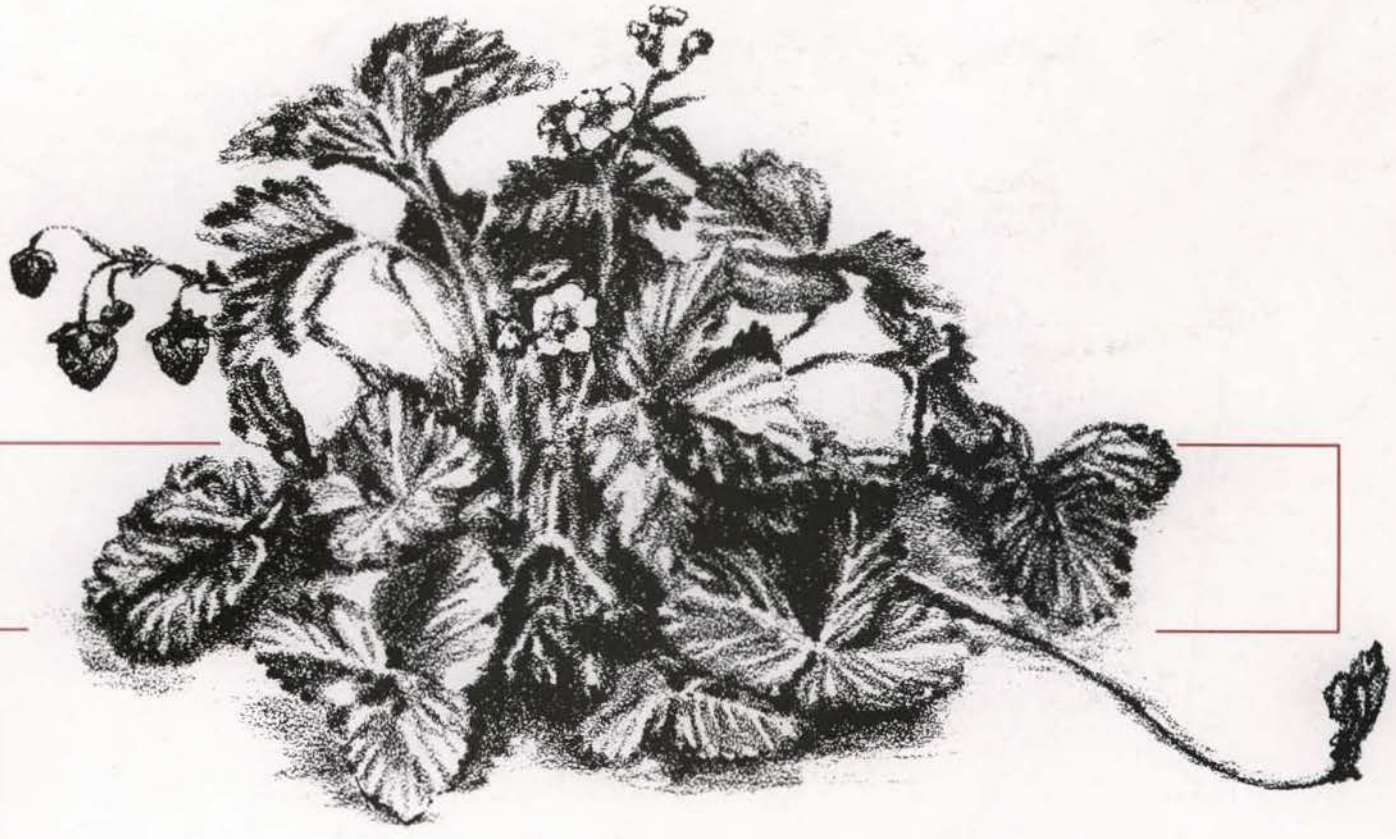
University of Idaho
Cooperative Extension System

EXT 739

Berry varieties for Idaho



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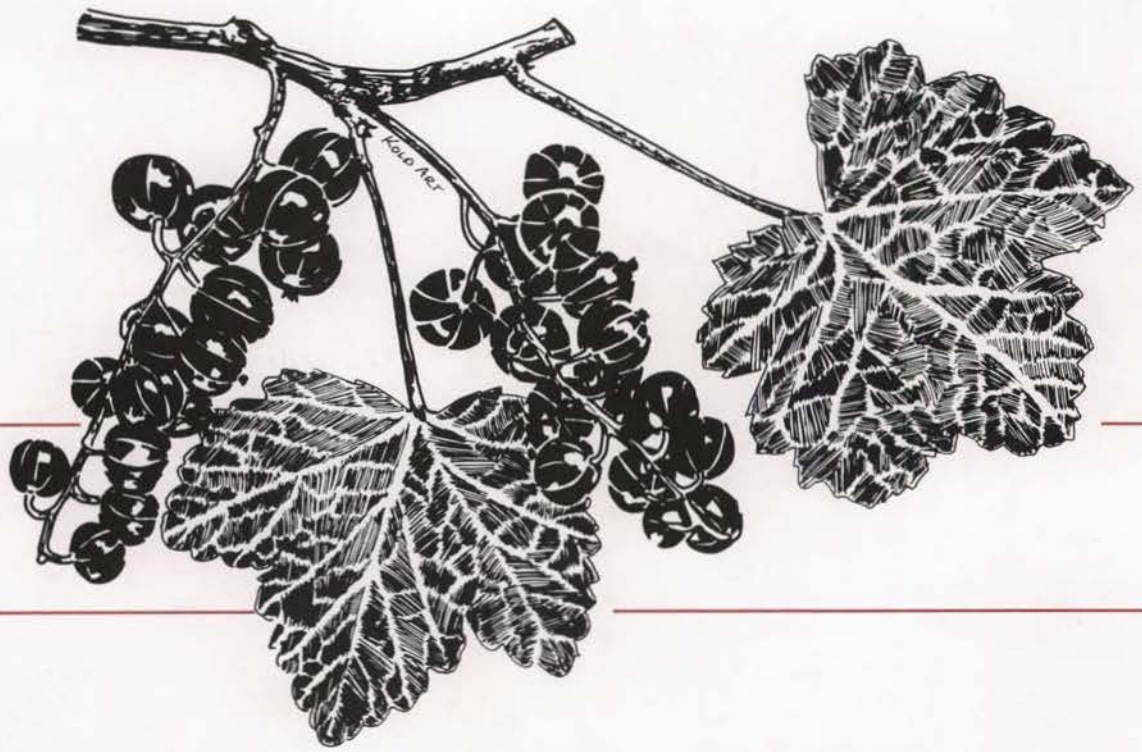
Contents



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Introduction

Idaho has many growing regions that are suitable for the production of berry crops. Not all of the berries listed in this publication can be grown in all parts of Idaho, however. Because most berries remain in place for many years, selecting a good site and adapted cultivars is essential.

Blackberries, for example, are well adapted to the relatively warm climate and long growing season in southwestern Idaho but are easily injured by the cold temperatures found at northern or high elevation sites. They may not develop properly during short growing seasons. Gooseberries and currants, on the other hand, are very cold hardy. They thrive under the cool, moist conditions found in the north and at higher elevations but do not tolerate hot, dry conditions. Blueberries can tolerate moderately cold temperatures but require acidic soil, high levels of soil organic matter, and large amounts of high-quality irrigation water. Thus, blueberries are unsuitable for the arid, alkaline soils covering much of southern Idaho. Many raspberries can survive temperatures around -20°F. They are generally adaptable to a wide range of sites. Strawberries, too, are widely adaptable and can be grown in most of Idaho.

Berries are nearly always vegetatively propagated from cuttings, layers, suckers, runners, or tissue cultures. Vegetative propagation is used for berries because berry seedlings are seldom, if ever, identical to their parents. All of the plants in a field must be identical to obtain expected and uniform production.

The term "cultivar" refers to a plant that was vegetatively propagated from a selected and named mother plant. The term was originally coined as "cultivated variety."

