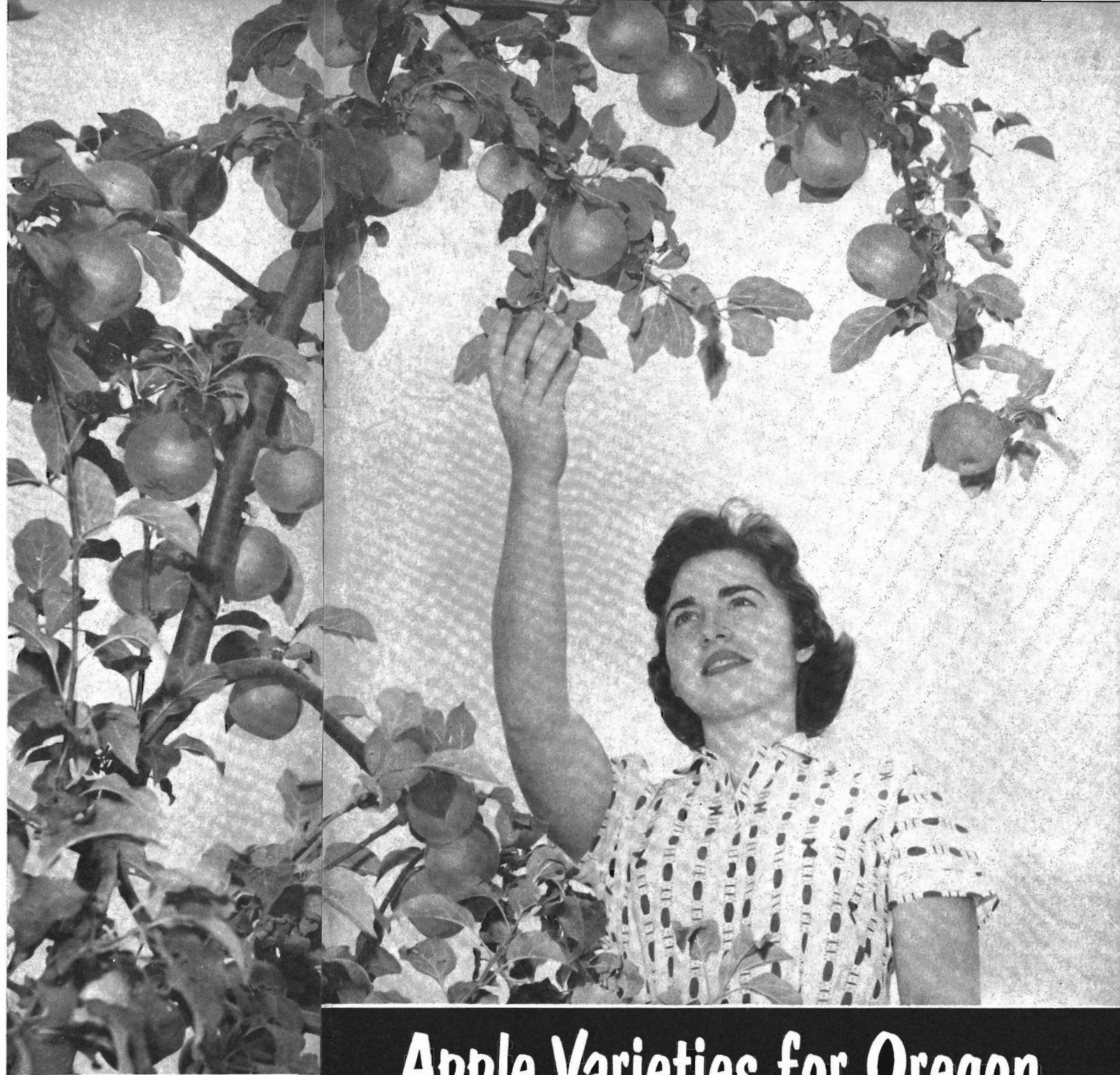


APPLE VARIETY testing has been continuous at the Oregon Agricultural Experiment Station for more than 50 years. The purpose of this program has been to provide the latest variety information to both commercial and home orchardists.

Finding the right variety that will grow best in Oregon's many climates is an important reason for carrying on this work. Much of this area-testing is conducted at seven branch experiment stations and with cooperating growers.

Varieties are tested for production, winter hardiness, fruit quality, storage life, handling ability, smoothness, finish, color, shape, disease and insect-damage resistance, and current market appeal.

Many of the varieties tested come from breeding work at other agricultural experiment stations, from bud sports of standard varieties, and as chance seedlings given to the experiment station.



Agricultural Experiment Station
Oregon State University
Corvallis

Apple Varieties for Oregon

Station Bulletin 563

Revised March 1964

Apple Varieties for Oregon

Recommendations on commercial and home orchard standard varieties, as well as 9 crab apple types

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More than 130 apple varieties are continually under test at the Horticultural Farm, Corvallis.



by **Quentin B. Zielinski**

Associate Horticulturist

THIS LIST of new and old apple varieties has been compiled as a guide for selecting fruit varieties for planting. It is intended to describe the successful older varieties and to indicate the performance of newer apples. Variety descriptions are brief and are intended to give some idea of the appearance, season, quality, adaptability, and value of the variety.

Because of the continually greater interest in red-colored sports, and the more exacting market and consumer requirements, the variety situation is changing gradually. Old varieties such as standard Rome Beauty, Spitzenburg, Wealthy, Baldwin, Duchess, Ben Davis, Yellow Transparent, and Winter Banana are being replaced either by red-colored sports or by superior new varieties that ripen in the same season.

