Text from Web Site<http://www.hearthstonefarm.net/Elderberries.html>

|  |  |
| --- | --- |
| **Why Elderberries?** Elderberries, *Sambucus* spp., are native to a large portion of North America. For years they have been a source of food and beverage and also have had medicinal uses. They do grow wild in fence rows and out of the way places, but have yet t o gain a good foothold for commercial production in the area. To that end Hearthstone Berry Farm applied for, and received, a small [SARE (Sustainable Agriculture Research & Education) Grant](http://www.sare.org/) to plant and monitor a trial planting of elderberries. This planting is open to anyone interested in growing elderberries. The trial planting has already exceeded its original plans as it now has over 14 varieties installed. Two field days will be held for persons interested in growing this native. | |
| **About Elderberries** Elderberries are a deciduous shrub about 5-6' in size. New canes are produced yearly with flowers (and, subsequently fruit) being borne on terminal shoots from the current year's growth. This means that elderberries will flower on the growth that emerges in the spring. These new shoots are produced by a system of large fleshy roots. Some plants may form thickets of shoots while others tend to "stay put".  Elderberries flower in late spring. Cross pollination is not required to produce fruit, but flowers that are cross-pollinated will produce larger fruit--it is beneficial to have two cultivars of elderberry in close proximity. New canes will produce a single cluster of fruit. Two and three year canes will produce the most fruit, with flowers borne on shoots emerging from last year's leaf axils. By year four, the productivity of the cane is reduced, so any canes over three years old are removed during winter pruning.  Fruit ripens August to September. The entire flower (called a corymb) is harvested. One method of harvesting individual berries is to freeze the entire cluster, pull the frozen berries off, then refreeze them.  Elderberries can be purchased as bare-root plant, potted plants and even rooted or unrooted cuttings. It is important to remember that the less developed transplants will spend the first year developing a root system and will likely not produce a "first year" crop. |  |
| **Elderberry Trials** Eight planting rows were set aside for elderberry trials. The trial is located on the North side of the irrigation pond and is partially on a steep slope. Nutrients and pH were corrected according to soil tests. For the purpose of the trial planting, rows are 15' apart and plants are spaced 5'apart within the row.. Plants were gathered from several [sources](http://www.hearthstonefarm.net/Elderberries.html#sources), including cuttings from the National Clonal Germplasm Repository. The goal was to have 5 of each variety. However, several varieties are represented by fewer than five plants.  Plants are irrigated to 1" per week via trickle irrigation. Fertilizer applied as 19-19-19 due to low soil P levels. Rate of application is 5 ounces per first year plant and 10 ounces per second year plant (Galletta, 1994) as a split application, half at bud break and the remainder 6 weeks later.  Data collected will include size of plant, pounds of fruit, and qualitative ratings provided by field day attendees.  We would like to thank [North Central USDA SARE](http://www.northcentralsare.org/) for the grant supporting this project--benefiting growers in the entire region.   |  |  |  | | --- | --- | --- | | **Elderberry Varieties in Trial** | | | | **Cultivar** | **spp.** |  | | Nova | canadensis |  | | Johns | canadensis |  | | Adams | canadensis |  | | York | canadensis |  | | Samdal | nigra |  | | Samyl | nigra |  | | S. *canadensis* | canadensis |  | | S. *nigra* | nigra |  | | S. *cerulae* | cerulea |  | | Haschberg | nigra |  | | Korsor | nigra |  | | Thundercloud | nigra |  | | Guicho Purple | nigra |  | | Serendio | canadensis |  | | Voltra | canadensis |  | | MC1 (Mulberry Creek Selection) | canadensis |  | | |
| **Observations 2012** Rain continues to fall regularly saturating even tiled fields. Temperatures have not been as low as expected. December was mainly in the 40s and so far January has been in the 30s. No new plants were ordered for 2012; most commonly available elderberries seem to be represented in the trial.  After an early start with temperatures reaching 80 in late March, freezing temperatures returned for much of April. Freeze and frost damage to apples and peaches in the area left the elderberries unharmed. Elderberries flowers are terminal on the current year's growth so flower buds were produced after the March heat and April freeze.  