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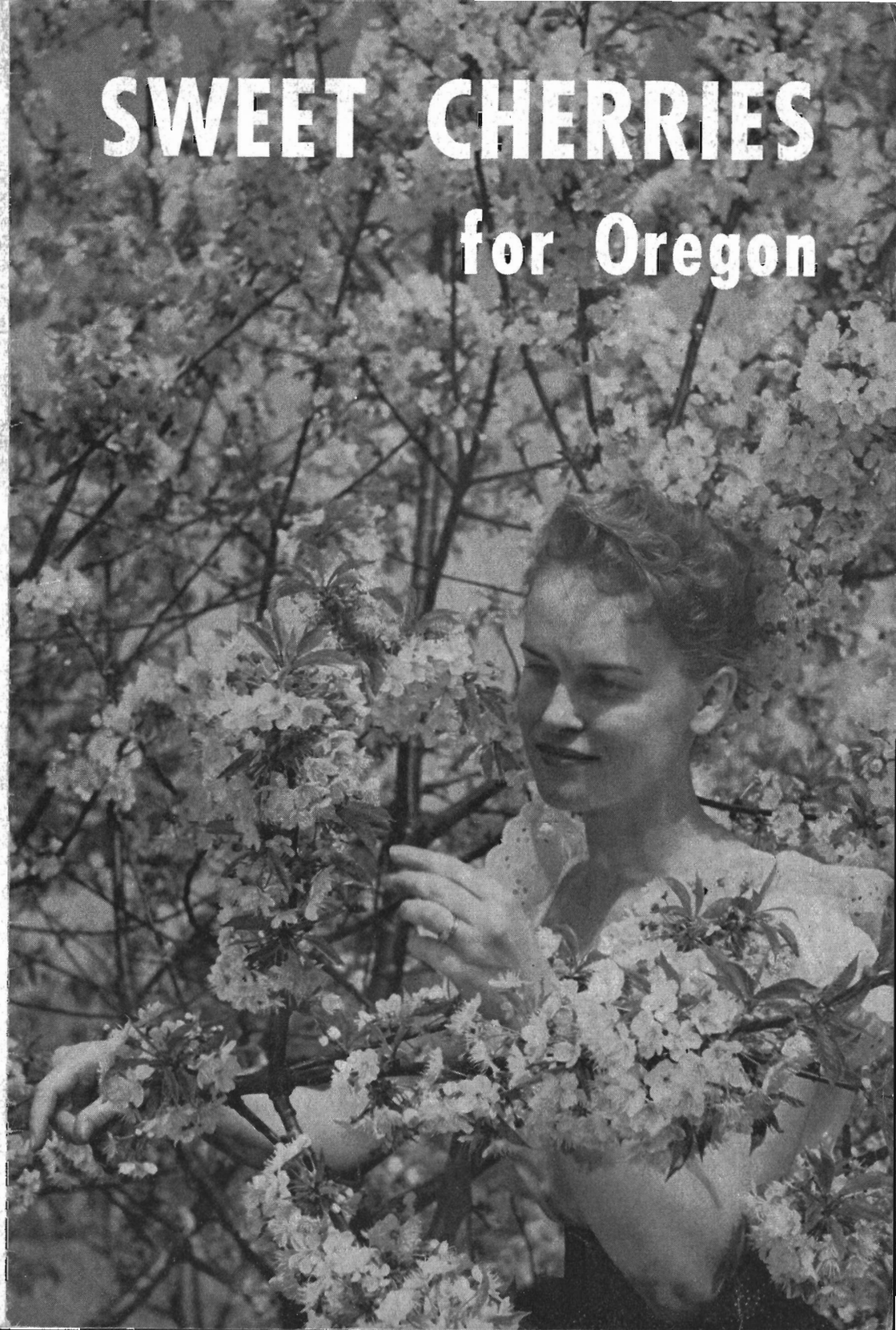
SWEET CHERRIES for Oregon



SWEET CHERRIES for Oregon

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Introduction . . .

A unique characteristic of the sweet cherry industry has been the remarkable stability in the number of varieties grown. Most varieties were originated many years ago. Undoubtedly they are of high quality, as they have been satisfactory for many years. Oregon's most important variety, Royal Ann (Napoleon), was well known in Europe in the early 18th century, and records indicate that it may have been described in 1667. During the past century the most productive work in improvement of sweet cherries was that of Seth Lewelling and his contemporary and neighbor, J. H. Lambert. This research was started about 1848. A few years later Lewelling introduced the Black Republican variety, which he assumed to be a cross of Royal Ann (Napoleon) and Black Tartarian. In 1875 Lewelling introduced Bing, another dark-fleshed variety, which he claimed was a seedling of Black Republican. The Lambert variety, believed to be a seedling of Royal Ann pollinated by Black Heart, was introduced about 1880 by J. H. Lambert. Since then variety improvement has been slow.

Objectives

Within the past 25 years a number of public agencies and individuals have engaged in cherry variety improvement work. Some of the objectives of this work have been better pollinizing varieties, resistance to fruit cracking, elimination of double-fruit, better processing quality, greater hardiness, resistance to virus diseases, and self-fruitfulness.

The fruit of any new variety must not only be equal to established varieties in size, yield, and processing characteristics, but must also be firmer fleshed, more resistant to fruit cracking, more uniform in ripening, more resistant to disease, and generally hardier. Other important considerations are those affecting pollination, such as time, regularity, coincidence of blossoming, and amount and viability of pollen.

Oregon Tests

Many varieties tested by the Oregon station (principally in the Willamette Valley) appear to have merits and qualities not found in established varieties. Several new varieties are larger and more uniform in size, firmer in texture, have smaller pits, and are less subject to bruising and discoloration than standard varieties. Compared to Royal Ann, a few light-colored varieties are larger in size, appear less subject to cracking, have more juice color when canned, do not bruise so easily, and have been very productive. Several of these light-colored varieties, which process well, also appear to be suitable for pollination purposes. A comparison of certain fruit characteristics (stem adherence, stem size and length, pit size, and adherence and firmness of flesh) of these newer varieties with

our standard varieties shows some of the former to have improved qualities. Chart 2 shows these comparisons and a relative ranking of the varieties in field and processing tests. A 4-year average of the period of effective bloom for selected varieties and pollinizers is shown in Chart 1.