Tested varieties listed

Some of the older varieties continue to be planted because they excel in some special characteristic, or because, in spite of faults, there are no substitutes. The lists and tables include only varieties that have been tested sufficiently to show promise of real value. In most instances, the performance of

varieties described is an evaluation based largely on tests carried on at the Corvallis station.

The future value of new varieties cannot be predicted accurately. Various cultural practices and trends in consumer appeal, as well as unexpected tree or handling weaknesses, cannot be foreseen. Also, remember that a satisfactory orchard performance for a variety does not mean acceptance by the trade and by the consumer.

Ripening time given

Varieties are listed according to their time of ripening, beginning with those which ripen first. Since seasonal climatic conditions and elevations may affect the time of maturity, any specific reference to the time of maturity of a variety may be considered as applicable to the Willamette Valley area unless otherwise noted.

Unless otherwise indicated, assume that a given variety is satisfactory commercially for such characters as tree growth, hardiness, fruiting ability, fruit size and appearance, quality, etc. Descriptive information will indicate special qualities and limitations, or some particular distinction of value to the grower.

Commercial Varieties

The varieties listed below have proved merit for production, quality, and consumer acceptance. These varieties have been thoroughly tested by growers and horticulturists for many years and in various fruit districts.

Yellow Transparent*

For growers wanting an extra early apple, this is one of the best. It is excellent for cooking purposes and quite acceptable for dessert when fully ripe. Yellow Transparent originated in Russia about 1850. It has spread widely and is now one of the leading commercial early varieties. This variety is usually considered for a local market, but in certain states—particularly early ripening districts—extensive plantings have been made for shipping to distant markets.

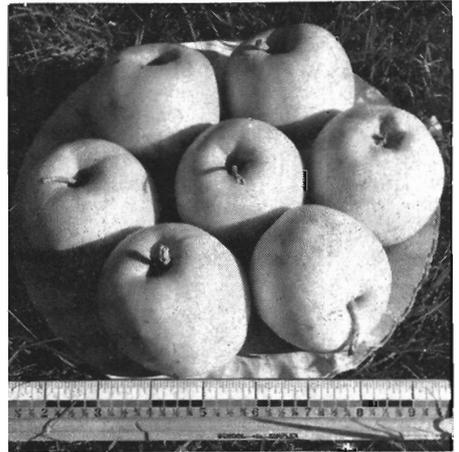
Characteristics

Trees are medium sized, moderately vigorous, with a fairly heavy lateral branch system. The fruit is medium sized and uniform in shape, taking on a good, clear, yellowish-white color before becoming overripe. The skin is thin, rather tender, smooth, and waxy. The flesh is white, moderately firm, fine grained, crisp, tender, juicy, sprightly subacid but with good flavor. The variety is excellent for home orchards because of its earliness and consistent production. For market purposes it must be handled with care for its delicate, clear color and tender skin show bruises readily. In early ripening districts or warmer areas, two pickings will handle the crop satisfactorily. In the Willamette Valley, Yellow

Transparent begins ripening during the first 10 days of July, whereas in warmer districts such as Milton-Freewater and Ontario, it ripens approximately 10 days earlier. The tree is a moderately vigorous grower, hardy, healthy, and comes into bearing very young. Within recent years, several newer varieties ripening close to this season, such as Lodi, Early Red Bird, and Close are partially replacing Yellow Transparent.

Lodi*

Lodi (Montgomery x Transparent) was originated by the New York Experiment Station and introduced for trial in 1924. It has been by far the most successful introduction among new, early-ripening varieties. Growers in several districts of Oregon are replacing Transparent with Lodi, or setting new plantings to this variety because of several outstanding characteristics.



LODI at present is the best yellow-skinned apple for its season. Good for fresh use and cooking.

* Recommended commercial variety.

Characteristics

The trees and fruits resemble Yellow Transparent, but fruits are larger and ripen 5 to 7 days later. Trees are healthy, moderately vigorous, strongly branched, becoming spreading or roundish as they enter heavy annual production. The fruit of Lodi, though a few days later than Transparent, is outstanding in quality, appearance, and handling ability. The fruit does not become mealy or soften around the core as quickly as Yellow Transparent. It is larger in size, more uniform, keeps longer in storage, and extends the Transparent season for apples of this type an additional 2 weeks. The flesh is white, quite firm, fine grained, crisp, tender, juicy, sprightly subacid, and pleasant with a mild, aromatic flavor. Skin is clear, attractive, vivid, yellowish-white, waxy, smooth, and moderately thin, but less tender and less susceptible to bruising than Yellow Transparent. The fruit is rated excellent for both cooking and fresh use. In time, Lodi may well replace Yellow Transparent. At present, no other yellow-skinned variety appears superior for its season.

Gravenstein*

Gravenstein is an old variety originating in Europe—probably in Germany—around the beginning of the nineteenth century. It has long been one of the best varieties for home and local market use, and in some areas it is also a popular shipping variety. For cooking purposes it is unexcelled by any variety of its season.

Characteristics

Trees are large, healthy, vigorous, upright spreading, and become open when mature. Fruit is large, fairly uni-

form in size, and sometimes irregular in shape. Skin is thin, fairly tender, greenish-yellow to orange-yellow, overlaid with broken stripes of light and dark red. Flesh is yellowish, firm, moderately fine, crisp, moderately tender, juicy, sprightly subacid, and aromatic. Fruit quality is rated as very good to best. This variety has long been popular with Oregon growers. Fruit is in good demand and it sells at satisfactory prices.

Limitations

Among the limitations of this variety are its susceptibility to winter injury in colder areas, uneven ripening, and alternate bearing tendency. Fruit ripens continuously during a period of several weeks and several pickings usually are necessary. It is an excellent variety for the home orchard. In western Oregon, Gravenstein is the most popular summer variety grown.