Critical requirements for success

Two critical requirements for a successful berry planting are selecting and obtaining good stock. Don't try to save money by getting cuttings or suckers from someone else's planting. You may not be getting the cultivar you are expecting. In addition, sharing plant materials is one of the main ways in which diseases and pests are introduced into new fields.

Purchase the best possible stock from reputable nurseries. Other local growers and offices of the University of Idaho Cooperative Extension System can often help you select a nursery. Commercial growers usually buy large quantities of stock directly from production nurseries specializing in small fruits. Inspect plants when you receive them. Don't plant anything that looks diseased or infested with insects.

The list of berry cultivars in this publication is not all-inclusive. Other cultivars undoubtedly will do well in some regions of the state. The listed cultivars have been tested either in Idaho or a similar growing region and have been found to be productive and reasonably resistant to pests and diseases. Unless otherwise noted in the individual cultivar descriptions, all cultivars described are suitable for both commercial and home production. Most of them are readily available through commercial nurseries. Some gooseberries and currants are still hard to obtain. If you are in doubt about the suitability of any species or cultivar, check with the Extension agricultural agent in your county.

Blackberries

Blackberries, boysenberries, loganberries, marionberries, and related fruits are the least cold hardy of the brambles and are generally not recommended for commercial production in most parts of Idaho. These plants are often injured by temperatures between 0° and -10°F. Erect blackberries are hardier than the trailing types, such as Logan, Boysen, Marion, and Young. Commercial production of the hardiest blackberry cultivars might be possible in the traditional grape-growing areas around Boise and Lewiston. Still, even in these areas the risk of frequent crop and cane loss as the result of freezing is great.

Trailing varieties (commonly called dewberries) and semierect varieties require trellising and more cultural care than erect varieties, which are normally not trellised.

Blackberries grow best on deep, well-drained soils with pHs between 5.5 and 7.0. Although they grow well in hot climates, they need an even supply of water and so need irrigation anywhere in Idaho.

Blackberries are normally propagated from rooted tip layers or suckers or in tissue culture. Because they are susceptible to viruses, it is wise to purchase certified virus-free stock or stock that has recently been derived from a virus-free source.

Most blackberry cultivars are self-fruitful and do not need a pollinizer, although planting two or more cultivars together may increase fruit size and set. Pollinating bees help to ensure complete pollination and larger fruit. Commercial blackberry growers in the Pacific Northwest average between 4,500 and 6,200 pounds of fruit per acre.

Thornless blackberries

Black Satin — Black Satin is the least cold hardy blackberry cultivar that should be considered for Idaho and then only for the mildest areas. Fruit is borne in early midseason on semierect canes.

Chester — Reported to be the hardiest thornless blackberry cultivar, Chester has large, firm, mild-flavored fruit borne late in the season on semierect canes. Chester is resistant to cane blight.

Dirksen — Dirksen is slightly more cold hardy than Black Satin. Its large fruit is borne early in the season on vigorous, semierect, highly productive canes. Fruit flavor is good.

Hull — Hull's cold hardiness among thornless blackberries is second only to that of Chester. Large, mild-flavored fruit is borne on semierect canes during midseason and ripens after Black Satin.

Navaho — Fruit is borne on erect canes. The very small berries have good flavor and are reported to have good shipping potential. Yields as high as 8,000 pounds per acre have been reported.

Thorny blackberries

Cherokee — Canes are erect, vigorous, and productive. The fruit matures during midseason. Its flavor is reportedly best among the thorny cultivars released from Arkansas. Cherokee is suitable for mechanical harvesting.

Cheyenne — Growth habit is erect. The berries, which ripen after those of Comanche and before Cherokee, are large and mild flavored. Cheyenne is suitable for mechanical harvesting.

Choctaw — This is reportedly the earliest ripening blackberry cultivar. Erect canes produce a very early crop of medium-sized, mild-flavored berries with smaller seeds than most other blackberries.

Comanche — The least cold hardy of the erect blackberries released from Arkansas, Comanche bears large, mild-flavored fruit on erect canes. The fruit ripens after that of Choctaw during early midseason. Comanche is suitable for fresh or processing markets.

Darrow — Reportedly the most cold hardy cultivated blackberry, this cultivar is a 1958 introduction from New York. The fruit begins to mature in midseason and is borne over a long season. Berries are large and firm. Berry flavor is good and lacks tartness. Growth habit is semierect, and plants need some trellising.

Blueberries

Blueberries require acid soils (pH between 4.2 and 4.8) for best production, preferably with high organic matter content. Although soil can be acidified using sulfur, acidification of large areas is seldom successful when the soil pH exceeds about 7.0. Alkaline soil is difficult to acidify because of its large buffering capacity and frequent association with alkaline irrigation water. Because of soil pH problems, commercial blueberry production in arid, alkaline regions of southern Idaho is difficult, if not impossible.

Blueberries have a very shallow root system, with most of the roots in the top 6 to 8 inches of soil. Despite their shallow root systems, blueberries are susceptible to flooding stresses and Phytophthora root rot, making well-drained soil an absolute necessity. Blueberries cannot tolerate drought and need to be irrigated everywhere in Idaho. Many commercial producers apply 4 to 6 inches of sawdust mulch within (and sometimes between) berry rows to maintain soil moisture and control weeds.

Flowers should be removed during the first two or three summers in order to establish a strong root and cane system. The bushes bear a partial crop the fourth summer after planting, although they do not reach full production until 6 to 8 years after planting. Annual pruning in early spring ensures well-developed canes and controls diseases. Commercial growers in the Pacific Northwest average between 6,000 and 7,000 pounds of fruit per acre. The berry size of most cultivars decreases during the latter part of the harvest.

Four types of blueberries are grown in the United States. Rabbiteye blueberries *(Vaccinium ashei)* are native to the southern United States and are not cold hardy enough to be grown in Idaho. Lowbush blueberries *(Vaccinium angustifolium)* are native to the northeastern United States and Canada. The plants seldom grow more than about 1.5 feet tall, and the fruit is generally harvested from wild stands. Most of the cultivated blueberries grown in the northern United States are highbush varieties *(V. corymbosum)* or half-high cultivars that are hybrids between highbush and lowbush plants.

Most highbush blueberry cultivars can survive temperatures around -20°F, although some are more cold hardy. During recent years, blueberry breeding efforts in the northern United

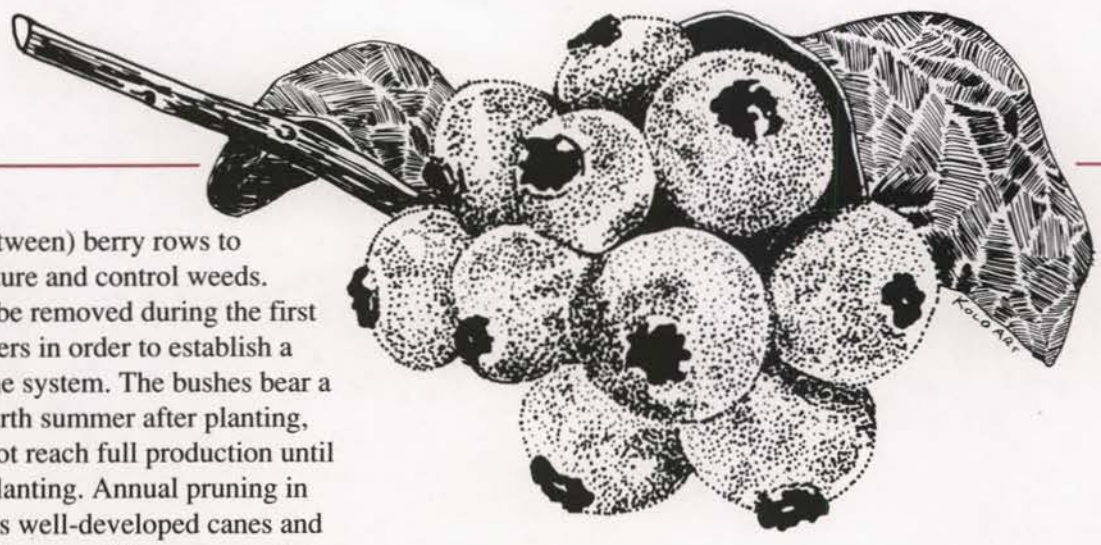


Table 1. Blueberry cultivars recommended for Idaho.