The processing tests are preliminary appraisals of the varieties and should not be interpreted as final commercial acceptance by Oregon processors. The future value of new varieties cannot be predicted accurately. Various weaknesses in tree characteristics and handling must always be expected under large-scale, commercial orcharding. Some varieties may ultimately show disease susceptibility, lack of hardiness, fruit cracking, or another limiting factor. A variety which proves satisfactory for processing or fresh shipping may not be a satisfactory and profitable orchard tree for the grower.

Ripening Time

Varieties listed below begin with those which ripen first. Seasonal climatic conditions and elevations of planting sites may affect time of ripening. Any specific reference to time of ripening of a variety applies to the Willamette Valley area unless otherwise noted.

In general all listed varieties are satisfactory for such characteristics as tree growth, normal hardiness, fruiting potential, fruit size and appearance, color, and quality. Descriptive information will indicate special qualities and limitations or some other particular distinction of value to the grower.

In most instances, performance of varieties described is an evaluation made largely on the basis of tests carried on at the Corvallis station since 1948. Many varieties are also under test in other areas of the state, but as yet data are insufficient to be properly evaluated.

Among many varieties tested over the past decade, the following appear to be the most promising, but the Experiment Station cannot recommend planting these varieties on a large scale at the present time. However, they are at least worthy of commercial trial, since they are the few survivors of many rigid cultural tests and a critical appraisal of handling and market qualifications.

Terms Used

Certain terms relating to pollination need defining to indicate the sense in which they have been used in this bulletin. Self-unfruitful, as commonly used, refers to production of insufficient fruits following self-pollination for a full commercial crop, while self-fruitful indicates the equivalent of at least a full commercial crop. Self-incompatible denotes a condition when no fruits are produced following self-pollination. Self-sterile, in the strict sense, refers to the inability of a variety to produce fruit with viable seeds following self-pollination. If a combination of two or more varieties is unfruitful when either one is used as the pollen parent, the combination is termed inter-sterile.

Varieties . . .

Early Purple Guigne

Origin: An old variety originating in England about 1810. A cross of May Duke and Spanish Yellow.

Tree: Medium size, upright-spreading, open-topped, and stocky in growth

habit. Tree is usually productive with well spaced, heavy clusters of fruit. Based on field observations at Corvallis, the tree appears somewhat tolerant to bacterial canker.

Fruit: One of the earliest good, black, sweet cherries. Ripens very early, about 3 weeks before Royal Ann. Fruits are only medium in size, about $\frac{3}{4}$ inch in diameter, heart shaped, and dark reddish-black in color. Stems are slender, $1\frac{1}{4}$ to $1\frac{3}{4}$ inches long, adhering well to the fruit. Skin is thin, tender, and separates easily from the pulp. Flesh is dark red with dark-colored juice, tender, moderately meaty, mild, sweet, and of good quality. Stone is free except along one side, small, and smooth. This early variety is valued most as a fresh fruit variety. It has not yet been established as satisfactory for canning and brining purposes.

Pollination: This variety is completely self-incompatible. It is pollinated by Black Tartarian, Black Republican, Black Heart, and Van. Early Purple Guigne will pollinate Black Republican, Black Tartarian, Royal Ann, and Bing.

Persian

Origin: This cherry, introduced as P. I. 115000, came from India and is of unknown origin.

Tree: Tree is upright-spreading, moderately bushy, moderate in vigor, very productive, but mature habit is unknown.

Fruit: Fruit most nearly resembles Royal Ann in shape and size. Skin is light yellow with an attractive blush, thick, tough, and glossy. Flesh is white, aromatic, firm, moderately juicy, fine textured, and meaty. Quality is excellent. Fruit is especially pleasant for fresh use and is also appreciated because of its early ripening. It ripens about 14 days before Royal Ann and with the variety Early Purple. Persian is rated equal to Royal Ann in canning trials and is rated better for brining, because it is not subject to bruising and possesses a brighter appearance.

Pollination: Although pollination tests have not been made, this variety fruits well when open pollinated by Van, Black Republican, and Black Tartarian.

Merton Heart

Origin: Merton Heart is a cross of Biggareau de Schrechen *x* Elton Heart which was introduced in 1946 by the John Innes Horticultural Institution, Bayfordbury, Hertford, England.

Tree: Tree is very vigorous and distinctly upright, mature habit is unknown. In tests in Britain and in field observations at Corvallis, this variety was rated somewhat tolerant to bacterial canker. It is equal in winter hardiness to Bing and Royal Ann. There is an absence of long laterals and fruit is borne in clusters close to the main limbs.

Fruit: Merton Heart ripens fairly early just after Early Rivers and about 14 days before Royal Ann. It is a large to very-large, heart-shaped cherry, somewhat resembling Lambert. The skin color is deep purplish crimson, becoming jet black when fully ripe. The flesh is dark red, meaty, crisp, juicy, and extremely rich in flavor and high in quality. Stem is medium length or more, $1\frac{1}{2}$ to 2 inches, often slender.

Stone is rather large. Fruit cracks sometimes but seldom badly. This variety is a heavy and consistent cropper and promising for the early fresh market. It has not been tested for processing.

Pollination: Merton Heart is satisfactorily pollinated by Van, Black Republican, and Black Tartarian.

Noire de Guben

Origin: This cherry is an old French variety of uncertain origin.

Tree: Vigorous, or very vigorous, rather erect at first, becoming widespreading and a little drooping. In Corvallis orchards it has been fairly resistant to bacterial canker.

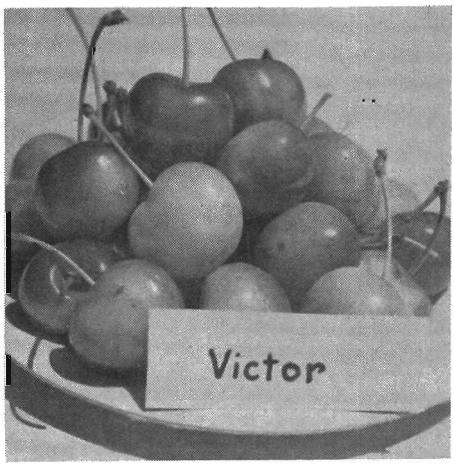
Fruit: This is a large black cherry, ripening 10 to 14 days before Royal Ann. Fruit most nearly resembles Bing in shape. Skin is thin, very shiny and attractive. Stem is 1 to 1¾ inches long and stout, resembling Van in this character. Flesh is very dark red, firm or very firm, even when fully ripe, not very fibrous, fairly juicy, and is rated very good in quality. Stone is a little above medium in size and sometimes clings to the flesh. Fruit seldom cracks badly. Canning quality is excellent because of uniform color and attractiveness. Brining quality was comparable to most other black varieties.