Red sports

During the history of this apple in America, frequent instances are recorded of red strains originating out of the regular variety. Some of the red Gravenstein types tend to have a mottled red color that is not particularly attractive. Others have a very attractive red color but are lacking in size.

Although most of these sports appear to be merely color changes, there are many instances of subsequent changes in fruit size, flavor, and shape. Because of the possibility that other characters have varied along with the color, every bud sport of separate origin must be regarded as a new variety that should be tested in the orchard before it can be recommended as an improvement over the standard variety. To date, many red sports of Gravenstein have been tested or observed, but none appears equal to the

standard Gravenstein in all its qualities. In present variety trials, seven recent red-colored sports are being tested.

Red Delicious*

The original Delicious apple originated as a seedling in Iowa in 1895. Since then a number of strains or varieties have appeared, particularly during the past 25 years. Collectively they constitute our most important group of apples in the Pacific Northwest.

Characteristics

Trees are vigorous, upright-growing, with narrow-angled, weak crotches being somewhat characteristic. Fruit, when properly grown, is very attractive, medium to large in size, characteristically conic shaped, and distinctly crowned. Skin is thick, fairly tender, greenish-yellow, overlaid either with nearly continuous striping or solid red. Flesh is yellowish-white, firm, moderately fine, crisp, moderately tender, juicy, aromatic, and mild in flavor. When the fruit is in prime condition, quality is excellent. It is one of our most attractive red varieties.

Limitations

In spite of its enormous popularity this variety has many defects, among which are:

¶ It is a dessert apple only, and must be grown to perfection to be marketed profitably.

¶ Storage life is short while the fruit is in prime eating condition.

¶ Fruit is susceptible to scab infection.

¶ Fruit size often is small on older trees.

¶ Low grades are not saleable. They do not cook well.

¶ In some areas, water coring is a problem.

Red sports

Within the past 10 years an entire new series of red sports has occurred, originating out of Starking, Richared, and other red-colored types. At the present time, 24 of these newer sports are being tested in the Experiment Station's variety testing orchards. Nearly all of them are earlier with more intense coloration. Considerable variation exists among them, and each must be recognized as a separate variety. Certain of these types are darker in color with more black pigment blended with red. Others are a distinctly solid color in contrast to some of the more striped types. Notable too are the range and shades of red color found among the individual types. Many of these strains are of such recent origin that little can be said specifically at this time about their potential value for particular areas. Consider market requirements carefully to determine the relative importance of early fruit coloration versus shade and intensity of full color development when harvested somewhat later. Every bud sport of separate origin must be tested in the orchard before it can be recommended as an improvement over any other color sport for a particular area. Growers of this variety or of others are urged to watch for new types that might occur in their orchards.

Jonathan*

The Jonathan variety originated in New York State around 1800 and was soon widely distributed in this country. For many years it has been one of the leading commercial varieties in Oregon.

Characteristics

Trees are medium in size and rather slow growing. They are roundish, somewhat drooping, and rather dense. Fruit is medium in size, roundish—conic to ovate—in shape, and uniform in shape and size. When well colored, the fruit is almost completely colored with red, and often shows a beautiful contrasting area of clear, pale yellow about the cavity. Several of the more recent red-colored bud sports of Jonathan have a beautiful clean, lively, red color of vivid brilliance.

Limitations

Jonathan requires a fertile, deep, light soil for best growth, and trees are susceptible to powdery mildew. Another limitation is the development of "Jonathan Spot" in storage.

Red sports

As in some other varieties, a number of red-colored sports of the Jonathan have appeared from time to time. Some of these have proved more desirable and profitable than the standard type. Our experience with most of the red sports indicates that fruit size tends to be smaller, heavier thinning is required, and the flavor is less appealing than the original type. Blackjon is the leading red strain of Jonathan grown in the Pacific Northwest. It attains a deep, red color a week to ten days earlier than Jonathan. Other features are essentially identical to Jonathan. Jonared is another strain of Jonathan that attains a higher percentage of red color and is a few days earlier. It usually colors slightly later than Blackjon.

Oregon growers are not showing any particular preference for Jonathan in future plantings, and it is likely

than this trend may continue. Obtaining satisfactory fruit size and controlling powdery mildew have been serious problems for growers of this variety.

Golden Delicious*

Golden Delicious originated with A. H. Mullens as a seedling in West Virginia and was introduced by Stark Brothers in 1916. It has long been one of the most popular varieties among growers because of both its high fruit quality and its desirability as an orchard tree.

Characteristics

Trees are upright and roundish, medium in vigor, and well branched with naturally strong, wide-angled crotches. This variety is noted for its early bearing and consistent fruit production. Fruit is roundish, oblong, conic, resembling Red Delicious in shape but with a less pronounced crown. Fruit is medium to large in size and uniform in shape. Skin is thin, tough, a vivid, rich, pale yellow with many small, rather inconspicuous brown dots. Flesh is yellow, crisp, juicy, rich, pleasant, mildly subacid, and excellent in quality. It is rated among the best for cooking uses and for dessert. With the development of new storage methods, it is now possible to hold this variety in cold storage until February.

One of the significant trends in recent years is the increase in new plantings of Golden Delicious. A recent survey showed that 62 percent of the non-bearing acreage of apples in Washington is planted to Golden Delicious. Recently completed surveys in Oregon likewise indicate a decided preference for Golden Delicious in new orchard plantings.

Esopus Spitzenburg

The Spitzenburg, as it is commonly known, is one of our older varieties and at one time was one of the leading American varieties. It originated in Esopus County, New York, before 1800. This variety has long been considered one of the finest for both fruit quality and tree growth.