Cultivar Special notes	Use	Season fruit ripens	Harvest length	Mechanical harvest	Size	Scar	Flavor	Yield	Mature height
			(weeks)					(lb/bush)	(feet)
Bluecrop Most widely planted early to midseason cultivar in U.S.	F,P,O	mid	3	yes	large	small	very good	10 to 20	4 to 6
Bluejay Vigorous, upright	F,P,O	mid	3	yes	medium	small	mild	10 to 20	5 to 7
Blueray Leading U-pick cultivar	F,P,O	mid	3 to 5	no	large	medium	good	10 to 20	4 to 6
Earliblue Earliest ripening cultivar; poor shelf life; not for commercial use	H	early	?	yes	med large	medium	good	8 to 15	4 to 6
Elliot Very late; needs long growing season	F,P,O	very late	2	yes	med small	medium	mild	10 to 20	5 to 7
Jersey Needs long growing season	P,O	late	4	yes	med small	medium	fair	7 to 10	5 to 7
Meader Especially good for cold areas with heavy snowfall	F,P,O	mid	2	yes	med large	small	good	?	5 to 7
Northblue[1] As for Northcountry, but better commercial potential	F,P,O	mid	?	no	large	small	good	3 to 7	2 to 3
Northcountry[1] Adapted to cold sites; not for commercial use	F,O	mid	?	no	medium	small	mild	2 to 7	1 to 2
Northland[1] Spreading habit; needs severe pruning to stay upright	F,P,O	med early	2	yes	small	medium	good	15 to 20	3 to 6
Patriot[1] Particularly cold hardy	F,O	early	2	no	very large	small	very good	10 to 20	4 to 6
Rubel	P,O	med late	?	yes	small	medium	very good	8 to 10	5 to 7
Spartan Cold hardiness marginal; for warmer Idaho regions	F,P,O	early	2	yes	large	small	very good	8 to 12	5 to 7
Toro New cultivar showing good promise	F,P,O	med late	?	?	very large	small	very good	?	?

Note: F, fresh; P, processing; O, ornamental; H, home use only.

[1]These cultivars are the most cold hardy available commercially.

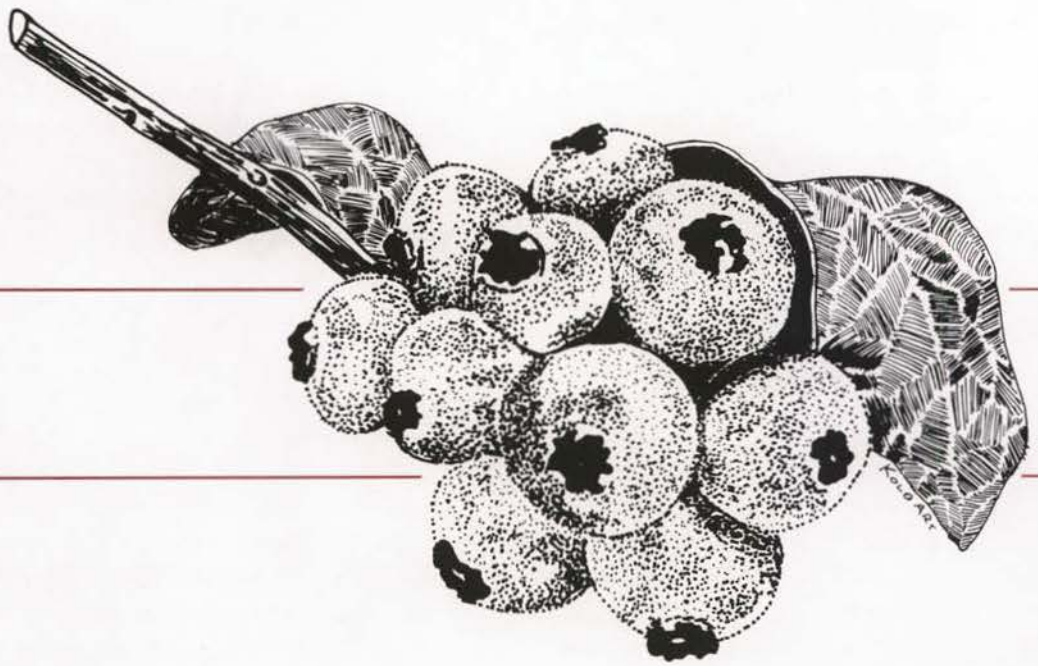
States have produced commercial cultivars that are hardy to between -30° and -35°F under ideal conditions.

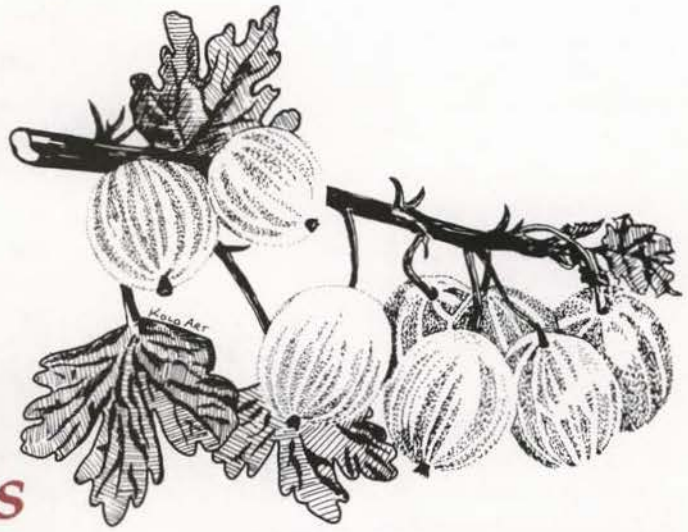
The cultivars in Table 1 should be cold hardy enough for most parts of northern and southwestern Idaho. For eastcentral and southeastern Idaho, only the most cold hardy cultivars should be considered. In these areas, snow cover is important in preventing freezing injury, and winter injuries should be expected during cold winters with little or no snow. Regions classified as USDA hardiness zone 3 are located in Bingham, Boise, Bonneville, Butte, Caribou, Clark, Custer, Fremont, Idaho, and Jefferson counties. Commercial blueberry production in those regions would be extremely difficult and is not recommended.

Among the hardiest cultivars, Northcountry and Northblue are small plants with low yields. In hardiness tests, they have survived temperatures between -35° and -40°F although best survival occurred with 12 inches of snow cover. Survival decreased with snow coverage of more than or less than 12 inches.

Although some of the cultivars listed in Table1 have not been tried under Idaho growing conditions, they are all cold hardy and have consistently done well in similar climates. The actual date of ripening for a given cultivar depends upon the site, weather, and cultural practices.

Most blueberry cultivars are suitable for use as ornamental shrubs due to their attractive flowers, fruit, and canes. The leaves of many cultivars turn bright red in autumn.





Currants and gooseberries

Currants and gooseberries are major crops in Europe, and there are many excellent European cultivars. They are minor crops in the United States, however, and little recent breeding work has been done on them in this country. Many new cultivars are being imported from Europe, but they are not yet commercially available.

The cultivars described here are grown in the northern United States and Canada and should be suitable for Idaho conditions; however, little testing has been done on them here. Most gooseberry and currant cultivars are hardy to about -40°F.

Gooseberries and currants are hosts for white pine blister rust, which killed many western white pines in the early 1900s. Black currants are especially susceptible to the disease. Because of the blister rust problem, Idaho and many other states prohibited gooseberry and currant production beginning in the 1930s.

Since then, both black currants and pine trees have been developed that are resistant to blister rust. Idaho no longer has any restrictions on either growing or importing gooseberries or currants. Where five-needled pines are growing near a planting site, however, gooseberries, red currants, white currants, or blister rust-resistant black currant cultivars should be selected.

Currants are adapted to cool, moist areas and grow well in northern Idaho. In southern Idaho, they should do well if given adequate irrigation. Gooseberries are more tolerant of hot weather than currants and are probably better adapted to southern Idaho conditions.