Pollinizers: Guben is a valuable pollinizer for early blossoming varieties since it is one of the earliest to bloom. This variety is known as a "universal donor" and will pollinate nearly all varieties blossoming in the same period.

Victor

Origin: An open-pollinated seedling of Windsor introduced by the Vineland Station, Ontario, Canada, in 1925.

Tree: Tree is vigorous, upright, and productive. In hardiness this variety is comparable to Royal Ann and Lambert.



Fruit: Fruit is large, light fleshed, firm, and somewhat acid until fully ripe, when its quality then becomes good. It is most attractive, with glossy "eye" appeal for fresh use. Unfortunately, the flesh has a very high acid content—so sour it is sometimes objectionable to eat fresh. Victor is an early season variety ripening 7 to 10 days before Royal Ann. Flesh is firm, meaty, crisp, and pleasant. Skin is moderately thin, fairly tough, and separates easily from the pulp.

Pit is unusually small, ranking well below Royal Ann and Lambert in percent of seed based on weight of fruit with stems. It has a better crop distribution on the tree than these varieties. Due to moderate cluster size, fruit is less inclined to rot in wet seasons. In Oregon tests Victor is rated as more

attractive than Royal Ann as a fresh fruit because of its very light-yellow skin color and lively red blush. Fruit processed as well as Royal Ann in both canned and brined packs.

Pollination: Victor appears to be self-unfruitful. It is successfully pollinated by Van, Black Republican, and Black Tartarian.

Merton Favorite

Origin: This variety originated as a cross of Knights Early Black and Biggareau de Schrechen. It was introduced in 1946, by John Innes Horticultural Institution, Bayfordbury, Hertford, England.

Tree: Tree is moderate in vigor, much branched, compact, somewhat spreading, mature habit unknown. Appears to be somewhat susceptible to bacterial canker but much less so than Royal Ann and Bing. Seems to be equal in winter hardiness to Royal Ann and Bing. Fruit is usually scattered on the tree, not in compact clusters.

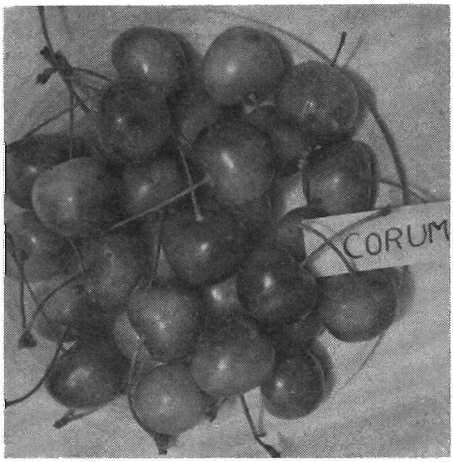
Fruit: Merton Favorite ripens in early mid-season with Sue about 7 to 10 days before Royal Ann. It is a large, short-oval to heart-shaped black cherry somewhat resembling Bing. Flesh is dark purplish-crimson, very juicy and has excellent flavor. This variety is a moderate to heavy and consistent cropper. Stem is moderately long and slender, and firmly attached to the fruit. Stone is small and round. Fruit cracks sometimes, but seldom badly. It has not been tested for processing.

Pollination: Merton Favorite is satisfactorily pollinated by Van, Black Republican, and Black Tartarian.

Corum Seedling

Origin: Corum originated as an unknown seedling on the farm of Gordon Corum, Eugene, Oregon, in 1950.

Tree: Tree is fairly vigorous, upright-spreading when young, becoming rather wide spreading but not very drooping. Mature habit is unknown.



Corum trees have not been tested for hardiness.

Fruit: Corum cherry is a light-colored type with colorless juice. Skin is moderately thick, light pale-yellow with a pronounced attractive red blush. Fruit ripens 6 to 7 days before Royal Ann. Stem is slender, 1½ to 2½ inches long and adheres well to the fruit. Flesh is whitish with a faint, yellow tinge, tender, meaty, crisp, and mild flavored. Stone is slightly clinging and rated as small in proportion to weight of the fruit. Corum has rated very high in canning tests and is satisfactory for brining in preliminary tests. Appears to be less susceptible to bruising and is a moderately large cherry.

