to 5,000 pounds per acre.

Two thousand of the tiny berries will make one pound, and it takes 20 pounds to make a gallon of juice. After the elderberry plants mature for three to four years, Michael Gold, research professor and associate director of the Center for Agroforestry at the University of



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The native elder plant produces tiny berries packed with antioxidants such as polyphenols, flavonoids, and anthocyanins.



CELEBRATE THE ELDERBERRY

Join the fun! This summer, Eridu Farm will host Hartsburg's 2012 Elderberry Festival from June 7 to 10. With two stages, 30 bands, and four days of camping and events, it's sure to be a "berry" good time. And, more is in store! In anticipation of 2013 being declared The Year of the Elderberry by the National Herb Council, the University of Missouri will host the First International Elderberry Symposium in June 2013 in Columbia. Plus, plans are already in store for the fourth Elderberry Festival in June 2013. Advanced daily and four-day passes for the Elderberry Festival available by contacting mangofrala@aol.com.

Missouri, says they could produce as much as three to four tons of berries per acre. With Missouri aiming for 100 acres of elderberry plants in production in the near future, there's a bumper crop on the horizon.

That high return from a small acreage is not only drawing the attention of farmers, but researchers. MU and Missouri State University began to study local wild elderberries in 1997 to identify the cultivars that best withstood the Missouri freeze-thaw cycle and produced high yields. They found Bob Gordon, Wyldewood, Ranch, and Adams II elderberry cultivars to be good bets for farmers. Research at the Center

Above: Elderberries have a centuries-long tradition of being used as an herbal remedy for the flu.

Right: Terry Durham's farm in Hartsburg is the largest planted acreage of elderberries in the country.

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for Agroforestry also focuses on elderberry insect and disease susceptibility, markets for the new crop, and its place in our health and diet.

Currently, the Missouri River Hills Elderberry Producers, led by Terry Durham of Hartsburg, process elderberries and market products made with the fruit: products such as elderberry jelly, pure elderberry juice, or throat coat and herbal cordial.

Frozen berries sell out fast, but when available they ship for \$21 for three and a half pounds (order online at www.elderberrylife.com). The processing, done by Persimmon Hill Farms near Springfield, is minimal, and the deep purple juice is loaded with antioxidants. One ounce per day, says Terry, will ward off the flu, "with no side effects."

So why not grow a plant that produces abundantly in Missouri, has healthy benefits, can run mice out of your house, or soothe a burn? Two things need to come together to make it work well for Missouri farmers, Terry says. A mechanized harvester is needed. Right now, the elder can be mechanically planted, pruned, and de-stemmed, but although a

mechanized harvester is being developed, harvesting is still done by hand. The other important component is the market. Terry currently runs an elderberry route that includes stores such as Clover's, Root Cellar, and World Harvest in Columbia, and Sappington's Market and Maude's in St. Louis. The Natural Girls in Rolla buys River Hills Harvest products and nearly 20 Hy-Vee groceries in Missouri carry

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the products. But super-food status for elder depends on getting the word out and becoming an ingredient in more marketed foods.

In Europe, products such as the cold and flu syrup Sambucol keep the demand for elderberries high. In the United States, the use of elderberry as an ingredient is still developing and most elderberries are imported. "That's about 60 metric tons of berries," Terry says, that could be raised here. Most imported berries are used in pharmaceuticals, some wines, and food products.

Close to home, buyers such as Wyldewood Cellars in Mulvane, Kansas, use elderberry fruit to make sweet as well as dry wines. The winemakers partner with Missouri State University and MU researchers as well as Missouri farmers to source their berries regionally.

Terry is a believer. His Eridu Farm in Hartsburg is the single largest planted acreage of elderberries in the country. He hosts elderberry workshops to encourage farmers to consider the crop. "The first workshop we had eight attendees, the next we had 32, and last summer we had 100."

Terry is a seasoned grower in Missouri. He grew vegetables and did business as a Community Support Agricultural (CSA) farm for 11 years prior to his interest in elderberries.

He's been a part of the Ozark Organic Growers Association, the Missouri Vegetable Growers Association, and the Missouri Organic Association. "I've been working on organizing farmers for over 25 years," he says.

In 2004, he got cuttings from existing elderberry plants and started propagating his own stock in his basement. Today, he harvests 32 acres of the plants by hand with seasonal



INFOGRAPHIC BY TOM SULLIVAN

ELDERBERRY CHART INFO

The U.S. Department of Agriculture released a comparison of the oxygen radical absorbance capacity (ORAC) of several fruits in 2007. The ORAC can come from vitamins E, C, and beta-carotene in the fruits—and the higher the total the more antioxidants the fruit contains.

Antioxidant capacity is expressed in terms of micromole equivalents of Trolox (TE) per 100 grams of sample. Trolox is Hoffman-LaRoche's trade name for 6-hydroxy-2,5,7,8-tetramethylchroman-2-carboxylic acid. It is a lipo-soluble derivative of vitamin E. It is an antioxidant like vitamin E.

FRUIT	MMOL TE/100 GRAMS
Elderberry	14,697
Blackberries	5,347
Blueberries	6,552
Cranberries	9,584
Oranges	1,260
Raspberries	4,882
Strawberries	3,577



help, some paid and some just as friends. He has plans to grow an additional 18 acres of elderberries in the near future. It's more than the end product that's important, though.

"The intriguing thing is that it's a native plant. I grow all native plants here," he says of Eridu Farm. He plants native grasses between the rows of elderberries and sees benefit to this restoration. "This was a soybean field for years. Now, the soil is coming back to life."

Alongside good land stewardship, locally raised elderberries are a strong draw for consumers, Michael at the Center for Agroforestry says. Plus, he says, consumers already recognize high levels of antioxidants are healthy.

"I talk with people who grow elderberries," Michael says, "people who work on production, value-added products (like elderberry wine) and nutrition. Across the board, there's more and more interest in elderberries."

Markets for elderberries range from herbal remedies (Elderberry Ginger Syrup was the first place winner in Tinctures and Extracts at the 2007 International Herb Symposium) to fruit for elderberry wine. The pulp that remains after elderberries are pressed for their juice can also be reconstituted in other value-added products, Michael says.

With all this interest, it looks as if elderberry cultivation will continue to rise in Missouri.

The plant has history on its side: besides being native here and earning the lore on herbal medical cures, the elderberry also carries a lot of ancient superstition on its tiny berry orbs.

Did you know that the elder was a sacred tree to the Druids?

In Welsh tradition, if you stand under an elder tree on Midsummer's Eve, you can have visions of otherworldly creatures, seeing the "little people."

Maybe those folks ate the berries before they were completely ripe and before they were cooked. In that form, the elderberry is toxic and could produce visions as well as more hazardous effects.

But, in fact, there are more stories and more elder superstitions dating back centuries than you can sneeze at, so to speak.

For more information about Missouri elderberries and elderberry products, log onto www.elderberrylife.com or www.riverhillsharvest.org.