Both currants and gooseberries prefer deep, well-drained soils with good water-holding capacity and large amounts of organic matter. Plantings do best on north-facing slopes, protected from the wind. Soil pH should be between 5.8 and 6.8. Gooseberries and currants require annual pruning to maintain productivity.

Gooseberries are classified as either American or European. European gooseberries are more susceptible to powdery mildew than American types and are difficult to grow in many parts of the United States. Most currant and gooseberry cultivars are susceptible to powdery mildew to some extent.

Most gooseberries, red currants, and white currants are self-fruitful and require no pollinizer, although commercial growers often plant one or two pollinizing cultivar bushes for every 100 bushes of the main cultivar to help ensure good fruit set and size. Black currants are partially self-fruitful; two or more cultivars should be planted together to ensure good crops. Jostaberries differ in their pollination requirements.

Currants and gooseberries have not been widely grown in the United States since the

early 1900s, and sources for some of the cultivars listed below may be hard to find. With the increase in popularity of currants and gooseberries, more cultivars are becoming commercially available.

Red currants

Cherry — This vigorous, hard-to-find cultivar is only slightly susceptible to powdery mildew. The small to medium-sized berries are high in sugar.

Heros — Sources for this vigorous cultivar may be hard to locate. The plants are moderately susceptible to powdery mildew. The small to medium-sized berries are moderately sweet.

Minnesota 71 — The fruit is medium-large and well filled. The plants are moderately susceptible to powdery mildew, moderately vigorous, spreading, and productive. Minnesota 71 performs better than Red Lake in northern trials. It is one of the best red currants for home and commercial production.

Perfection — Plants are moderately susceptible to powdery mildew and very vigorous. The medium to large berries have a high sugar content.

Red Lake — Berries are small to medium-sized and borne in long, easy-to-pick clusters. The plants are moderately susceptible to powdery mildew, moderately vigorous, semierect, and very productive.

Stevens #9 — The berries are medium-sized to large, medium red, and moderately sweet. Plants are moderately susceptible to powdery mildew, very vigorous, spreading, and productive.

White currants

Gloire des Sablons — Sources for this cultivar may be hard to locate. The plants are moderately susceptible to powdery mildew, slightly susceptible to the imported currant worm (*Nematus ribesii*), and very vigorous. The berries are large and moderately sweet.

Rosa Hollandische — Sources may be hard to find. The medium-sized berries are delicate pink tending toward white and moderately sweet.

The plants are only slightly susceptible to powdery mildew and very vigorous.

White Imperial — This cultivar is much better than White Grape and serves as a replacement for it. The plants are only slightly susceptible to powdery mildew, very vigorous, and moderately susceptible to the imported currant worm. The small to medium-sized berries are very sweet. This is one of the best white currants for home and commercial production.

White Currant 1301 — Sources may be hard to find. The plants are only slightly susceptible to powdery mildew, moderately vigorous, and resistant to the imported currant worm. The berries are medium-sized to large and moderately sweet.

Black currants

Black September — This cultivar is *not* resistant to blister rust, but the plants are only slightly susceptible to powdery mildew and very vigorous. The very large fruit is moderately sweet.

Consort — This blister rust-resistant cultivar was introduced from Canada. In trials at Sandpoint, Idaho, it has proven very vigorous and has so far not shown any significant disease problems. The plants are moderately susceptible to powdery mildew and moderately vigorous. The small to medium-sized fruit is moderately sweet. This is an excellent black currant for home and commercial production.

Crusader — This blister rust-resistant cultivar was introduced from Canada. The plants are moderately susceptible to powdery mildew and very vigorous. The medium-sized berries are moderately sweet but seem to have a stronger flavor than that of Consort. This is an excellent black currant for home and commercial production in Idaho.

Swedish Black — The plants are *not* resistant to blister rust. They are moderately susceptible to powdery mildew and moderately vigorous. The berries are large and sweet.

Strata — The plants are *not* resistant to blister rust. They are moderately susceptible to powdery mildew and moderately vigorous. The moderately sweet berries are the largest of all black currant cultivars evaluated at the National Clonal Germplasm Repository in Oregon.

Gooseberries

Captivator — This cultivar is moderately susceptible to powdery mildew, moderately vigorous, and reliably productive in Oregon. The large red berries are moderately sweet.

Chatauqua — This green-fruited cultivar is widely grown in the United States.

Pixwell — These moderately vigorous plants are only slightly susceptible to powdery mildew. The small to medium-sized, red berries hang below the branches, making them easier to pick than most gooseberry cultivars. The canes are somewhat less spiny than many gooseberry cultivars and are reported to be very cold hardy. This is an excellent gooseberry for home and commercial production in Idaho.

Poorman — The red fruits are small but sweet. The spiny canes are only slightly susceptible to powdery mildew, moderately vigorous, and reliably productive. This is an excellent, highly flavored gooseberry for home and commercial production in Idaho.

Speedwell — This moderately vigorous cultivar is only slightly susceptible to powdery mildew. The berries are greenish white, medium sized, and moderately sweet.

Welcome — This red-fruited cultivar is highly productive and widely planted in the United states. The fruit is sweet to tart, and the canes are practically spineless.

Elderberries

Elderberries are a minor specialty crop and are seldom grown commercially. They belong to the genus *Sambucus* and grow wild over much of the United States and Canada. Only the blue and black varieties are edible; *red-fruited varieties cause nausea and some are reportedly poisonous to humans.*

Elderberries have been tested for cultivation in northern Idaho and do well. The plants are very cold hardy and adapt to a wide variety of soil types. They do best on moist, well-drained, silt-loam soils that are neutral to slightly acidic. The root system is shallow, and elderberries will normally benefit from irrigation in the drier parts of Idaho. In trials at Sandpoint, Idaho, elderberries have responded very well to mulching with 4 to 6 inches of sawdust for weed control and moisture conservation.

The named cultivars that are available include the following:

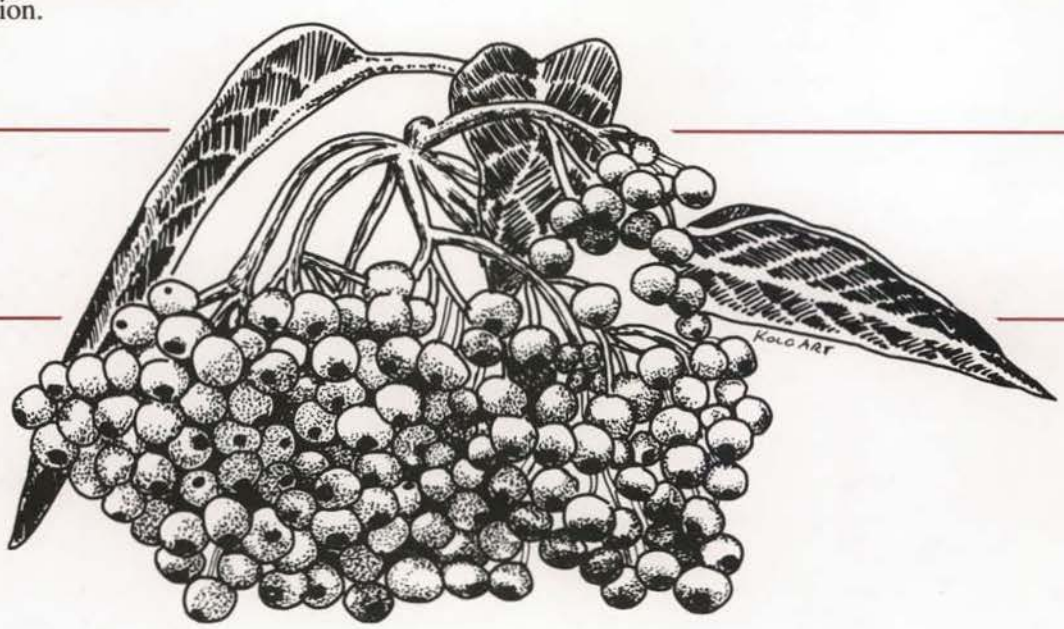
Adams — This cultivar originated in New York, and its fruit is reportedly easier to work with than fruit from wild plants. The fruit ripens in early August. The cultivar requires cross-pollination with another cultivar.