SWEET CHERRY AVERAGE BLOSSOMING DATES

Corvallis, Oregon

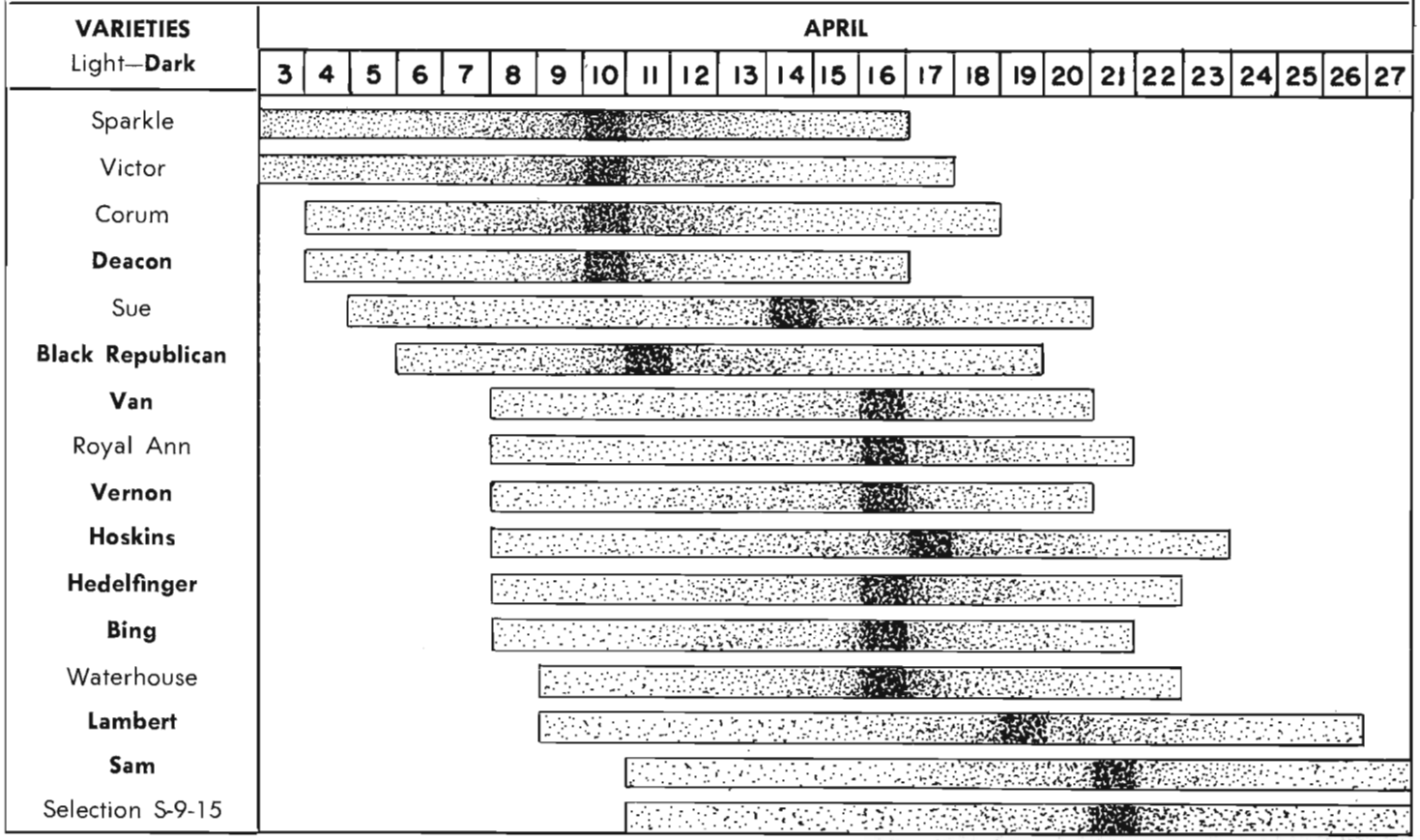


Chart 1

Pollination: Corum, in two years of tests, proved to be a possible pollinizer for Sue, Sam, Van, Royal Ann, Bing, and Lambert.

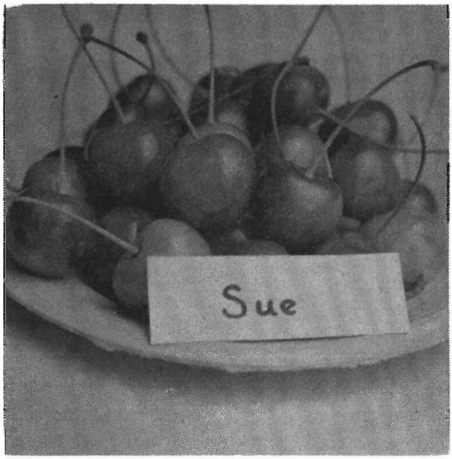
Sue

Origin: Sue is a cross of Bing and Schmidt introduced by the Experimental Station, Summerland, B. C., in 1954.

Tree: The tree is vigorous, upright, quite compact, with rather dense foliage. It bears only moderate crops, and the fruit is well distributed on the limbs. Tree, bud, and blossom hardiness appears to be at least as hardy as Royal Ann. New wood is fairly woody and less susceptible to bacterial canker than Van.

Fruit: Sue, in general appearance, resembles Royal Ann. Skin color is yellow with an attractive red blush and colorless juice. In shape, the fruit resembles Royal Ann. It is over medium in size and often not quite as large as Royal Ann. Moderately firm but softer than Royal Ann, the fruit tends to be outstandingly resistant to cracking. Pits are slightly larger than in Royal Ann. However, the percent of seed based on weight of fruit with stems is less than Royal Ann when brined. Sue ripens about a week earlier than Royal Ann. Sue can be distinguished from Royal Ann by its earlier season of maturity and sweeter flavor. This variety rated high in the canning test because of its bright color and smooth unscarred skin surface.

Pollination: Sue appears to be practically self-sterile, and cross pollination is necessary. It is pollinated by Bing, Lambert, Royal Ann, and Van. It is satisfactory pollinizer for Bing and Lambert. In several years of testing it has not consistently pollinated Royal Ann satisfactorily in Oregon.



Merton Biggareau

Origin: This variety is a cross of Knight's Early Black and Royal Ann introduced by the John Innes Horticultural Institution, Bayfordbury, Hertford, England, in 1946.

Tree: Very vigorous, upright-spreading when young, much like a young Bing tree, but much faster growing. Mature habit is unknown. Trees appear to be moderately resistant to bacterial canker. Trees produce a regular, heavy crop, and there may be a tendency for this variety to over-crop.

Fruit: This variety is a firm-fleshed, large black cherry of very high quality. It somewhat resembles Bing in shape, though more round, but is slightly smaller in size. Skin is moderately heavy and tough, deep mahogany to reddish-black in color. Flesh is dark red, very firm, fine textured, meaty, tender, aromatic, mild, sweet, and of excellent quality.