Characteristics

Trees are vigorous, open, upright spreading, with rather slender and drooping lateral branches. The fruit is medium to large, uniform in size and shape, and varies from oblong to conic. Skin is tough, waxy, often roughened by russet dots, yellow in color, and covered nearly entirely with dark red stripes. In the more favorable apple producing areas, this variety develops an attractive bright red color. In many other areas, however, the color is a brownish-red, and is less attractive than other varieties. Flesh is yellow, firm, fine, crisp, tender, juicy, aromatic, and sprightly subacid. Fruit quality is usually rated very good to best.

Limitations

Within recent years the Spitzenburg has lost favor with many Oregon growers due to lack of attractive coloring, irregularity of bearing, lack of keeping quality under intensive cultural practices, and susceptibility to codling moth. Trees of this variety, as they become older, are not particularly vigorous and are noted for their brittle wood and excessive limb breakage. At present, the variety is seldom found in new plantings.

Several red colored sports are available. Although they are attractive, they show many of the weaknesses of the original Esopus Spitzenburg.

Rome Beauty*

Rome Beauty originated with H. N. Gillet in Ohio shortly before 1845. This variety has long been a popular commercial variety in all apple regions except the more northern ones, where it is not sufficiently hardy. When grown properly, the fruit is prized both for its attractive appearance and size and its excellent quality as a cooking and baking apple.

Characteristics

When Rome Beauty trees mature, they produce many pendulous, flexible, lateral branches that bear the crop. The variety comes into bearing early and usually produces a heavy crop. Apples are large, round or round conic with long, slender stems. Skin is thick, tough, smooth, yellow mottled with bright red which, in highly colored specimens, intensifies to a solid red on the exposed cheek and is striped with carmine on the remaining portion. Flesh is light yellow, firm, fine grained to coarse, crisp, juicy, aromatic, mild, and subacid. It is a long-keeping winter apple that has produced well in Oregon.

Limitations

Among the limitations of this variety are late maturity which requires a long growing season, susceptibility to apple scab and mildew, lack of color development some growing seasons, a tendency to overbear, and lack of dessert quality in the fruit.

Red sports

Within the past 20 years few new orchards of standard Rome Beauty have been planted in Oregon. Growers have shown a decided preference for several of the new red-colored strains. Some of the more prominent are Gal-

lia Beauty, Cox Red Rome, C and O 262 Red Rome, Ruby Rome, and Law Red Rome. These red-colored sports have all performed satisfactorily in Oregon, but grower preferences vary from one district to another. Evaluation studies of all new Rome Beauty red sports are in progress at the Experiment Station, and information from these trials will be reported as it becomes available.

One new red sport was released in 1955 as Berkeley Red Rome. This variety is distinctly striped, with closely spaced narrow bands of dark red. It has been introduced as an especially early coloring type. Though various red sports have attained a high popularity with growers, there are some indications that the fruit may not retain its high quality in cold storage. Those sports having the most intense color appear to develop skin disorders or spots. These observations are only preliminary, and no conclusions can be drawn at this time. Some of the so-called red strains of Rome Beauty do not color appreciably more than the original variety. Where Rome Beauty does not color sufficiently or early enough but is otherwise satisfactory, the red sports are preferred.

Northern Spy

The Spy apple has been grown commercially to a limited extent in Oregon. It is distinctly superior in flavor and quality, and ranks among the best early winter varieties. It originated as a seedling in New York about 1800.

Characteristics

Trees are hardy, healthy, long lived, and vigorous, with long, moderately stout branches. Fruit is usually large or very large, fairly uniform, round to

conical in shape, and often noticeably flattened at the base. The skin is thin, tender, and smooth. In areas where a fine finish is obtained, Spy develops a smooth skin with pale yellow ground color that is nearly covered with a bright pinkish-red color. Color is both a mottled and splashed carmine red covered with a thin delicate bloom. The prevailing effect is bright red or striped red. Flesh is yellowish, rather firm, fine grained, very tender, crisp, juicy, sprightly, aromatic, subacid, and highly flavored. For general quality the fruit is rated very good to best.

Limitations

This variety has its faults. Trees often do not bear profitable crops until they are 12 or 15 years old. Fruit quality is variable. Poorly colored fruits are low in quality. In some seasons and in some areas many fruits are poorly colored. Long twigs allow the fruit to whip and become bruised, and such bruised fruit tends to rot on the tree. Skin is tender and fruits must be handled carefully. Both the fruit and foliage are noticeably susceptible to scab injury.

Experience in Oregon has shown that Spy is not well adapted to further planting. It is variable in season and quality, and in some areas it is an unreliable cropper. The variety succeeds better in the cooler growing areas of the state. The top tends to become dense and must be pruned regularly and thoroughly. If the trees are overfertilized or given too much water, fruits will likely be poor in color, excessively large in size, poor in quality, and subject to cracking and bitter pit.

Red sports

Red sports of Spy have not, as yet, proved equal in all respects to the standard Spy. While they have a dis-

tinct, medium-reddish blush, the color lacks the brightness and liveliness of the streaked red of the parent type. Quality, too, often seems to be below that of the ordinary Spy. A number of red sports of Spy are under test at the Experiment Station but none appear, as yet, to be superior to the parent variety. Recent surveys indicate that this variety and its red sports are not often included in new apple plantings in Oregon.

Yellow Newtown

The Yellow Newtown or Albemarle pippin (as it is known in Virginia and West Virginia) is one of the oldest varieties still being grown in Oregon. The variety dates back to about 1750. Its exact origin is obscure, but it is thought to have come from Long Island, New York.