Johns — Johns is more vigorous than Adams but is also less productive. It ripens several weeks after Adams. Cross-pollination with another cultivar improves fruit set and size.

Kent — This cultivar from Nova Scotia is similar to Adams but reportedly ripens about 10 days earlier.

Nova — This cultivar from Nova Scotia is earlier and sweeter than many other cultivars. The clustered fruit ripens evenly, making it a candidate for limited commercial production. Nova has a tendency to sucker profusely.

York — York is one of the better, more productive cultivars. It has heavy clusters of large berries and ripens after the cultivar Adams. Fruit is larger than fruit of Adams or Nova. York can be cross-pollinated with Nova.



Raspberries

Most raspberry cultivars are susceptible to root rot diseases and require well-drained soils but do not tolerate drought well. Their roots are very shallow, lying mostly in the top 6 inches of soil. Irrigation is necessary for good survival and production anywhere in Idaho. Raspberries perform best with a soil pH between 5.8 and 7.0.

Raspberries bear approximately 10 to 20 percent of a full crop 1 year after planting and about 80 percent of a full crop in their third season. Plantings should be replaced every 8 to 10 years because insect and disease problems build up in older plantings and both fruit yield and quality often decline.

Plants are usually sold as bareroot suckers, which are dug in the fall or spring. Fall-dug plants that are properly overwintered are as suitable as spring-dug plants.

Raspberries grown in tissue culture are also widely available but cost more than bareroot stock. They are also more tender than bareroot stock and can be more difficult to establish in the field. Those that are nursery matured establish more easily than those coming directly from a greenhouse. Plants grown in tissue culture that are virus indexed are a source of virus-free stock.

Purchasing insect- and disease-free stock is critical for raspberry production. To reduce disease and insect problems, always purchase new stock from a reputable nursery. Never use raspberry suckers from a neighbor's planting.

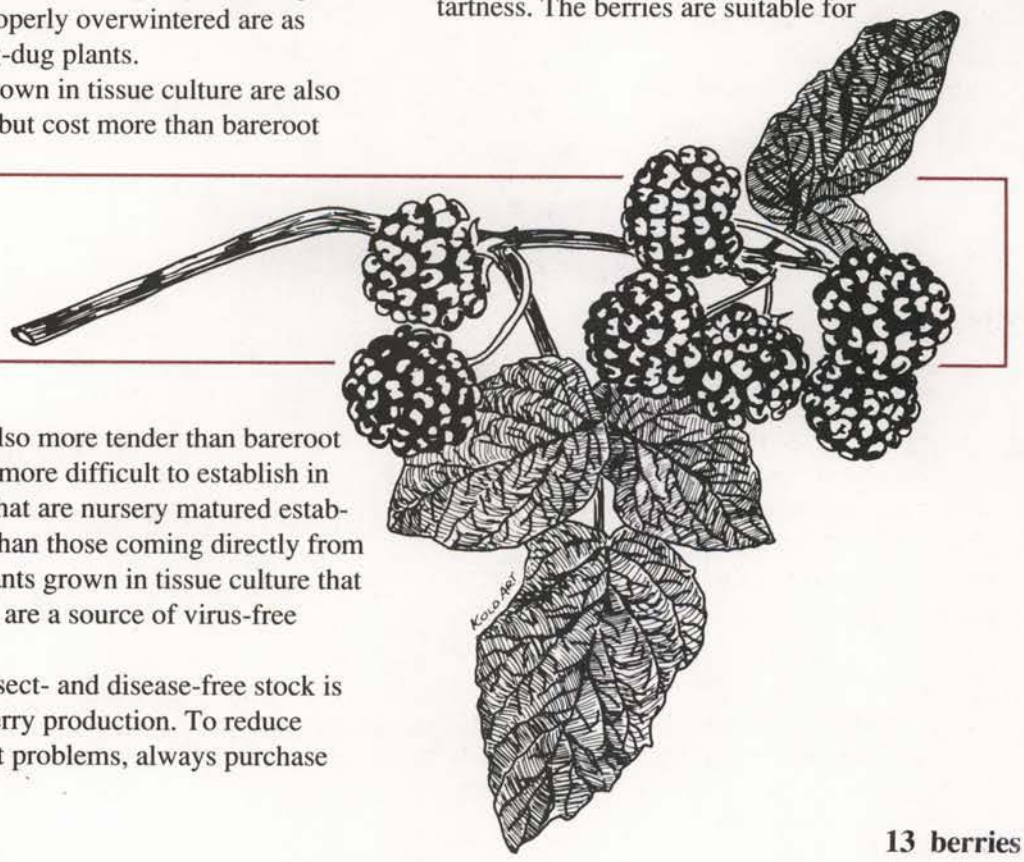
Summer-bearing red raspberries

Summer-bearing red raspberries bear fruit on canes produced the previous growing season. The bearing canes (floricanes) should be removed soon after harvest. Summer-bearing red raspberries generally require trellising.

The hardiest red raspberries are injured by temperatures around -20°F, but some cultivars are less cold hardy. The following cultivars have proven suitable for most northern Idaho locations.

Boyne — This 1960 release from Canada has medium-sized, soft fruit and is suitable for U-pick or local fresh markets. Fruit flavor is fair to good, but less sweet than that of Skeena. The berries are reportedly good for processing. No information is available on this cultivar's suitability for mechanical harvesting. Boyne is very cold hardy, but is susceptible to anthracnose, mosaic virus, and root rot.

Chilcotin — This 1977 release from British Columbia has large, firm, bright-red fruit with an attractive shape. Fruit flavor is mild and lacks tartness. The berries are suitable for



processing and are especially good for fresh markets. The canes are vigorous and productive, with strong, medium-length fruiting laterals. Chilcotin is susceptible to root rot.

Latham — The small, moderately firm fruit is suitable for processing or fresh markets. In northern Idaho trials, the fruit tended to be crumbly. Flavor is mild. The canes are reportedly very hardy and moderately productive, but they are susceptible to mosaic virus, powdery mildew and moderately susceptible to root rot.

Newburgh — The small, firm, light-red berries are suitable for fresh use but are not recommended for processing. Fruit flavor is mild. The canes are very productive but only moderately cold hardy. Newburgh is resistant to anthracnose and spur blight. This cultivar reportedly tolerates heavier soils better than many other raspberry cultivars but is still somewhat susceptible to root rot.

Nootka — The firm, medium-sized, bright-red fruit is suitable for processing and mechanical harvesting. The canes are vigorous, and fruiting laterals are of medium length. Nootka is immune to aphids and resistant to fruit rot and aphid-borne viruses, but it is susceptible to root rot.

Skeena — The medium-large, bright-red, fairly firm berries are sweet and flavorful. They are suitable for fresh markets, processing, and mechanical harvest. The canes are vigorous and productive but very susceptible to root rot. Grow Skeena only on extremely well-drained sites. Floricanes in northern Idaho have suffered extensive winter freezing injury.

Sumner — The medium-sized, bright-red, fairly firm fruit is good for processing and fresh markets. Sumner is unsuitable for mechanical harvesting because its fruit does not shake off readily. The straight, medium-sized canes are moderately vigorous and have strong, medium-length fruiting laterals. Sumner tends to grow slowly the first year, and does not usually produce a significant crop the second year. The cultivar has shown some resistance to root rot in heavier soils.

Taylor — The large, moderately firm fruit has a mild flavor, lacking in sweetness. No information is available on its suitability for processing or mechanical harvesting, but it is reportedly suitable for commercial production or U-pick. The canes are moderately cold hardy and vigorous but are susceptible to viruses.

Titan — The very large, firm, bright-red berries are generally mild flavored. They are used primarily for fresh markets but are also suitable for processing. Titan has a genetic defect that can cause individual berries to ripen unevenly. Yield varies greatly from one location to another but in some cases has been very high. Cold hardiness has been reported to be good, but information on disease and insect resistance is incomplete. The performance of this cultivar has been sporadic, and it is generally not recommended for commercial plantings. Titan is unsuitable for heavy or wet soils. Evaluate a small trial planting before putting in a large number of plants.

