

# Sweet Cherry Varieties in Oregon

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Here are some terms and definitions used to describe pollination and fruit set of sweet cherry varieties:

**Pollination.** The transfer of pollen to the female stigma.

**Cross-pollination.** The transfer of pollen from the anthers of a flower of one variety to the stigma of a flower of a different variety.

**Fertilization.** The union of the male germ cell, contained in the pollen tube, with the female germ cell, or egg.

**Self-incompatible.** A variety that is unable to set and mature a commercial crop of fruit with its own pollen.

**Cross-compatible.** The pollen produced by either variety of a combination is capable of functioning in the styles and fertilizing the ovules of the other variety.

**Cross-incompatible.** Varieties A and B are unfruitful when pollinated by each other because the pollen, although it is viable, is unable to develop sufficiently on this particular variety of stigma to effect fertilization. Either variety may be an effective pollinizer for some other varieties.

**Pollinizer.** The variety (plant, tree) used as a source of pollen.

**Pollinator.** The agent of pollen transfer, usually bees.

## Varieties

All sweet cherry varieties, except Stella and some Stella crosses, are self-incompatible and must be cross-pollinated for satisfactory yields. Royal Ann, Napoleon, Bing, and Lambert are cross-incompatible, as are some other combinations of varieties. However, all varieties produce viable pollen.

**Royal Ann** known in some states as Napoleon, Royal Ann is the principal variety grown for processing into maraschino cherries. The skin is thin

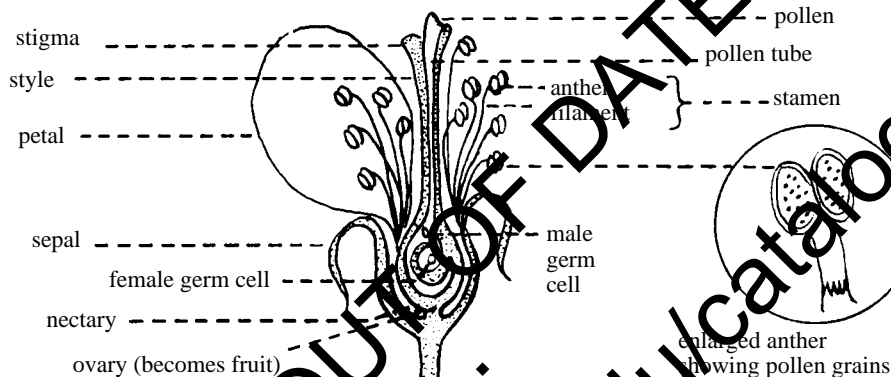


Figure 1.—Longitudinal section of a sweet cherry flower.

and light yellow with a pink blush. Its medium-long stem and moderately pointed fruit shape are associated with the highest quality cocktail-style cherries. Being firm fleshed, this superior quality fruit in the brine; limited quantities are commercially canned. It is more susceptible to rain cracking than some other varieties. Brown coloration from bruising shows clearly on Royal Ann, especially in hot weather.

The tree blooms and matures its fruit in midseason. The tree tends to grow upright with little branching.

Ann is highly susceptible to bacterial canker and dead-bud, a disease caused in cold, rainy weather by the bacteria *Pseudomonas syringae*. It is somewhat less winter-hardy than Lambert.

Corum or Bada in the Willamette Valley, and Black Republican or Van in eastern Oregon, are the pollinizers now most commonly used for Royal Ann. These varieties are cross-compatible with Royal Ann. Most seedlings bloom too early to effect pollination. Black Republican blooms before Royal Ann and in some years is in full bloom before the first 10 percent of the Royal Ann bloom has opened.

The fruits of Black Republican are purplish-black and medium in size, ranging from 0.625 to 0.75 inch in diameter. It is rated as an inferior variety for canning and brining, but it has been successfully marketed as a frozen product. In dry, unirrigated orchards, the fruit is often small and bitter flavored.

Corum has been an effective pollinizer over a period of years. Although it is in full bloom before Royal Ann, there is sufficient overlap of the bloom periods for effective pollination.

Bada is cross-compatible with Bing, Royal Ann, and Lambert. Bada's bloom period coincides more closely with Ann's than does Corum, so it is a better pollinizer for Royal Ann than Corum.

The full-bloom period of Van coincides well with that of Royal Ann, and it is an excellent pollinizer for that variety. Although it is a black cherry suitable for fresh shipping, its quality is inferior to that of Bing. The fruit set on mature Van trees is usually so heavy that the fruits are smaller than Bing and Royal Ann.

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Since the tree is very susceptible to bacterial canker, it is not suitable for the Willamette Valley, but it is the principal pollinizer in eastern Oregon.

