Department of Plant Sciences

ELDERBERRIES FOR TENNESSEE GARDENS AND LANDSCAPES

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Elderberry is used both as a landscape ornamental and as a native novel fruit crop in Tennessee gardens and landscapes. The native American elderberry *Sambucus nigra (*subspecies *canadensis*) has white flowers followed by small dark purple to black berries and is related closely to European elderberry (*Sambucus nigra)*. These two species are the most common but not the only species of elderberry found in the eastern United States. American and European Elderberry are widely noted for multiple health promoting properties including anti-viral, anti-bacterial, and general antioxidant content. However, research on the composition and potential toxicity level of American elderberry *S. nigra* subsp. *canadensis* is still ongoing. Because of the incompletely understood composition of the fruit, American elderberry is best used after cooking, processing, or preserving rather than eaten fresh.

Figure 1. Sambucus nigra *subsp.* canadensis *with typical white blooms that will be followed by dark purple/blue fruit.*

Crop Description and Selection

In addition to having a range of species in the genus that can be found in the United States, there are several common names for American Elderberry including American elder, common elder, or common elderberry. American Elderberry is a multi-stemmed shrub, while European Elderberry has a small tree form. The remainder of this publication will focus specifically on American Elderberry, *S.nigra* subsp. *canadensis,* unless otherwise noted.

Elderberry can be found in a range of native sites from full sun to partial shade and often in marginal areas, such as moist ditches or the edges of wooded areas. Elderberry performs best in well-drained sites but can also tolerate poor drainage. This is a unique characteristic that allows for the productive cropping of lower lying areas not very suitable for most other fruit and vegetable crops. The growth habit of native elderberry may be described as weedy or thicket-like.

Proper placement of this aggressively spreading grower will be important for management. Interestingly, the timing of fruit development, disease resistance, plant hardiness, and other factors can vary greatly between species and selections. Source plant material from reliable sources to ensure plant health and accurate identification.

Currently, there are elderberry breeding efforts focused on both fruit production and ornamentals. The University of Missouri is leading efforts from the academic and fruit production side while multiple ornamental breeding companies have new selections on the market in the landscape sector that offer interesting foliage colors from black to chartreuse and a compact growth habit (such as ‘Lemony Lace’ and ‘Black Lace’).

For gardeners interested in American Elderberry fruit production, ‘Adams,’ ‘York,’ ‘Johns,’ ‘Korsor,’ and ‘Nova’ are older selections commonly found in the market. These cultivars were selected in much colder climates from areas such as New York, Denmark, or Nova Scotia. ‘Bob Gordon’ and ‘Wyldewood’ are cultivars found or selected in Missouri and released by the University of Missouri. These cultivars are more likely to be adapted to warmer regions, but cultivar trialing is currently underway to determine if they are better suited to growing conditions in Tennessee than the colder region cultivars. The following recommendations are based on West Virginia University and University of Missouri resources cited below.

Planting and Growing

Elderberry can be grown in a range of sites as a monoculture or as a member of a mixed planting. Sites that have a moderate level of acidity (pH 5.5-6.5) with full sun or a low level of shade are best. Growers maximize production space by planting in raised beds or berms to provide good drainage and using irrigation to maintain consistent soil moisture. While the roots do like high moisture, avoid areas that are flood prone to prevent waterlogging the fibrous root system. Elderberry perform poorly in sandy soils that dry rapidly. In an ideal site, plants can grow up to 10 feet wide and 12 feet tall. Plants spread by root suckers, and growth may be difficult to manage in the landscape and production areas.

Elderberry has a wide climatic range (zone 3-9). It is most common to plant elderberry in the early spring as dormant, bare root plants to ensure they have an entire growing season to become well established before winter. However, warmer regions of the state may have success with fall establishment. Potted plants found at local nurseries and garden centers are typically one to two years old and provide the opportunity to establish a larger plant and root zone. However, propagation of elderberry is not difficult, and new plants can be produced easily by cuttings or suckers.

The spreading nature of the elderberry plant means that management through pruning will be important for size control and support production. Dormant pruning is done to remove dead and damaged canes and to retain as much vigorous, fruiting wood as possible. As the plant gets older, canes can be selectively removed to maintain vigor, production, and health. Some prefer to practice more severe pruning at selected intervals called renewal pruning. Elderberry will fruit

even if little to no pruning is done, although this will reduce maximum yield in the planting. The specific pruning practices that will work best depend on site characteristics, plant density, and goals for the planting.

Large white blooms generally occur in June. Interestingly, pollination is not completely understood, but it is thought that multiple cultivars to support cross-pollination will be an asset in fruit production. Fruit varies in color from dark blue-purple that is nearly black to lighter shades of lavender. The pigment that produces this color is anthocyanin and is similar to that found in blueberries and caneberries. This pigment content affects appearance as well as health properties. The size, color, and flavor as well as ripening time will vary by cultivar, and full production will not be reached until the plants are three to five years old.

Elderberries do not have as many issues with pests and disease as many other fruit crops, but a few are of key concern. The fruit fly spotted wing drosophila (SWD) is becoming an issue on elderberry just as it is for other late summer ripening small fruits (blueberries, blackberries). Monitoring will be needed to determine spray need and interval. Other potential pests include caterpillars, sawfly, beetles, aphids and mites. Birds are actually the most common pest issue for many elderberry growers. As with blueberries, netting may need to be considered. Additionally, cultivars that have fruit clusters that hang downward tend to be less attractive to birds. ‘Bob Gordon’ is reported to be one such cultivar. Common diseases to be on the lookout for include viral issues (Tomato ringspot and others), stem cankers and leaf diseases such as rust and powdery mildew. Because elderberry is still emerging as a managed crop, few insecticides or fungicides are specifically labeled for use on this plant. Insecticidal soaps, horticultural oils, good sanitation, and cultural practices are the best tools for pest and disease control.

Harvesting and Storing

Elderberry fruit ripens over a period of two to three weeks due to flowering on different age canes and locations on the plant. Elderberries are hand harvested to protect the very sensitive fruit. The flower is an umbel (like Queen Anne’s lace), so the fruit is produced as a cluster. A cluster is removed when all (or as many as possible) of the fruit have ripened. Freezing the cluster prior to berry removal may aid in separating the delicate fruit from the stems.

Elderberry fruit are used in a range of jellies, jams, syrups, and dessert dishes. Their flowers and fruit can also be used for making wine. While the health effects are certainly still being researched, growers are marketing elderberry fruit to a range of processors that focus on the health industry. To repeat information from the earlier discussion about potentially dangerous secondary compounds in the fruit, elderberries are not recommended to be eaten raw and should undergo cooking and processing to reduce the levels of potentially harmful compounds.

Resources Used and Additional Information

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