Promising red raspberry cultivars that are untested in Idaho

Chilliwack — The fruit is firm, bright red, and has good quality. Flavor is very good. The berries are very large, trailing only Comox and Titan in size. Chilliwack is suitable for processing, and the attractive berries are especially good for fresh markets. Chilliwack is a good replace-

ment for Canby. The berries have good shelf life and show resistance to fruit rot. The cultivar is moderately susceptible to root rot. Winter freezing injury to floricanes following midwinter thaws has occurred in northern Idaho and Washington.

Festival — Festival is a midseason cultivar noted for high yields of firm, medium-sized, good-quality fruit. Its flavor is mild and lacking in sweetness. The berries are suitable for fresh or processing markets and freeze well. Festival is reportedly very cold hardy and adapts to a range of climatic conditions. It is also reportedly immune to raspberry mosaic virus and tolerant of spur blight.

Haida — The fruit is firmer, larger, and sweeter than that of Boyne, and the cultivar is somewhat less cold hardy than Boyne. It is suitable for fresh or processing markets. Its short canes are moderately spiny and sucker well. Growers just north of Idaho in British Columbia have had problems getting adequate cane size and vigor.

Killarney — The dark-red, firm fruit is sweet and has very good flavor. The berries are suitable for fresh use but not for processing. Killarney ripens 1 week after Boyne. Canes are spiny, medium sized, sturdy, and very cold hardy.

Reveille — This early season cultivar is productive, vigorous, and upright, and it suckers freely. The large, bright-red fruit has good flavor. Reveille is reportedly very cold hardy and tolerant of fluctuating spring temperatures. The fruit is good for U-pick and local markets.

Red raspberry cultivars not recommended *for Idaho*

Canby — This cultivar is highly susceptible to root rot. Chilliwack reportedly makes a good replacement when cold hardiness is not critical.

Centennial — This cultivar is not reliably cold hardy in Idaho.

Comox — Extreme susceptibility to root rot has made this high- yielding cultivar a poor risk on all but the best drained sites. No information is available on cold hardiness.

Meeker — This cultivar is not reliably cold hardy in Idaho.

Willamette — This cultivar is not reliably cold hardy in Idaho.

Fall-bearing red raspberries

Fall-bearing raspberries are often referred to as everbearing, but they are more correctly known as primocane bearers. They set a heavy late-summer or early fall crop on the canes that form and grow during the current season (primocanes). If the canes are left for the next season, they will bear a lighter crop of berries in late spring or summer. Commercial growers usually grow these cultivars only for their fall crop and mow the canes to the ground each spring. Mowing eliminates most winter injury and greatly reduces the labor needed for pruning, tying, and trellising.

Nordic — This cultivar is extremely hardy and shows some resistance to the aphid vector of raspberry mosaic virus. Berry weight, yield, and harvest period are similar to that of Boyne. A light fall crop of about 1,000 pounds per acre is borne on the primocanes (canes formed during the current season) in mid-September. The fall crop will often be lost to fall frosts in much of Idaho. Plan to grow Nordic as a summer-bearing crop in Idaho.

The fruit of most primocane-bearing cultivars begins to ripen from mid-August to late September. Many crops are lost to frost in regions with short growing seasons. Some commercial crops of primocane-bearing raspberries are grown in the Boise area, primarily to extend the harvest season for U-pick operations.

Trial plantings of fall-bearing raspberries might be made where fall frosts normally occur after mid-September. Idaho growers should select the earliest cultivars for trial plantings and determine whether they can harvest enough berries to make the plantings worthwhile. *The following cultivars are listed in order of ripening date.*

Autumn Bliss — The berries of this 1983 introduction from England ripen up to 2 weeks earlier than that of Heritage and have superior size, taste, and yield. The fruit ships well and is good for processing. Autumn Bliss appears to be an excellent choice for commercial or home use.

Summit — The berries of this 1988 introduction from Oregon mature up to 2 weeks earlier than that of Heritage and are about the same size. The firm, dark fruit tends to adhere to its core receptacle. Berries reportedly ship well. Summit canes are shorter and less spiny than that of Heritage canes. Summit reportedly does well in heavier soils.

Ruby — This 1989 release from New York is a cross between the varieties Titan and Heritage. It was formerly called Watson and NY114. The berries ripen slightly earlier than that of Heritage and are larger. The firm fruit has a mild taste and tends to be somewhat dry, easing harvest and storage. Heavy fruit loads require trellising. Ruby has been grown in commercial operations, but the results have often been disappointing. The canes are susceptible to Botrytis cane blight and Phytophthora root rot. Plant this cultivar only on light, well-drained soils with good air drainage through and away from the canes.

Heritage — This 1969 introduction from New York has large, firm, bright-red berries that are suitable for either freezing or fresh use. Fruit flavor is fair. Berries in the fall crop tend to be larger than the next summer's crop. An open growth habit and heavy yields make trellises necessary in some areas. Heritage can be grown only in areas having long growing seasons.

Yellow raspberries

Yellow raspberries are the same species *(Rubus idaeus)* as red raspberries and are similar in growth habit. They differ only in fruit color.

Redwing — Redwing is a 1987 release from Minnesota. The fruit matures earlier than that of Heritage but is softer and does not ship well to distant fresh markets. The berries are suitable for fresh use or processing. Redwing is more resistant to high temperatures than Heritage.

Amity — The medium-sized, very firm berries of this 1984 release from Oregon mature up to a week earlier than that of Heritage. Fruit flavor is good. The fruit adheres to its core and cannot be harvested by machine. Amity is suitable for fresh markets and for freezing. The nearly thornless canes show some resistance to powdery mildew and the large raspberry aphid.

Amber — A 1950 release from New York, Amber is a summer-bearing cultivar that has excellent fruit quality. It bears late in the season and is only moderately cold hardy. Amber is unsuitable for commercial production in Idaho. Home gardeners in southwestern Idaho might find this a suitable late cultivar.

Fall Gold — Although this primocane-bearing cultivar has very sweet, flavorful berries, *it cannot be recommended for home or*

commercial use in Idaho. Many or most sources of Fall Gold are infected with raspberry bushy dwarf virus. This very serious disease can be spread by pollen to other raspberries.

Black raspberries

Black raspberries are less cold hardy than red or purple cultivars, and commercial production should be limited to the milder regions of Idaho. Freezing injury in the canes begins at temperatures around -5°F.

Black raspberries are very susceptible to many diseases, and plantings tend to be short lived. Because black raspberries are very susceptible to viruses, growers should purchase stock that has been propagated from virus-indexed mother plants. Plants grown in tissue culture or matured in nurseries are expensive, but the cost might be justifiable. Keep black raspberry plantings at least 500 feet from red raspberries and wild brambles.

Black raspberries tend to remain in hills rather than form hedgerows like red raspberries. Trellising is optional, depending upon cropping practices.

The following cultivars are reported to be among the most cold hardy black raspberries. They might be worth a *trial* planting in the warmer regions of Idaho.

Allen — This 1957 release from New York is widely grown in the northeastern United States. The large, firm, high-quality berries are borne on vigorous, productive canes in midseason. A cross between Bristol and Cumberland, Allen is less cold hardy than Blackhawk but as cold hardy as Bristol and Jewel. Allen is susceptible to anthracnose.

Blackhawk — This 1955 Iowa introduction has medium-large fruit with good flavor and quality. Yields are high, and berries begin ripening in midseason. Blackhawk is reported to be among the hardiest black raspberries. The canes are vigorous and resistant to anthracnose.

Bristol — This very popular 1934 introduction from New York is suitable for fresh use or processing. Firm fruit is borne over 2 or 3 weeks in midseason. Its flavor is reported to be excellent. The vigorous canes adapt to a range of growing sites and tolerate powdery mildew but are susceptible to anthracnose.