Late spring and summer brought little to no rain to Nova, Ohio. The drought of 2012 was the worst in three decades. Rainfall records on the farm show that the farm missed all of the mid-summer thunderstorms. The pond, ten feet deep, was pumped to within four feet of the bottom. As water reserves in the soil profile were depleted (in August) the single drip irrigation line was not able to deliver enough water to the plants. A second line for each row will be added in the coming year(s).  S. *racemosa* aborted all of its fruit during a stretch of 90 degree weather. S. *nigra* held up the best late in the drought.  The bird netting system was finished this year. Keeping the birds out made a huge difference to the poor drought harvest. Fruit clusters were full and picked when 100% ripe. Pickers were able to fill boxes from one shrub.  **2011** No pruning was required this winter. Mulch was reapplied. Milorganite and soap bars were used as deer deterrent. Continual and heavy rain made it impossible to apply deer repellent, or use any herbicides. Early fertilizer applications were also likely washed out and may need to be reapplied after assessing growth.  Fertilizer was reapplied at half the recommended rate. Scent and taste repellents for deer failed in June (I suspect we had at least one mother and fawn in the hay field just behind the elderberry block). The plants continued to grow but many buds were lost. Bird netting was laid over plants for deer control!  Weed control was from a combination of hand-weeding, careful use of glyphosate, and Poast/Surflan tank mix applied mid spring for grassy weeds and pre-emergent. Extremely heavy rain drastically shortened the efficacy of pre-emergents across the area in nurseries, landscapes and orchards. A flush of weed growth followed in unmulched areas--the mulch was great help. Spot treatment with glyphosate was used in areas between plants.  Japanese beetle was only a minor problem this year. Occasional rain late July and early August may lead to increased beetle activity in 2012; this will be considered when planning pest control next year.  Rain has been "feast or famine" as record spring rains were followed by several weeks with no rain, followed by a three inch rain, followed by two weeks with no rain.... Irrigation was run to apply a total of one to two inches of water per week (the half-acre pond had been pumped down by twelve inches by August). On October 21st, our area broke the all time record for yearly rainfall (with two months left in the year).  **2010** The first year of the trial was dedicated to finding varieties still in stock after the grant startup date (April 1). There was a vast difference in development the first year. Some plants arrived as unrooted cuttings, rooted cuttings, bareroot plants or potted stock. Only the potted plant material produced any fruit the first year. The first year with a margninal harvest will be 2011 with full harvest expected from third year plants the summer of 2012. Deer browsed the *leaves* off of all of the plants in late fall. Stems were left untouched and this is where the next crop will be carried. | |
| **Growing** Planting: Space about 5' apart in rows 12' apart. Choose spacing that allows equipment travel down the rows without damageing brittle stems (that will produce the following year's crop).  **Pruning:** Plants bear on new growth so the first year can will produce a single terminal flower cluster. Second and third year canes produce flowers from each leaf axel. Yield decreases after three years. Therefore, all canes over three years old are removed during winter pruning. Alternatively, the entire plant can be pruned to the ground every few years. There is some literature which suggests a different pruning scheme for S. nigra but I have not found any other publications to support that.  **Fertilizer:** Apply 60-80lbs N/A as a split application. Use the higher rate to increase cane production if needed. This is about 5 ounces of 19-19-19 per shrub.  **Irrigation:** Rainfall is monitored from local USDA weather stations and irrigation is used to supplement rainfall to 1" per week via trickle irrigation. One can calculate the delivery rate of trickle irrigation from the manufacturer specifications.  **Weed Control:** Elderberries do not tolerate competition very well, so a good weed control program will help production. Herbicides are available for weed control. A thin layer of mulch works well around the plants as well as down the rows.  **Pests:** Undoubtedly, deer are the worst pest in the elderberry block. Scent and taste repellents can be used as well as fencing. Milorganite and soap bars seem to be somewhat effective so far. Virus are also common in Sambucus, it is best to remove all wild plants and rouge out any suspicious plants in the block.  **Handouts from presentations:** [Field Day handout](http://www.hearthstonefarm.net/Fielddayhandoutelderberry.pdf), 1 page, basic information [Compendium](http://www.hearthstonefarm.net/Fielddayhandoutelderberry.pdf), a collection of information about elderberry growing; short bullet lists for growers. | |