Characteristics

Fruit is medium to large in size, usually ovate, somewhat flattened,

sometimes rather angular, but fairly regular and uniform in size. Skin is green when picked, but becomes an attractive greenish-yellow with a slight blush on highly colored fruits when ripe. Flesh is greenish white, tender, fine grained, juicy, and moderately sweet. The general fruit quality is rated as excellent for dessert and for cooking. Among the outstanding characteristics of the variety are long keeping quality, ease of handling, good tree characters, reliable biennial crops, and the fruit hangs well on the tree.

Limitations

Among the limitations of this variety are its mediocre appearance, susceptibility to scab and internal browning, and very late maturity. Yellow Newtown must be given the best of care. A high percentage of fruit is ill shaped, uneven, and low grade. Within recent years, this variety has lost favor among growers and is seldom planted.

New Varieties Available

Listed below are the newer varieties which have had less extensive testing than those described above. Plant these varieties only on a limited trial. All of the varieties listed have been grown for some time and appear promising. These varieties seem to possess many valuable characteristics in quality, color, season of ripening,

handling, and consumer demand. It is too soon, however, to determine their ultimate value under commercial conditions. Growers interested in new varieties are cautioned to plant only one or a few trees. Observe how well the variety does in your locality and its market acceptance before setting out many trees.

Newer Varieties Ripening in August

Stark Earliest Plant Pat. 642

This red-striped apple originated in 1944. It ripens about 7 to 10 days before Transparent. Fruit is medium to large in size and ripens gradually over a period of several weeks. In quality, fruit is mediocre, rather flat, and considered inferior to Transparent and Lodi which ripen later. Under conditions at Corvallis, the variety is not particularly attractive and the finish lacks smoothness.

Early Red Bird

This renamed variety was formerly sold as Crimson Beauty. It was originated by Luther Burbank in 1921. The fruit is deeply colored, almost a black crimson, slightly striped with yellow, acid, with tender white flesh. It ripens 3 to 4 days after the earliest fruits on Stark Earliest. Fruit quality is relatively poor and its greatest attraction is its earliness, 3 to 5 days before Yellow Transparent. It is poor in cooking quality and fruit ripens quickly, falling to the ground especially during hot weather.

Wellington†

This is a new variety officially released in 1955 by the New York Experiment Station. Limited tests in Station orchards indicate that it is promising in Oregon. The fruit is a large, handsome, red-streaked apple, ripening only a day or two later than Crimson Beauty. Unlike most early apples, Wellington matures its fruit all at one time. This would probably be an undesirable

† Promising new variety.

trait for a home orchard tree. It is an annual cropper of fair to good quality and a good general purpose variety. According to the originators, it makes a satisfactory sauce.

Close†

This variety was originated by the U. S. Department of Agriculture and introduced commercially in 1938. The fruit is an attractive, early, dull red apple for both home and commercial purposes. Fruit—usually 2½ inches or more in diameter—ripens with or slightly ahead of Yellow Transparent. It matures over a long period. The fruit is fairly soft and bruises easily as do other varieties of this season. The general quality is fairly good for both dessert and cooking. This variety withstands high summer temperatures well without excessive fruit drop. Close is probably best adapted for home and local-market use.

June Wealthy Plant Pat. 765

This variety originated in Findlay, Ohio, and was introduced commercially in 1947 by Stark Brothers. June Wealthy ripens a few days before or with Transparent. Fruit is medium to smaller in size, somewhat flattened at both ends. Skin color is dark red and not outstandingly attractive. Flesh is white, aromatic, *distinctly acid*, very firm for this season, and pleasant when picked at the proper maturity.

This variety is of doubtful value unless hardiness and early maturity are needed. As a cooking variety, it is poor in quality. Fruits all mature in a few days and quickly fall to the ground.



JUNE WEALTHY is medium to small in size. It ripens a few days earlier than Transparent apples.

Greendale

This variety was originated by the New York Experiment Station as a cross between McIntosh and Lodi. It was introduced for trial in 1938. As the name suggests, the skin is an attractive green that slowly changes to light greenish-yellow at maturity, somewhat like Lodi. In shape it resembles McIntosh. The flesh is fine textured, mild, and pleasant. Quality and firmness are good and it is desirable for both dessert and cooking. Some may consider it too mild or lacking in flavor for the best type of eating apple. It would be an ideal variety to extend the Lodi season on local markets with a good green apple in mid-August.

Melba†

Melba is a McIntosh seedling introduced by the Central Experimental Farms, Ottawa. Fruit is medium to large, high quality, ripening in mid-August at about the same time as Early McIntosh. Skin color is a bright,

striped crimson over a waxy yellow ground color. Flesh is white, mildly subacid, crisp, tender, pleasantly aromatic, and fine textured. Fruit bruises easily if not picked and handled at the proper maturity. Ripening extends over 10 to 14 days, which makes this variety desirable for home orchards and roadside markets. It is an early and annual bearer. The fruit drops easily when nearly ripe. Several red-colored sports of Melba are being tested. Red Melba has similar if not identical characteristics to Melba, but is a few days later in maturity.

Early McIntosh

This variety originated at the New York Experiment Station and was introduced for trial in 1923. It is a cross of Yellow Transparent and McIntosh. The crop ripens 6 weeks before McIntosh and about 10 to 14 days after Yellow Transparent. Flesh is crisp, juicy, and white in color. Fruit is somewhat typical of McIntosh in color and flavor. Early McIntosh, however, is usually more flattened in shape and its storage life is very short. It must be thinned early and heavily to maintain annual bearing and to produce satisfactory fruit size. Fruits tend to ripen at one time, and in warm weather they soften quickly and drop from the tree. In many areas Early McIntosh is of value mostly as a home garden and local market variety.