Cumberland — This 1896 introduction from Pennsylvania ripens a few days before the cultivar Bristol. Its large, very firm, high-quality berries mature in midseason. Yields are reported to be high. Cumberland is the least hardy of the black raspberries and is susceptible to anthracnose. It is suitable primarily for home gardens and should be grown only in the warmest regions of Idaho.

Dundee — A 1927 release from New York, Dundee ripens after the cultivar Bristol and has higher yields. Its berries are less glossy than those of Bristol, but they are reported to be larger and better flavored. Dundee is susceptible to powdery mildew.

Jewel — This 1973 introduction from New York is very vigorous and productive and reportedly less susceptible to diseases than other black raspberry cultivars. It is a good replacement for the cultivar Bristol in warmer areas, but its cold hardiness is only fair. Fruit is large and glossy.

Lowden — A cross between black and purple raspberries, this 1961 Canadian release is reported to be very winter hardy. It has good disease resistance. Because Lowden ripens later than other black raspberry cultivars, it may be valuable in extending the harvest season.

Purple raspberries

Purple raspberries — hybrids between black and red raspberries — have not yet been tested extensively in Idaho, but they have potential in areas where winter temperatures are mild. They are hardy to about -10°F. Purple raspberries are usually more vigorous and productive than black raspberries and have larger, juicier berries. The following cultivars might be worth a *trial* planting in the warmer areas of Idaho.

Brandywine — The reddish-purple berries are very large, firm, and tart. Their primary use is for processing. Yields are reported to be about 25 percent greater than those of red raspberry cultivars. Canes are long, very thorny, erect, and do not sucker. Brandywine is generally grown in a hill system.

Royalty — The very large, mild-flavored berries mature late in the season. Royalty is sweeter than the cultivar Brandywine and excellent for processing. Berries can be picked at the full-red or purple stages. Royalty is resistant to several insects including the large raspberry aphid, which carries the raspberry mosaic virus. Production practices for Royalty are generally similar to those for red, summer-bearing raspberries.

Success — Berries are sweet, have good flavor, and are suitable for processing. The canes are smaller than those of Brandywine and reportedly are hardy to about -15°F.

Serviceberries or saskatoons

Serviceberries, also called saskatoons, resemble blueberries in taste and appearance and represent a new, growing industry in parts of Canada. Many cultivars have been developed there from the native *Amelanchier alnifolia*, and their fruit quality is far better than the native species'. Several native *Amelanchier* species grow in Idaho, many of which are suitable for ornamental purposes, but their fruit quality is generally unsuitable for commercial production.

Serviceberries have rarely been cultivated in the United States, and little information about them is available for commercial producers. The plants grow well in northern areas that have severe winters such as Alberta, Canada, and may be adapted for some Idaho growing conditions. Prospective growers should make small, trial plantings to evaluate the crop for their growing site and market.

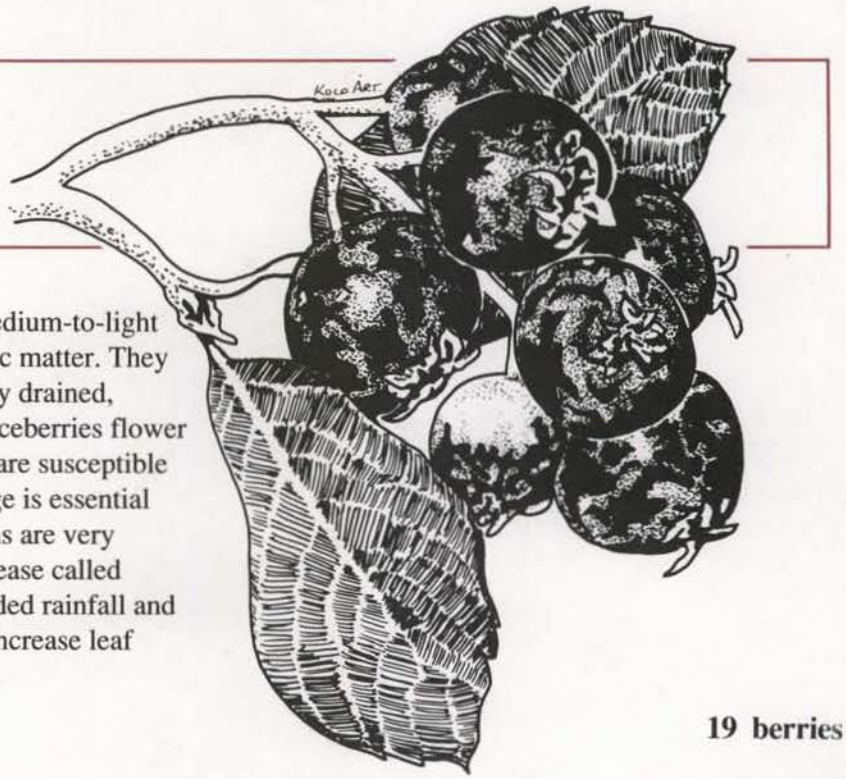
Serviceberries are sold in both fresh and processing markets. Freezing has not been particularly successful, but marginal results are possible if berries are not too ripe. The crop ripens fairly evenly and can be harvested in a single picking, either by hand or mechanical harvester.

A limited number of cultivars developed in Canada are commercially available in the United States. Many Canadian nurseries sell either seedlings, rooted suckers, or plants grown in tissue culture. Seedlings will not be identical to mother plants and should not be used for commercial production. Varieties that have proven best under Alberta growing conditions include the following:

Altaglow — This sparsely fruiting cultivar produces a white berry. Although excellent for ornamental use, Altaglow is unsuitable for fruit production.

Pembina — This cultivar is recommended in Alberta for commercial fruit production, but its flavor and sucker production are reportedly not as good as those of Smokey.

Smokey — This cultivar is probably the best available. It reportedly has superior berry flavor. It produces many root suckers, which form new canes, and is suitable for commercial fruit production. The canes grow to 9 feet tall.



The plants do best in deep, medium-to-light loam soils that are high in organic matter. They do not grow well in heavy, poorly drained, or alkaline (high pH) soils. Serviceberries flower and fruit early in the season and are susceptible to spring frosts. Good air drainage is essential for fruit production, as saskatoons are very susceptible to a leaf and fruit disease called Entomosporium leaf spot. Extended rainfall and overhead irrigation will greatly increase leaf spot problems.

Strawberries

Many strawberry cultivars are available in the United States, and this publication cannot list every one that will or might perform well in Idaho. Except in areas where the growing season is extremely short (less than 90 days), acceptable cultivars are available. In general, select cultivars that are adapted to northern growing regions and cold winters. Selecting cultivars that are resistant to as many diseases and pests as possible is also a good idea.

There are three types of strawberries: June bearers, double cropping, and day neutral. June bearers develop flowers in early spring from buds initiated the previous season. This type of strawberry produces a single crop of berries beginning in June.

The two other types of berries are often called "everbearing." One, double-cropping everbearers, produces two light crops of berries each year, one in spring and another later in summer. The split harvest makes double cropping everbearers popular among home gardeners but limits their usefulness for commercial growers who want one concentrated harvest or a sustained heavy yield. The other everbearing type, day-neutral strawberries, initiates flower buds regardless of day length, and bears an extended crop from late spring or early summer until frost. The cultural requirements for each of these types are very different.

Strawberries require a well-drained soil with good moisture retention. A site with a slight slope for air and water drainage is better than a flat or steeply sloping site. Strawberries can tolerate higher salt levels than raspberries and grow best in soils with a pH of 5.5 to 6.5. Strawberry plants are very shallow rooted and require irrigation anywhere in Idaho.

The plants do not compete well, and weed control is imperative. Strawberries are very susceptible to many diseases. Verticillium wilt is one serious disease found everywhere strawberries are grown. To avoid Verticillium wilt problems, don't plant strawberries where strawberries, other small fruit, tomatoes, potatoes, eggplant, or cherries have been grown. Other serious diseases in Idaho include black root, common leaf spot, gray mold, leaf scorch, powdery mildew, and red stele. Leaf scorch is particularly serious in northern Idaho due to the region's typically cold, wet springs.