**Corum.** Corum is a light-colored cherry with a pronounced red blush. It ripens 4 to 5 days before Royal Ann. The stem is approximately the same length as Ann's, but the fruit itself is not pointed. The flesh is not quite as firm as Ann's. The tree is considerably less susceptible to bacterial canker than Ann. It branches more freely and tends to spread more and to bear at an earlier age. In recent years, it has proven to be much more susceptible to damage by some viruses than Royal Ann and has therefore fallen in favor. It is not recommended for eastern Oregon because Van is more marketable there.

**Bada.** This variety (pronounced *ba-dah*) was introduced by the University of California in 1964. The skin is cream-colored with a red blush. It has excellent quality as a brined cherry. It is similar to Royal Ann in texture but is more resistant to bruising and to rain cracking. The stem is slightly longer and thicker than Ann's, but the fruit is indistinguishable in appearance from Ann's. Bada's flesh is about as firm as that of Royal Ann. Bada ripens a few days earlier than Ann. The tree is not very vigorous; at maturity it is only 50 to 60 percent as large as Royal Ann. It bears early, heavily, and consistently. The tree is more resistant to bacterial canker than Ann and is equally cold-hardy.

**Rainier.** The fruit of Rainier is white with a red blush. It has a relatively short stem and a flat apical end, unlike Royal Ann. When canned, the fruit is solid yellow. In some years, pits crumble or crack with the slightest pressure. This defect appears only rarely but is so serious it should be considered a major drawback to this variety as a brining cherry. Rainier has a pronounced tendency to crack in rainy weather.

Because it is large and firm, it has been sold to a limited extent on the fresh market. Some growers pack it in the field because it shows bruises so easily.

**Bing.** This large, black, firm-fleshed variety is the highest quality fresh-shipment cherry grown anywhere in the U.S. It is grown extensively in the Dalles and Milton-Freewater districts for shipping. It is nearly round, broader than long, and uniform. Its dark red flesh is firm, not very fibrous, juicy, sweet, and very good in quality. The stone is relatively small in comparison to the size of the fruit.

Bing produces an excellent canned product but is inferior for brining unless picked before fully ripe. It is very susceptible to rain cracking, so it is not grown commercially west of the Cascades. It ripens 5 to 7 days after Royal Ann and about a week before Lambert.

The tree is less winter-hardy than Lambert. It is susceptible to bacterial canker and dead-bud caused by *Pseudomonas syringae*.

Bing is cross-incompatible with Royal Ann and Lambert. It is cross-compatible with Van, Chinook, Black Republican, Corum, and Bada. In some years Black Republican blooms too early to be a completely effective pollinizer for Bing. The full-bloom period of Van coincides well with that of Bing, and it is an excellent pollinizer for that variety. Its fruit can be used fresh or for canning. Although both Bada and Corum are good pollinizers for Bing, Bada is a superior variety to Corum. Chinook was introduced as a black-fruited pollinizer for Bing that could be shipped fresh. It has been removed from orchards because of its relatively soft flesh and serious rain cracking.

**Lambert.** In Oregon, Lambert is grown primarily as a late-maturing black variety for freezing and shipping. Its firm, black flesh has a superb flavor when fully mature. The stem is longer

than Bing's, and the fruit is distinctly heart-shaped and pointed. It is usually of medium size but tends to be quite small with a heavy crop. It is susceptible to rain cracking but less so than Bing. It is grown primarily in Union County, but because it often matures after rains have ceased, it is also grown in limited quantities in western Oregon. The tree is more winter-hardy than Royal Ann or Bing. It is susceptible to bacterial canker.

The most commonly grown pollinizers for Lambert are Van and Sam. Black Republican and Van often bloom too early to be effective. Sam is one of the better pollinizers for Lambert. The fruit is black and nearly as large as Bing and Lambert. It is rated low in brining quality because of its coarse texture. Although inferior to Lambert, it is satisfactory for canning. Its peak bloom comes slightly before that of Lambert. It matures earlier than Lambert and tends to be soft.

**Lapine.** This self-fertile variety from British Columbia has demonstrated good resistance to rain cracking. Its large, firm fruit matures 2 days after Lambert. The tree is vigorous, upright, and spurry.

#### Number and placement of pollinizers

The number and placement of pollinizers required for the most effective pollination is largely determined by the foraging habits of the honeybees that carry the pollen. Wind plays little or no part in sweet cherry pollination.

A system where every third tree in every third row is a pollinizer places a pollinizer next to every tree of the main variety at least on the diagonal and allows for a minimum number of pollinizers.

Do not graft pollinizers into the limbs of the main variety. (The varieties frequently are mixed during harvest, especially under mechanical harvesting.)

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