PRELIMINARY EVALUATION OF OREGON SWEET CHERRIES

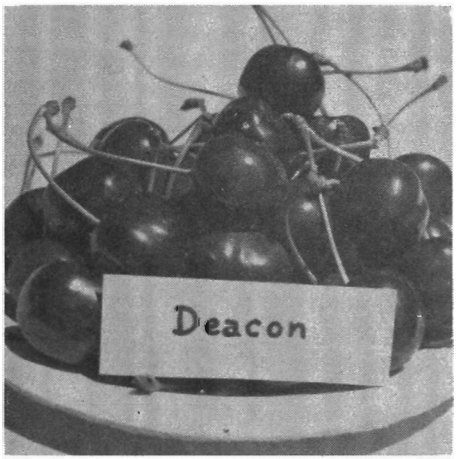
CHART 2

VARIETY	Full Bloom Date	FRUIT								FINAL RATING		
		Harvest Date	Diameter in Centimeters	Cracking[1]	Firmness[1]	Flavor[1]	Color[1]	Juice Color[1]	Color Uniformity[1]	Canned[1]	Brined[2]	Fresh[3]
Biggareau de Schrecken	4/16	6/7	2.0	8.8	7.8	6.8	black	6.6	6.4	7.3	2	4
Bing	4/13	7/7	2.3	8.0	7.[illegible]	7.5	black	8.3	8.7	8.1	4	7
Branaur	4/15	5/27	1.9	6.4	6.[illegible]	7.0	reddish black	7.0	7.2	6.8	3	5
Cardofer Fruhe	4/10	6/12	1.9	5.2	5.6	6.8	purple	7.2	6.8	6.3	–	4
Corum	4/14	6/26	2.4	7.4	7.0	8.0	light	8.2	6.6	7.4	2	8
Cour de Pigeon	4/16	6/20	1.7	8.6	8.6	6.2	black	4.8	5.2	6.7	–	2
Dallas-Early	4/12	6/19	2.2	7.6	6.6	7.2	red	7.0	6.6	7.0	–	6
Daniel Moore	4/14	6/27	2.4	8.0	7.0	6.8	black	6.3	5.2	6.7	1	7
Dickson #270215	4/14	6/19	2.2	8.2	7.0	7.7	black	8.0	8.0	7.8	2	8
Earnstadter	4/15	6/19	1.9	5.8	8.4	6.8	black	6.0	5.4	6.5	3	5
Early Purple	4/15	5/25	1.8	6.4	5.8	5.6	purple	5.2	4.6	5.5	1	4
Esperen	4/16	6/30	2.3	8.3	7.8	6.0	black	5.0	6.7	6.7	1	8
Greenwood	4/16	6/26	1.8	9.0	8.0	5.6	mottled red	4.8	3.8	6.2	4	5
Hatif de Burlat	4/16	5/30	2.2	8.4	7.6	6.6	red	4.2	5.2	6.4	–	4
Hedelfingen	4/14	7/7	2.1	6.6	6.8	7.0	purple	8.2	7.0	7.1	2	7
Hunter #160145	4/14	6/29	2.0	6.3	5.8	5.0	black	7.2	6.7	6.2	3	6
Knight's Early Black	4/16	6/18	2.0	8.8	6.4	5.8	black	7.2	7.0	7.0	3	6
Lambert	4/16	7/14	2.5	7.5	8.0	6.8	purple	5.7	4.7	6.5	2	8
Lamida	4/16	7/16	2.6	6.8	6.0	4.8	purple	5.0	3.8	5.3	1	5
Liefeld's Broune	4/15	6/11	2.0	7.6	6.4	5.0	black	6.6	6.4	6.4	3	3
Macmar	4/14	6/28	2.2	7.0	8.2	6.2	red	7.0	7.4	7.2	1	7
Merton Biggareau	4/15	6/26	2.1	7.8	6.7	7.3	black	6.7	7.0	7.1	1	7
Noire de Chavannes	4/15	6/16	2.0	8.0	7.0	7.0	black	8.8	8.4	7.8	2	7
Noire de Guben	4/13	6/27	2.0	8.8	8.6	8.0	purple	8.4	7.4	8.2	3	7
Persian	4/15	6/20	2.2	9.0	6.6	6.4	light	7.6	8.0	7.5	1	7
Royal Ann	4/14	7/1	2.3	8.2	7.6	6.8	light	6.6	7.2	7.3	2	7
R20-21	4/14	6/29	2.1	5.6	6.2	7.2	red	6.6	6.0	6.3	–	6
R22-10	4/15	7/4	2.3	8.7	8.2	7.5	black	8.7	8.8	8.4	2	8
R25-28	4/15	7/9	2.1	2.6	2.8	6.8	purple	8.0	5.8	5.2	–	5
Sam	4/17	7/2	2.5	8.5	7.5	8.0	black	7.7	7.8	7.9	3	7
Sue	4/14	7/1	2.3	8.6	8.2	8.0	light	8.6	8.8	8.4	2	6
Teichner's Schwarze	4/15	6/17	1.9	5.8	5.4	5.6	reddish black	7.0	5.8	5.9	–	5
Uhlherns	4/16	6/23	2.0	6.6	6.4	7.4	light	6.8	7.8	7.0	4	6
Van	4/13	6/30	2.4	9.2	8.8	7.2	black	8.0	7.7	8.2	1	7
Vernon	4/16	7/1	2.2	5.2	7.8	6.3	black	7.2	6.8	6.7	2	7
Victor	4/15	6/22	2.1	5.6	6.0	8.0	light	7.8	7.8	7.0	2	7
Wills-Dallas	4/14	6/26	2.1	8.4	8.2	7.8	light	8.0	7.8	8.0	2	7

1. Panel evaluation of processed product, 1-poorest, 10-excellent. 2. Brining test ratings: 1-very good; 2-good; 3-fair; and 4-poor based on laboratory evaluation of characteristics of brined product. 3. Field ratings based on color, size, flavor, texture, yield, cracking, seed size, and shape. Scores range from 1-10. Rating from 1-6 are below commercial tolerance, and ratings of 7-10 are acceptable commercially. Data for 1955, 1956, and 1957.

Merton Biggareau ripens in late midseason about the same time as Royal Ann. Both canning and brining quality were comparable to or better than Lambert.

Pollination: This variety is self-incompatible and requires any of the following pollinizers: Black Tartarian, Black Republican, or Van.



Deacon

Origin: Deacon was originated many years ago by a Mr. Murray of Olympia, Washington. Parentage is unknown.

Tree: The tree is large, vigorous, upright, and moderately spreading. With satisfactory growing conditions, it is a heavy bearer, with fruit well distributed throughout the tree. Like many other sweet cherries, this variety is not considered hardy. Deacon has been more tender than Lambert and about equal to Bing in trunk, crotch, and limb hardiness. In fruit bud and in blossom, Deacon has been less hardy than Lambert and about equal to Bing.

Fruit: Deacon is a black cherry ripening about 7 to 8 days earlier than Bing. In shape, it somewhat resembles Lambert but is less pointed. Fruit, when well grown, is large to above medium in size, firm, and good to above-fair in quality. Flavor is sweet and very pleasant. It is fairly susceptible to cracking, although less so than Bing. Skin is medium in thickness and moderately tough.

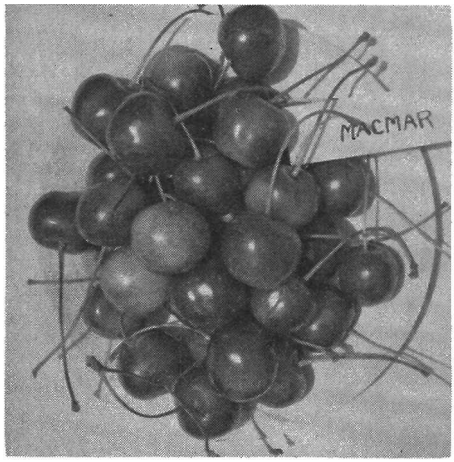
Pollination: Although Deacon was introduced as a pollinizer for Bing, Lambert, and Royal Ann, results at this Station have been variable, sometimes unsatisfactory. Van is superior both as a pollinizer and as a market variety. Deacon is pollinated by Royal Ann, Bing, and Lambert.

