

Elderberry Production in Missouri
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Cultivars

Several elderberry cultivars are available commercially, including Adams 1, Adams 2, York, Nova, Scotia, Kent, and Johns. Of these, in our trials Adams 2 has consistently outperformed all others. Recommendations from other regions include all these cultivars. A large portion of the commercial fruit crop, especially in the Midwest, is harvested from wild plants. Two selections from the Midwest, Wyldewood and Bob Gordon, were released in 2010-11 and are available from several sources.

Propagation

Elderberries are easy to propagate. Root cuttings (pencil diameter or slightly smaller, 4-6 inches long) may be dug in early March before growth begins. The cuttings are placed horizontally in a flat or pot, covered with .75 to 1 inch of a light soil or soilless medium, and kept warm and moist. Often a single root cutting will produce 2-3 plants. Dormant hardwood cuttings root easily. Collect 3-4 node cuttings before growth begins in the spring, and place the basal 2 nodes below the surface of a well drained soil or medium. Be sure that the cutting wood is not cold damaged. A dip of the basal end of the cutting in an IBA rooting powder may increase rooting. Sprouted hardwood cuttings and softwood cuttings are also easily rooted, provided provision is made to maintain high humidity around the cuttings until rooted. An intermittent mist system works well. A rooting hormone dip may be beneficial. Cuttings of 2-3 nodes root well. Remove a portion of the foliage from softwood cuttings (we usually leave only the 2 basal leaflets of each leaf). Softwood cuttings typically root well until about July 1; rooting percentage drops as the summer progresses.

Establishment

Elderberries tolerate a range of soils, but do best in a moist, well drained soil. Choose a site that is in full sun. Bare root 1 year plants dug from a nursery work well for planting establishment. Recently propagated container-grown plants may be used to establish plantings during the same season. Plantings may be established from dormant cuttings stuck directly in place in the orchard, but rooting percentage may vary. Berming may benefit plant performance. Plants are spaced 4 feet apart in the planting row, with 10-12 feet between rows.

Pruning

American elderberries produce fruit on shoots older than one year, and also produce suckers from the crown or root system which will bear fruit the first year. Plants may be pruned selectively, leaving a mix of young and older shoots. However, with many cultivars we have learned that the average size of panicles when shoots are renewed annually is significantly larger, suggesting that current season suckers produce larger though fewer panicles. Most of the panicles on these plants were harvested in two harvests, over a period of two weeks.

Fertilization and irrigation

We apply nitrogen annually to the elderberry plantings. Mature plantings receive 60-80 pounds of nitrogen, applied at budbreak in late March – early April. We apply other nutrients every second year if needed based on a soil test (using blackberry recommendations), using a complete

fertilizer as the nitrogen source. Elderberries are not drought tolerant, and we irrigate the plantings during dry periods. We use trickle irrigation. The plantings are also mulched, to help conserve soil moisture.

Elderberry pests

While elderberries are relatively pest resistant, we have noted several potential problems in our plantings. An unidentified stem borer causes wilting and dieback of new shoots in April and May. Japanese beetle adults feed on foliage. The adult elder borer, also known as the elderberry longhorned beetle, has been collected from plantings in Missouri. The larva of this beetle bores into the woody parts of the plant. Stink bugs are routinely noted on ripe panicles, but the amount of damage is unknown. A potentially damaging pest is the eriophyid mite, present across Missouri. This mite causes a cupping and crinkling of the foliage, and can cause abortion of florets and young fruit. The economic impact can be severe. Fall webworms were also noted in the Mount Vernon planting. An unidentified leaf spot disease, which usually is noted in midsummer, can cause premature leaf drop and occasionally defoliation. Birds of several species will feed on elderberry fruit; those selections with pendulous panicles appear to be less attractive to birds.

Elderberry harvest, yields, and juice parameters

Elderberry harvest takes place in late July, August, and early September. Entire panicles are clipped and harvested when all berries are fully colored. The panicles on current season's shoots ripen later than panicles on older wood. A bush with shoots of mixed age will ripen fruit over a 3 week period. We harvest plants at weekly intervals. Berries may be removed from the panicle by freezing the entire panicle and shaking off the fruit. The berries may be refrozen and processed as needed. Several studies suggest that average yields are around 1200 lb/acre in the first year and 8500 lb/acre in the second and succeeding years. We do not know how long a planting will remain productive; our oldest plantings have produced into year 7.

Uses and markets for elderberry fruit and flowers

At present, most of the elderberries grown in the Midwest are harvested for processing markets. Several wineries produce elderberry wines from the fruit, and the flower panicles are used to flavor wines or drinks. Dried blossoms are used in teas. Jelly and jam are produced from elderberry juice or blends of elderberry and other fruits. Elderberries contain high levels of antioxidants, and elderberry juice and concentrate are marketed as nutraceuticals. The pigments in elderberry juice are suitable for colorant use. Fresh or dried fruit are used in baking and energy bars.

Additional information on elderberry, including yields, juice qualities, and results of research projects, is available from the author.