Red Duchess

This variety originated as a bud mutation of Duchess with J. P. Van Buren in New York and was introduced commercially in 1937. The tree is typical of Duchess. Fruit is medium to large, round-oblate, and handsomely colored a clear, solid red. The flesh is

greenish-white, firm, crisp, tender, juicy, sprightly subacid to tart, and rated as good. The Red Duchess, like its parent variety, is hardy, early bearing, a good cooking variety, and matures about mid-August with Melba. The ripening period extends over 10 to 12 days. The chief merits of Red Duchess are its earliness, hardness, and attractive color. It does not color well unless left on the tree to attain its optimum picking maturity. If harvested prematurely, it is not attractively colored and the quality is inferior. Commercially, it is a distinct improvement over the standard Duchess of Oldenburg.

Puritan†

This new variety was originated by the Massachusetts Experiment Station as a cross of McIntosh and Red Astrachan. Puritan was introduced commercially in 1953. The tree is well branched, vigorous, with wide crotch angles; productive, but biennial in bearing tendency. Fruit is medium in size, round-conic, uniform, regular, and with a moderately short stem. The skin is thin, tender, attractive, bright red blushed color, and uniformly well colored. The flesh is tender, fairly soft, white, crisp, subacid, and juicy when picked at proper maturity. The general fruit quality for this season is good. Puritan ripens with or only a few days later than Early McIntosh at Corvallis. This variety is superior to Early McIntosh in Oregon for those who prefer a distinctly *acid-type* apple like the Duchess. It ripens more slowly, hangs better on the tree, and keeps its quality longer than Early McIntosh. Puritan has promise for the early local apple market. Its color is attractive, more so than Early McIntosh.

Beacon†

This early summer variety originated at the Minnesota Fruit Breeding Farm as an open-pollinated seedling of Malinda. It was introduced commercially in 1936. The fruit is of medium size— $2\frac{1}{4}$ to $2\frac{3}{4}$ inches—and ripens 3 to 4 days after Duchess and about a week after Melba. Skin is moderately thick, tough, with an attractive, overall red blush. Flesh is yellowish white, crisp, juicy, subacid, but less acid than Duchess. Beacon is an annual bearer, excellent for home use, and has good commercial possibilities. This variety ripens and colors unevenly, and should be spot-picked. The ripening period extends about 2 weeks at Corvallis, and the fruit will keep about 4 weeks after harvest. Beacon handles and stores much better than Melba but ripens more unevenly. This is an excellent local-market variety, particularly because of its earliness, excellent quality, and handling characteristics.

Niagara†

This variety was selected in New York from a cross of Carlton x McIntosh. It is a promising McIntosh type, ripening just before Jonathan when a superior variety that colors well and ships satisfactorily is needed. It resembles McIntosh in growth habit, productiveness, appearance, and flavor. The flesh is firm, white, crisp, and flavorful. The tree is moderately vigorous with well developed limbs. The leaves are very resistant to mildew infection. The fruit has a slight tendency to drop with approaching maturity. It is a diploid type with fertile pollen. Niagara's full bloom coincides with McIntosh, Gravenstein, and other early flowering varieties, and it should be a good pollinizer. Further evaluation is needed in Oregon.

Red Gravenstein†

Many red-fruited bud sports of Gravenstein are available, some of the more prominent ones being Red Gravenstein (Geneva), and Crimson Gravenstein (Vineland). Other strains of Red Gravenstein are Lunen, Bennett, Shaw, Mead, Harrison, Banks, Whipple, and Australia. Some of the red sports appear definitely superior in color. Others tend to be mottled and marbled and are not attractive. Some growers and many consumers continue to prefer the flavor of the standard Gravenstein.

Tydeman's Red†

This is a seedling of McIntosh x Worcester Pearmain, introduced in 1945 by breeders in England. In Oregon it ripens just after Gravenstein, usually about August 25. It is a very firm, highly-colored, medium size apple of good quality, with a distinctive pleasant flavor. The flesh is firm, white, and crisp. Young trees bear the fruit mostly on terminals. The upright growth habit of this variety is undesirable. Scoring or girdling will induce earlier fruiting and retard the vigorous growth.

Newer Varieties Ripening in September

Minjon†

This new variety from Minnesota, a seedling of Wealthy x Jonathan, may interest growers desiring a highly colored variety, resembling Jonathan but coloring and maturing about 2 weeks earlier. The fruit is firm, medium in size, roundish, slightly flattened at the ends, and with excellent finish. The flesh is juicy, firm, crisp, tinged with pink, and pleasantly tart. Quality is good for fresh use and very good for cooking. The trees are medium in vigor, similar to Jonathan. A fault is a tendency to set fruit in clusters and overload. A good fruit thinning program is essential to obtain well-sized fruit. Minjon is reported to respond readily to chemical thinning sprays. Further evaluation is needed, but this variety is worthy of limited planting for the early September market.

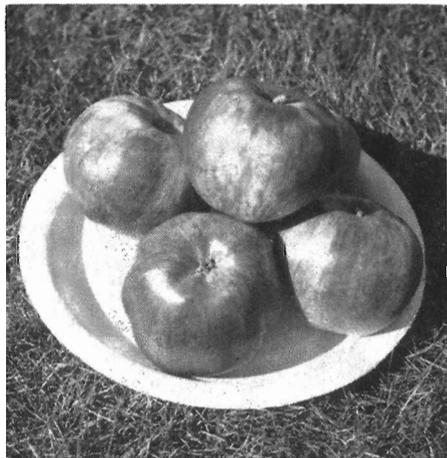
Red Wealthy†

This red sport of Wealthy is a valuable new addition to the early fall variety list. It ripens during the first week of September. It originated in New York, and was introduced and trademarked by Stark Brothers in 1940. The tree is notably hardy, dwarfish, with short, stout branches. The fruit is medium to large, round conic, and regular. The color is a deep, vivid red that covers the entire apple and is most attractive. Skin is thin, smooth, and finely finished. The flesh is white, sometimes stained with pink, fine, crisp, tender, juicy, agreeably subacid, sprightly, and very aromatic. The variety tends to bear biennially and requires heavy fruit thinning to obtain good-sized specimens. It is believed hardy in all fruit districts of Oregon. Red Wealthy is a distinct color improvement over standard Wealthy and

is worthy of additional interest in Oregon. It is also a useful pollinator for other varieties since it blooms between McIntosh and Spy.

