

Fruit Research at Carrington Research Extension Center

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The Northern-Hardy Fruit Evaluation Project has been a part of research at NDSU Carrington Research Extension Center (CREC) since 2006. The project is meant to introduce growers, processors and consumers to healthy and delicious fruits that can be easily grown in North Dakota. The project provides home gardeners and new or existing agribusinesses with information they need to grow these fruits successfully.

The project includes a half-acre vineyard to evaluate hardy varieties of grapes for fresh eating and processing as well as quality winemaking. Eighteen varieties are being evaluated for winter hardiness, ability to ripen and other qualities. Wines of excellent commercial quality are being made right now in the upper Midwest from the varieties growing at CREC. Contact the North Dakota Grape Growers Association for more information on growing grapes and grape research in North Dakota: www.ndgga.org

Our orchard contains five varieties of apples easily grown and generally available in central North Dakota: Haralred, Hazen, Sweet Sixteen, Honey Crisp and Zestar. There are five plum varieties: Pembina, Pipestone, Prairie Red, Toka and Waneta.

The planting of alternative and unusual crops is becoming more commonplace in the United States as growers seek economic opportunities to fulfill consumer's desires for healthier lifestyles and unique foods. The project contains 14 fruits commonly used by people in other northern countries and of interest to consumers and processors in the U.S. Descriptions of the more important fruits are below:



Aronia: (*Aronia melanocarpa*) Or, Black Chokeberry, is a native North American plant that was developed into a commercial fruit in Eastern Europe. These varieties were reintroduced to the US in the last 15 years. Aronia is very productive but the fruit is astringent and requires processing. The dark blue berries are very nutritious and high in anthocyanins. Most aronia juice used in the US is produced in Poland; production is increasing in the Midwest and East with 300-400 acres reported. **Hardiness:** Zone 3. **Soil:** Wet to dry. Tolerant of salts. **Height:** 5-7 ft.

Photo: NDSU-CREC



Currants: (*Ribes nigrum* and *rubra*) Currants are also native to North America. Pound for pound, currants have 5 times the amount of vitamin C in oranges and are loaded with antioxidants and anthocyanins. They are super popular in Europe and there are large producers in the eastern US. Black currants make excellent juice, jam, wine and liquors – some people like them fresh though they are sweet-tart. CREC has black, red and white currants. **Hardiness:** Zone 3b to 4a. **Soil:** pH of 5.5 to 7 is optimal, but growth is fine in alkaline soils as well. **Height:** 3-5 ft. **Note:** Flowers are susceptible to late-season freezes; a slow-warming site is optimal.

Photo: NDSU-CREC



Cherries: (*Prunus x kerrasis*) The University of Saskatchewan-Saskatoon has introduced dwarf, zone 2-hardy pie cherries. They are a 5'x 7' shrub and can produce 20 to 30 lbs of fruit per plant. Disease pressure in Saskatchewan has been minimal to date. The variety most commonly available to US growers is Carmine Jewel but there are five additional varieties in Canada. They are just becoming available in the US and we hope to have some good data on growth by the time more people plant them. Fruit is dark red throughout and has high sugar content. **Hardiness:** Zone 2a. **Soil:** Well-drained sandy loam. **Height:** 5-7 ft.

Photo: Univ. Saskatchewan-Saskatoon



Elderberries: (*Sambucus canadensis*) Elderberries are used worldwide for pies, jam, juices and wine. The four named North American varieties planted at CREC, which are said to be hardy to -30F, have died back to the snow each year. The European varieties (*Sambucus nigra*) are considered superior, but are even less hardy. *Our elderberries fruit on 1st year growth but struggle to ripen in ND. We are searching for hardier selections that we have heard about. Contact CREC if you know of any good plants.*

Hardiness: Zone 4. **Soil:** Tolerates wet soils. **Height:** 6-7ft.

Photo: Tony Williams



Gooseberries: (*Ribes uva-crispa* L.) Gooseberries are native to northern areas. European types, developed primarily in England, have a larger fruit size but are very susceptible to powdery mildew. American gooseberries are crosses between European cultivars and native gooseberry species with smaller fruit and more disease resistance. However, powdery mildew and other leaf diseases are terrible problems at CREC. The fruit is delicious however, and can be eaten fresh or processed. In our orchard, the best cultivar for flavor and plant health has been Hinnomaki Red.

Hardiness: Zone 3. **Soil:** Prefers silt and clay loam with high organic matter.

Height: 2-3 ft. **Note:** Susceptible to powdery mildew.

Photo: NDSU-CREC



Honeyberry: (*Lonicera caerulea* var. *edulis*) Honeyberries are in the Honeysuckle family and are hardy to -40F or more! This is a very hardy and unique small shrub with sweet and tasty fruit similar to raspberries that ripen mid-June to mid-July. It is native to eastern Siberia, the Russian Far East, northern Japan and the northern Canadian provinces. CREC has six varieties currently available from US fruit nurseries as well as 'Haskap' cultivars from Univ. Saskatchewan-Saskatoon (Dr. Bob Bors) and trial cultivars from Oregon (Dr. Maxine Thompson, retired) bred from Japanese and Russian plant material. There is a huge potential market for the fruit in Japan, Canada and the US. **Hardiness:** Zone 2a (Siberian types). **Soil:** Not well-known; pH 5-7, but OK at 8. **Height:** 3-5 ft. **Note:** Flowers hardy to 19F.

Photo: NDSU-CREC



Juneberry: (*Amelanchier alnifolia*) Juneberries are native to the northern Great Plains and are related to apples. The fruits are delicious fresh and can be used in any way that blueberries can be used – fresh, frozen, in pies, jams or wine. Growers in Canada produce them as a commercial crop for fruit processors as well as U-Pick. Readily recognized and a good choice for U-Pick planting in North Dakota. Bird damage can be a problem and there is disease pressure. **Hardiness:** Zone 3. **Soil:** 6.0-7.0. Sandy loam to loam soils. **Height:** 4-18 ft. **Note:** *Flowers are susceptible to late-season freezes; a slow-warming site is optimal. Native diseases are a problem.*

Photo: NDSU-CREC



Sea Buckthorn or Sea Berry: (*Hippophae rhamnoides*) The fruit is sour and very high in Vitamin C; it is made into sauces, jellies, juices and is a base for liqueurs. It is grown as a crop in Russia, China and Europe and better plant selections are being made in Canada to remove thorns, among many quality selections. *However, reports from Manitoba indicate its potential as a very invasive plant. We removed ours in spring 2011. Ag Canada believes they are only locally invasive (where they are planted).*

Photo: NDSU-CREC