Macmar

Origin: Exact origin of this cherry is unknown. It originated in seedling material from hybridization work at the Oregon Experiment Station prior to 1920.

Tree: Large, vigorous, upright-spreading, open-topped, and productive. Trees come into bearing early and appear equally as hardy as Royal Ann and Bing.

Fruit: The fruit is a light type of cherry with colorless juice. The skin is often more than half-covered with a bright red over-color. The fruits are medium to large in size, round-cordate shaped, somewhat like the Bing, and ripen 4 to 5 days before Royal Ann. The stems are 1½ to 2 inches long, thick, stout, and adherent to the fruit. The skin is tough, very firm, and



strongly adherent to the pulp. White with a faint yellow-tinge, the flesh is notably firm, meaty, crisp, and mild. The stone is semiclinging, smooth, and slightly large in size. Macmar cherries crack easily and severely in wet weather, equal to Bing in this respect. This appears to be a promising new variety for fresh fruit shipment due to its attractiveness, unusual firmness, and early ripening. It is not equal to Royal Ann when canned and does not become tender enough in cooking. The skin and flesh are probably too hard and tough for best brining quality.

Pollination: Though pollination tests have not been made, orchard performance indicates that it will set a commercial crop with Van and Black Republican pollinizers.

Sam

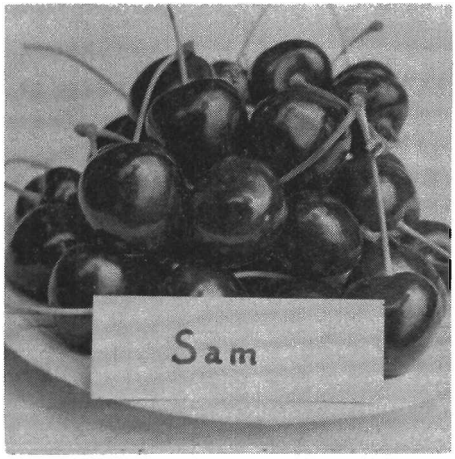
Origin: Sam is an open-pollinated seedling derived from Windsor and introduced by the Experimental Station, Summerland, B. C., in 1953.

Tree: The tree of Sam is large, vigorous, healthy, dense, and shows a strong and desirable framework. In tree hardiness the variety is comparable to Bing. Sam is fairly bud hardy, possibly comparable to Lambert. The tree is moderately productive, the fruit sets well and is well distributed.

Fruit: The fruit of this variety is black and resembles Deacon in shape. It is nearly as large as Bing or Lambert, very firm, of good quality, shows some resistance to cracking, and is satisfactory for canning. It is rated low in brining quality due to a coarse texture.

Its season is about 6 to 7 days earlier than Bing. Sam can be distinguished from Bing, Deacon, and Van by the following characteristics: its roundish-conic shape distinguishes Sam from Bing and Van; its long stem distinguishes it from Van; and a medium-sized, round pit distinguishes it from Deacon and Star, in both of which the pit is large and oval in shape.

Pollination: Sam is self-sterile and requires cross pollination. It appears to be inter-fertile with Bing, Lambert, and Van.



Royal Ann

Origin: Royal Ann, or Napoleon as it is known in Europe, is of unknown origin. French authorities believe that it was first described in France, in 1667.

Tree: The tree is large, vigorous, upright-spreading with a moderately open top when mature. It is very productive and one of the most successful varieties in America. In severe winters Royal Ann, like other sweet cherries, has been injured on the trunk and crotches. Royal Ann appears to be more tender than Lambert. The tree is moderately hardy in fruit bud.

Fruit: The fruit is a light colored type with colorless juice. The skin is thin, and light yellow with an attractive pink blush. The fruit ripens 3 to 4 days before Bing and 10 to 12 days before Lambert. The stem is slender, 1 to 2 inches long, and adheres well to the fruit. Whitish with a faint yellow tinge, tender, meaty, and crisp, the flesh is sprightly flavored. The stone is semi-clinging, small, and smooth. Royal Ann is primarily a canning and brining variety and is fairly susceptible to cracking. The appearance of Royal Ann, both in the fresh state and when canned, is often marred by fruit blemishes. Royal Ann is more vigorous and productive than Bing and Lambert.

Pollination: Royal Ann appears to be practically self-sterile and cross-pollination is necessary. It is pollinated by Van, Black Republican, Hoskins, Corum, and other pollinizing varieties.

Black Republican

Origin: This variety originated as a cross between Royal Ann and Black Tartarian. It was introduced by Seth Lewelling of Milwaukie, Oregon, about 1860.

Tree: Tree is large, vigorous, upright-spreading, open-topped, and very productive. During recent severe winters, Black Republican has not been as hardy as other varieties such as Lambert and Van.

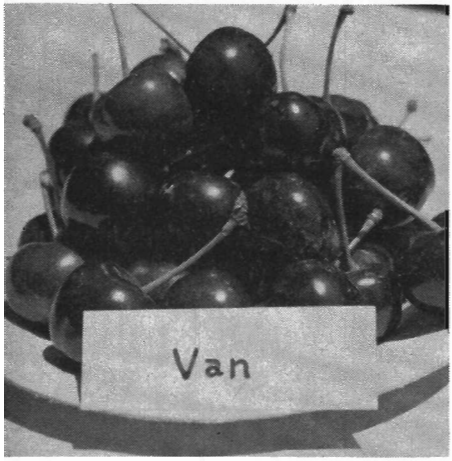
Fruit: Fruit matures relatively late, in the Bing season. The purplish-black fruits are nearly round in shape and medium in size, ranging from $\frac{3}{4}$ to 1 inch in diameter. The fruit stem is thick and short, and adherent to the fruit. Only moderately attractive, the skin is thin, and fairly tender. The flesh, purplish-red with dark-colored juice, is tender, meaty, crisp, mild, and sweet, but slightly astringent before fully mature. The stone is small, semi-free and smooth. Quality is good but inferior to other varieties. It is rated as an inferior variety for canning and brining. In dry unirrigated orchards, the fruit is often small with a bitter flavor.

Pollination: Black Republican is of value as a pollinizer for many other varieties. It is pollinated by Black Tartarian, Royal Ann, Bing, and many other late blooming types.

Van

Origin: Van is an open-pollinated seedling of Empress Eugenie introduced by the Experimental Station, Summerland, B. C., in 1944.