Lakeland†

This variety originated at the Minnesota Fruit Breeding Farm and was



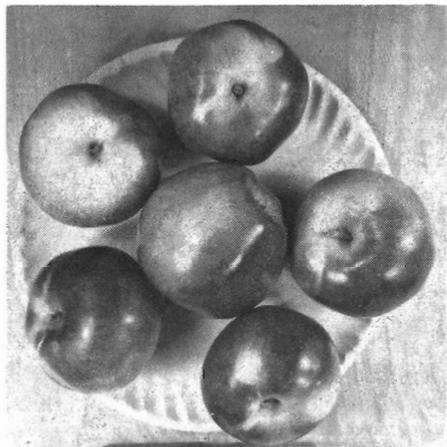
LAKELAND flesh is a light yellow or slightly pink, with fine grained, medium tender, juicy texture.

introduced in 1951. Color is a bright, attractive, medium-dark red, three-fourths to solid color. The skin is medium tender, smooth, well finished, and an attractively striped red. Flesh is a light, creamy yellow, sometimes slightly tinged with pink. Texture is fine grained, medium tender, and juicy. The flavor is pleasantly mild subacid changing to subacid in storage. Fruit size is medium to larger and uniform in shape. The general quality is excellent, and it is a desirable variety for dessert, sauce, and pies. It ripens about September 15 at Corvallis.

Double-Red McIntosh†

This strain of McIntosh introduced by Stark Brothers is one representa-

tive of a series of bud sports such as Farley, Geneva, Hamilton, Smith, Blackmac, and others that are often superior to the original type. McIntosh has never become a leading variety in Oregon since it does not color well under our warm growing season. Double-Red McIntosh has many merits and would be a very desirable home-orchard or roadside-stand variety. Trees are notably hardy and productive. The fruit is large, uniform in shape and size, regular, and round-oblately. Skin is thin, tender, smooth, and deeply blushed with bright red. Flesh is white, sometimes veined with pink, fairly firm, fine, crisp, tender, juicy, perfumed, and sprightly subacid. This variety is rated as excellent for all cooler districts. It has several faults: it is subject to scab, drops readily at maturity, and sports freely to poorer-colored types. Currently, with the com-



DOUBLE-RED McIntOSH is a good home-orchard or roadside variety. It grows well in cooler areas.

bined use of stop-drop sprays and some of the better red-colored sports, a very pleasing crop of fruit can be produced in the cooler areas of Oregon.

Oregon's Apple Growing Areas

AREA	SUGGESTED VARIETIES			DISCUSSION
	<p>Early</p> <p>Yellow Transparent Lodi Early McIntosh Red June</p>	<p>Mid-Season</p> <p>Melba Red Duchess Beacon Gravenstein</p>	<p>Late</p> <p>Red Wealthy King Red Delicious Golden Delicious</p>	<p>Limiting apple production are low summer temperatures and excessive moisture. Although this area has a long growing season—up to 260 days in some areas—there is not a sufficient number of heat units to properly mature many varieties. Summer rainfall, which causes powdery mildew, is a serious problem on some varieties. Thus, when choosing varieties for this area, select only those ripening fairly early—with, or before Red Delicious—and varieties rated as fairly tolerant of scab and mildew.</p>
	<p>Early</p> <p>Stark Earliest Yellow Transparent Lodi Wellington Close Early McIntosh Melba Red Duchess</p>	<p>Mid-Season</p> <p>Beacon Gravenstein Red Wealthy Kendall Red McIntosh Jonathan Red Delicious strains</p>	<p>Late</p> <p>Golden Delicious Northern Spy Newtosh Melrose Sandow Ruby Red Rome Beauty strains</p>	<p>This area is noted for mild, uniform, and relatively humid weather. During the summer, temperatures are usually moderate with low humidity. Damage from low winter temperatures or spring frosts rarely occurs. This is an area in which most apple varieties succeed well. Select varieties for quality and season of ripening to satisfy market demands and personal preference.</p>
	<p>Early</p> <p>Yellow Transparent Lodi Early McIntosh Greendale Melba Niagara</p>	<p>Mid-Season</p> <p>Beacon Red Wealthy Idajon Idared Jonadel Golden Delicious Red Delicious strains</p>	<p>Late</p> <p>Winesap Stayman Melrose Ruby Yellow Newtown Red Rome Beauty strains</p>	<p>Greater temperature extremes occur in this region, with lower relative humidity, more sunshine, and winds. Winter temperatures may reach zero or 10° below nearly every winter. Summer temperatures are higher than in the western valleys and nearly all varieties can be ripened satisfactorily. Select high quality and highly colored varieties for commercial planting. In the higher elevations—particularly the upper Hood River and Grande Ronde Valleys—very late varieties may not always mature properly. Apples grown in this area are noted for their high quality, fine finish, and brilliant color. Hood River County produces about half of Oregon's commercial apples. It should not be implied that any or all of the varieties will be commercially successful. Before planting, commercial orchardists should consult buyers and shippers regarding market preferences.</p>
	<p>Early</p> <p>Red Astrachan Yellow Transparent Lodi Red Duchess Early McIntosh Melba</p>	<p>Mid-Season</p> <p>Red Wealthy Beacon Cortland Kendall Bellflower Fameuse</p>	<p>Late</p> <p>Northern Spy Baldwin Winter Banana Haralson Winesap Yellow Newtown</p>	<p>This area is noted for extremes in temperature, lack of rainfall, and a short growing season. Only the hardiest varieties usually will succeed, especially those with a short growing season and partial fire-blight tolerance. Much variation in minimum winter temperatures, summer heat units, humidity, and dates of killing frosts from one section to another occurs.</p> <p>Apples are grown successfully in many of the deeper river canyons which protect trees from spring frosts, yet provide sufficient summer temperatures. Many varieties of apples, including some of the late varieties, grow very well in the deep river valleys along the John Day, Snake, and Malheur Rivers. Apples also may be found growing well near several of the larger lakes, including Klamath, Summer, and Goose Lakes.</p>