Virus diseases include tomato ringspot and tobacco streak. Other viruses cause crinkle, mottle, mild yellow-edge, and vein banding. Of the strawberries commonly grown commercially in the Pacific Northwest, the cultivar Totem is the most resistant to virus diseases, but it is very susceptible to cyclamen mite. Hood is the most susceptible to viruses.

Preventing diseases is far more effective than treating them. Start with a clean field that is well

Table 2. Strawberry cultivars recommended for Idaho.

Cultivar	Use[2]	Berry characteristic					Disease resistance[1]				
		Ripening date[3]	Size	Firmness	Dessert quality	Freezing quality	Leaf scorch	Leaf spot	Powdery mildew	Red stele	Verticillium wilt
June bearing											
Benton	all	10	med	med	fair	good	S	U	U	U	R
Earliglow	all	0	med	firm	very good	very good	R	S	R	R	R
Honeoye[4]	all	6	very large	firm	good	good	R	med S	U	S	S
Micmac	all	7	large	firm	good	good	R	R	U	S	med S
Rainier	all	12+	very large	very firm	good	very good	?	S	very R	R	?
Scott	all	8	very large	firm	very good	very good	R	R	R	R	I
Shuksan	all	12	very large	firm	good	very good	I	S	I	I	I
Totem	all	9	large	very firm	good	good	I	U	U	I	I
Day neutral											
Tribute	all	7	med large	very firm	very good	good	T	T	U	very R	med R
Tristar	all	2	med	firm	very good	good	T	T	U	R	R
Double cropping (everbearing)											
Fort Laramie[4]	HG		large	firm	very good	good	U	U	S	U	U

[1]U, unknown; S, susceptible; I, some resistance; T, tolerant; R, resistant.

[2]All, suitable for commercial production, U-pick, and home gardens; HG, suitable only for home gardens.

[3]Number of days after Earliglow ripens.

[4]Especially cold hardy.

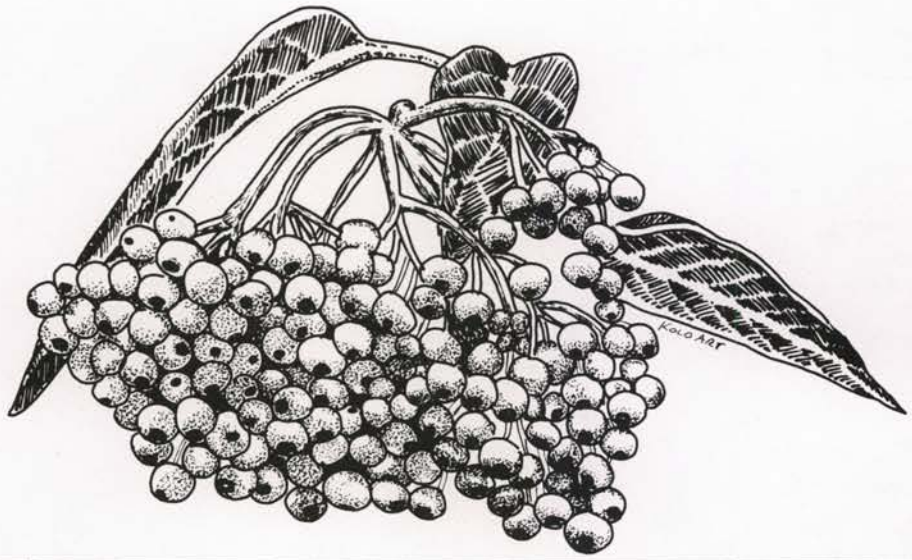
adapted to strawberry culture and plant only newly purchased, certified stock. Sanitation is critical in disease and pest control programs. Soil fumigation is commonly used in commercial fields to control root diseases. Solarization using plastic film may also help control diseases.

Strawberries are susceptible to nematodes, some of which spread virus diseases. The dagger nematodes, *Xiphinema americanum*, and related species are of particular concern. Have your soil tested for nematodes before planting strawberries. Fumigation may be required to control nematodes.

Note: As of 1992, an Idaho Department of Agriculture quarantine on the importation of strawberries into Idaho was under departmental review but remained in force. Under the quarantine, it is illegal to bring into Idaho any strawberry plants that have not been inspected by an authorized agency, and a phytosanitary certificate must precede the shipment of plants into the state. There are no restrictions on the sale of strawberry plants within the state of Idaho or on shipping plants from one part of the state to another. For further information and a list of certified strawberry nurseries, contact the Idaho Department of Agriculture, 2270 Old Penitentiary Road, P.O. Box 190, Boise, ID 83701.

The strawberry cultivars listed in Table 2 have either been tested in Idaho or are generally recommended for colder, northern climates. Evaluate small trial plantings at your site before

Notes



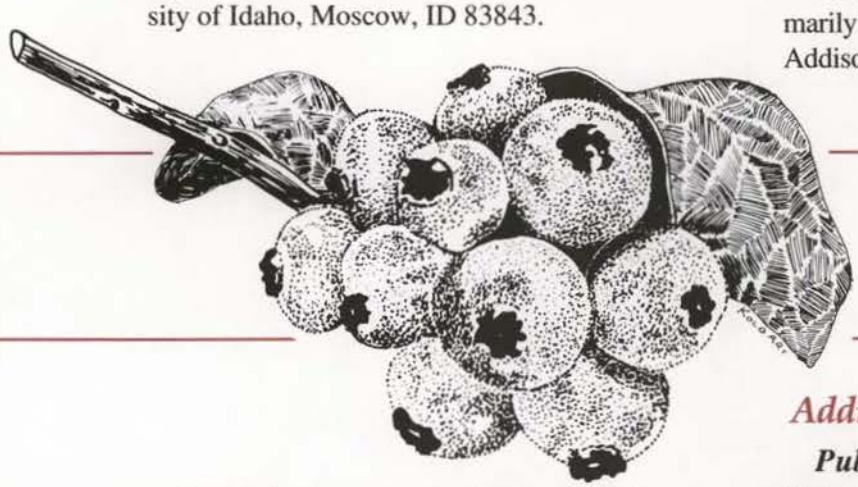
Other berry publications

The source of each of the following publications is listed at the end of each entry. Address for ordering state government publications is supplied. Commercially printed books may be ordered through your neighborhood bookseller.

Blueberry Production: Overview. CIS 932. 1992. For prospective commercial growers. Agricultural Publications, Idaho Street, University of Idaho, Moscow, ID 83843.

Fruit, Berry, and Nut Inventory. 1989. An inventory of nursery catalogs listing all fruit, berry, and nut varieties available by mail order in the United States. Seed Saver Publications. Rural Route 3, Box 239, Decorah, IA 52101.

Raspberry Production: Overview. CIS 960. 1992. For prospective commercial growers. Agricultural Publications, Idaho Street, University of Idaho, Moscow, ID 83843.



Specialty Farming in Idaho — Is It for Me? EXT 743. 1992. Takes prospective farmers through the considerations and decision-making necessary in establishing a specialty farm. Agricultural Publications, Idaho Street, University of Idaho, Moscow, ID 83843.

Specialty Farming In Idaho — Site Selection. EXT 744. 1992. Companion publication to *Specialty Farming in Idaho — Is It for Me?* Assists prospective growers in selecting and preparing a site for a specialty farm. Agricultural Publications, Idaho Street, University of Idaho, Moscow, ID 83843.

Strawberry Production: Overview. CIS 931. 1992. For prospective commercial growers. Agricultural Publications, Idaho Street, University of Idaho, Moscow, ID 83843.

The Home Fruit Planting. IB 156. New York Cooperative Extension Service. Resource Center, 7 Cornell Business and Technology Park, Ithaca, NY 14850.

Uncommon Fruits Worthy of Attention — A Gardener's Guide. L. Reich. 1991.Primarily written for hobbyists and home gardeners. Addison-Wesley Publishing Co., New York, NY.

Additional references and resources

Publications and Organizations for Berry and Grape Growers. Manuscript in review. Lists many publications that provide detailed information on berry and grape culture, business establishment, and farm management. Supporting organizations are also listed. Agricultural Publications, Idaho Street, University of Idaho, Moscow, ID 83843.

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