Tree: Tree is a heavy annual bearer, vigorous in growth. During the freezes in 1950 and 1955, the tree demonstrated a special characteristic of hardiness of the tree. It is as hardy as Lambert and more winter hardy than Bing, Black



Republican, Deacon, or Royal Ann. In bud hardiness, Van is about equal to Lambert and Royal Ann, hardier than Bing or Deacon, and much hardier than Black Republican. The new wood produced each year appears softer than in Lambert and Royal Ann and is much more susceptible to bacterial canker than many other varieties.

Fruit: Van is a black cherry, very firm-fleshed, slightly firmer than in Bing, and good in quality, and more sprightly flavored. The fruit sets thickly in heavy clusters on the younger wood. A short stem, combined with the heavy set of fruit makes picking more difficult. Due to the usual heavy set, the fruit is often slightly smaller than Bing and Royal Ann. It is most attractive, with a very bright lustre. Van fruit may be distinguished from Bing or Lambert fruit by its shorter stem, a more highly lustrous skin, and a somewhat blocky and broad-shouldered shape, as compared with the roundish shape of Bing. Van ripens about the same season as Bing. It has ranked high in both brining and canning tests and appears to be comparable to Bing for canning, and Lambert for brining.

Pollination: Van appears to be self-sterile. It is pollinated by Bing, Lambert, Royal Ann, and Sam, and it is an excellent pollinizer for Bing, Lambert, Royal Ann, and Sam.

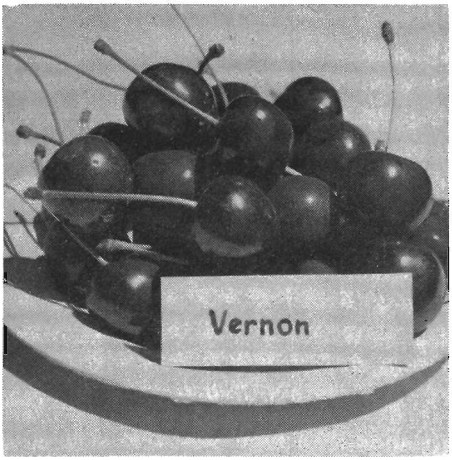
Bing

Origin: Bing is an open-pollinated seedling of Black Republican which was introduced by Seth Lewelling, Milwaukie, Oregon, in 1875.

Tree: Large and moderately vigorous, the tree is rather wide-spreading but does not droop when young. Bing lacks crown, crotch, and limb-trunk hardiness. It is also considered more tender than Lambert in fruit bud and when in blossom. Under Oregon conditions it is a heavy bearer, with fruit well distributed throughout the tree.

Fruit: Fruit of this variety is dark red to almost black, large in size, and one of the important commercial varieties in Oregon. It is heart-shaped to nearly round, broader than long, and uniform. The skin is moderately shiny. The stem is $1\frac{1}{2}$ to 2 inches long and often stout. 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. The fruit is rather susceptible to cracking, especially around the stem end. It usually ripens 5 to 7 days earlier than Lambert.

Pollination: Bing appears to be self-sterile and is inter-sterile with Lambert and Royal Ann. It is successfully pollinated by Van, Black Republican, Hoskins, and other pollinizers.



Vernon

Origin: Vernon is an open-pollinated seedling of Windsor, introduced by the Vineland Station, Ontario, Canada, in 1937.

Tree: An early bearer, the tree is strong, and vigorous. Under favorable conditions it yielded heavy crops during the station tests.

Fruit: Fruit is large, reddish-black, very solid-fleshed, and of good quality. Vernon matures in midseason, about with Bing under Oregon conditions. It is ranked equal to Bing in cracking susceptibility. The skin is both thick and tough, and only medium in attractiveness. The flesh is firm, meaty, crisp and finely textured, medium sweet, somewhat lacking in aroma, and pleasant. The quality rated as good. In brining tests, if properly picked, it is superior to Bing, the variety with which it ripens. In canning tests, it rated lower than Bing, although this may be due to its reddish color after processing.

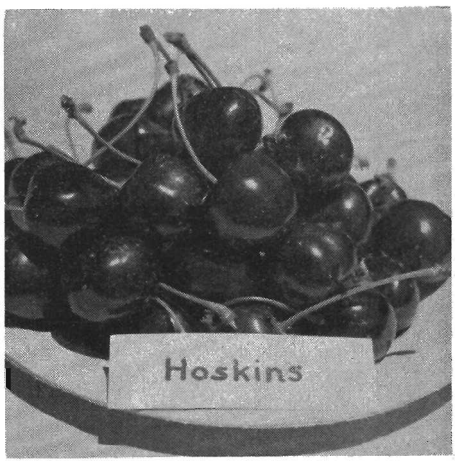
Pollination: Vernon sets satisfactory crops when pollinated by Van, Black Republican, and Black Tartarian.

Hoskins

Origin: Hoskins originated with C. E. Hoskins, Newberg, Oregon, about 1880, as a seedling of Royal Ann.

Tree: Moderately vigorous and rather erect when young, the tree becomes spreading and fairly tall when mature. In the Willamette Valley, Hoskins appears somewhat susceptible to bacterial canker. The tree is quite hardy.

Fruit: Hoskins ripens from midseason to late midseason, that is, between the Bing and Lambert seasons. The fruits are usually fairly large, between $\frac{3}{4}$ and 1 inch in diameter. In shape, Hoskins very much resembles Bing, but is less regular. The skin is thick, tough, and quite dull when mature, and dark red or almost black when over-ripe. The flesh is dark red, firm, breaking, moderately juicy, sweet, and good to very good in quality. The



stem is $1\frac{1}{4}$ to $1\frac{3}{4}$ inches, medium thickness or more. Stone is medium size or more and smooth. The fruit sometimes cracks badly.

Pollination: Hoskins is an excellent pollinizer for Lambert. It is pollinated by Royal Ann, Lambert, and Bing.

Hedelfingen

Origin: Hedelfingen, also known as Geante D' Hedelfingen, originated in Germany, about the middle of the last century.

Tree: Tree is strong, vigorous, tall, with a rather dense head and considerable drooping of outer limbs. Distinctly susceptible to bacterial canker in Oregon, the trees are very productive and moderately hardy.

Fruit: Fruit is large, firm fleshed, deep reddish-black, and ripens late, 3 to 5 days before Lambert. The fruit is more resistant to cracking than most varieties but will crack in wet weather. The fruit is much like Lambert, slightly smaller, with less tendency to crack. Dark red and moderately thick, the skin is fairly attractive. The flesh is very firm, dark purplish-red, meaty, and crisp, with medium-fine texture and good quality. The stem is rather long, $1\frac{1}{2}$ to $2\frac{1}{2}$ inches, with medium thickness. Dark red and medium in size, the stone is much longer than broad. Hedelfingen is a desirable and attractive variety for fresh use. In canning and brining tests this variety is inferior to Bing. The fruit often cracks considerably in processing.

Pollination: Hedelfingen will pollinate Royal Ann, Bing, and Lambert but not as satisfactorily as Van, Black Tartarian, or Black Republican. It is also pollinized by these same varieties.

Lambert

Origin: Lambert was crossed from Royal Ann and Black Heart and was originated by J. H. Lambert about 1880.

Tree: Tree is large, vigorous, and upright with less tendency to spread than the Bing and Royal Ann. Under Oregon conditions, it is a heavy bearer, with fruit well distributed throughout the tree. Lambert is considered one of the more hardy varieties, more so than Bing and Royal Ann in most areas.

Fruit: Lambert is a very large, black cherry ripening later than most commercial varieties. In comparison with Bing, it ripens 5 to 7 days later, and is somewhat more pointed in shape. Lambert is one of the larger sweet cherries, attractive, very firm, and of good quality. It is usually more sprightly in flavor than Bing. It is susceptible to cracking, though less so than Bing. The stem is $1\frac{1}{2}$ to $2\frac{1}{2}$ inches

long and has weak adherence to the fruit. Lambert is a high-quality variety, especially for the fresh fruit and canning market. If picked when bright red, is can be brined satisfactorily. Lambert is more popular now than Bing, because of its hardier, healthier tree, and later ripening season which makes it less susceptible to damage from cracking by rains at harvest.

Pollination: Lambert is self-unfruitful. Satisfactory pollinizers for this variety are Van, Corum, Black Republican, and Black Tartarian.

Lamida

Origin: Lamida originated as an open-pollinated seedling of Lambert and was introduced by the Idaho Experiment Station in 1946.

Tree: Moderately vigorous, upright, having long and not very stout branches, the trees produce very satisfactory commercial crops.

Fruit: Lamida is a large-fruited, black-mahogany colored cherry, resembling Lambert. It sizes up as well as Lambert, but, unlike that variety, it does not set excessively heavy crops. The fruit is firm, fine textured, very juicy, and somewhat more pointed than Lambert. The flavor is sweet, mild, and pleasing. In resistance to cracking, Lamida is superior to Lambert. The skin is moderately thick, tough, separating from the flesh, and has a good finish. Quality is very good to excellent. The stone is semifree, medium to large, and oval. The stem is medium thick, $1\frac{3}{4}$ to 2 inches long, adheres well to the fruit.

Lamida appears promising as a variety to replace Lambert where that variety is damaged extensively by cracking. In size, color, appearance, and quality, it is an excellent cherry. It is inferior to Bing and Lambert when canned, but may be superior when properly harvested, as a brining cherry. Lamida ripens with, or a few days after, Lambert.

Pollination: Lamida is satisfactorily pollinated by Van, Black Republican, Black Tartarian, and Deacon.

Cherry Pollination . . .

The pollination of cherries has been carefully studied by horticulturists for many years, but the available information is still incomplete. This is especially true of the exact relationships of the new varieties of pollinizers with the present commercial varieties. Until time permits the accumulation of these data, it is recommended that growers make local observations, consult with county agents and fieldmen, and use pollinizers best adapted to specific localities. The following general information should serve as a guide in planning the general pollination requirements of established and of new plantings.

Fruits such as sweet cherries have a pollination problem. Therefore, the grower must provide facilities for cross-pollination. Growers who report lack of satisfactory fruit production can often trace the difficulty to inadequate numbers of pollinizer trees, lack of bees, or the wrong pollinizer varieties. In selecting pollinizers, growers should consider the following factors: (1) time and coincidence or over-lap of bloom (2) amount of pollen pro-

duced (3) germinability or life of the pollen (4) commercial value of pollinizer variety (5) regularity of pollinizer blossoming (6) ability of the pollen to grow on the variety and cause fruit set (7) hardiness of the pollinizer trees.

Cross-Pollinizing

Varieties that do not blossom at the same time obviously cannot be used as cross-pollinizers (Chart 2). Growers who depend on wild mazzard fence-row seedlings often experience this phenomenon, since such seedlings usually bloom too early to be most effective.

During the blossoming season, growers should provide one or more colonies of bees for each acre of fruit to be cross-pollinated. Each hive should consist of four or five frames of brood and bees.

All sweet cherries are self-unfruitful and must be cross-pollinated for satisfactory fruit set. Not all varietal combinations are fruitful. Royal Ann, Bing, Lambert are self-unfruitful and cross-unfruitful. They require a fourth variety as a pollinizer, such as Van, Sam, Sue, Black Tartarian, Black Republican, Hoskins, Waterhouse, and others.

In general, only sweet cherries should be planted for cross-pollination of sweet cherries. Sour cherries usually are not satisfactory.

In arranging pollinizers, it is advisable to have, as a minimum, a pollinizer located in every third tree in every third row. This places a pollinizer next to every tree of the main variety in the orchard. Some growers prefer planting every third or every fourth row as a pollinizing variety for convenience in harvesting. One recent practice, which is now being followed in limited trials, is to use two or three pollinizer varieties in the same tree for observing the coincidence of bloom. Later the tree can be top grafted to the best combination.

Grafting

In orchards lacking varieties for cross-pollination, the situation can be corrected by grafting. Some growers prefer to graft a pollinizer branch into each tree. This has the disadvantage of complicating harvest problems, but it does provide an adequate supply of pollen. This method is seldom used today. It is more practical for the orchardist with limited experience to graft over entire trees rather than a single branch. Three or four years are required for grafts to furnish enough blossoms for cross-pollination.

Until the grower can provide for permanent cross-pollination, he can supply a temporary source of pollen by placing bouquets of flowers taken from suitable pollinizing varieties. A deep water bucket of blossoming branches for each tree hung on the leeward side, is usually found to be adequate. Some growers place large bouquets in barrels of water spaced 50 to 100 feet apart on the ground. The success of this method is determined by the freshness of the bouquets and the presence of an abundant supply of pollinizing insects in the orchard.