Jongrimes

Plant Pat. No. 794

This variety, originated in Indiana by R. S. Rogers, was commercially introduced about 1948. The parentage is unknown. The variety does not resemble either Jonathan or Grimes Golden. Fruit is large—2½ to 3¼ inches—round to oblate-ovate, with a deep cavity. Skin color is yellow, faintly striped and splashed with red, and appealing. Skin is medium thick, tough, and attractive. The flesh is medium subacid to tart, firm, fine, white, crisp, juicy, and fair flavored. The fruits tend to set in heavy clusters and need thinning. This variety is harvested about 2 weeks before Jonathan and keeps as well in storage. Fruits do not hang well on the tree when ripe. This variety has not been planted often in Oregon, and it is doubtful if it will ever become a popular variety. Several limitations are its poor coloring, tart flavor, clustering habit of bearing, and lack of good storage quality.

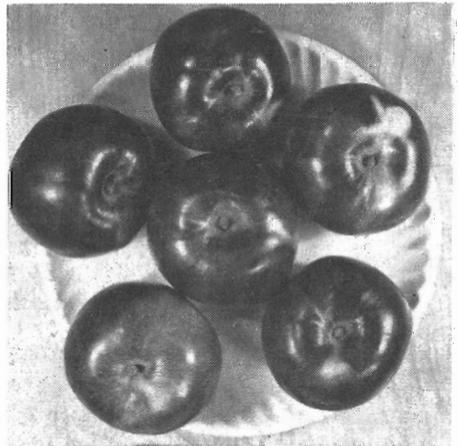
Cortland†

The Cortland apple was originated by the New York Experiment Station and introduced in 1915. Although old in terms of years, it is still a fairly new variety to many growers. Cortland is a cross of Ben Davis and McIntosh. The tree is similar in growth characteristics to McIntosh, and ripens 2 to 3 days after McIntosh. It is an early annual bearer and hardy. Fruit is large, moderately attractive, red, darkly and obscurely striped, with a heavy bloom. Skin is thin, tender, smooth, and waxy. The flesh is white, slow to discolor on exposure to air, and excellent for dessert, cooking, and market. The fruit drops less readily than Mc-

Intosh, keeps longer, bruises less in handling, but is not as attractively colored.

Kendall†

This variety originated at the New York Experiment Station as a cross of McIntosh x Zusoff and was introduced commercially for trial in 1932. The tree is similar in many respects to McIntosh. Fruit is large, uniform in shape, handsome, with a smooth finish. The skin is thin, tender, dark red, becoming very dark at full picking maturity, with a rich bloom. This variety ripens about 7 to 10 days after McIntosh, or about September 15 to 25, at Corvallis but keeps a little longer in cold storage. It has the same whitish, fine-grained flesh as McIntosh when properly ripened. Fruit hangs on the tree better than McIntosh but not as well at Cortland. This variety has not become popular in Oregon, probably because the color in most districts may become too dark. Quality is high, and in cool areas, where it develops best, it is a desirable variety. For home orchards and

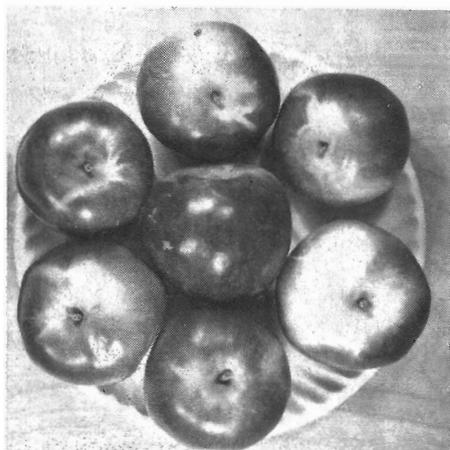


KENDALL ripens in mid-September. It has a high quality and in cool areas is a desirable apple.

roadside stands, it merits further grower trials in western Oregon.

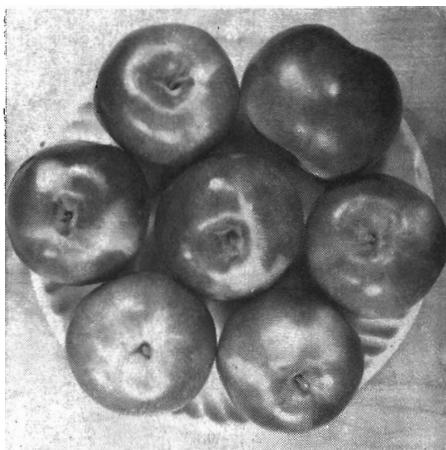
Macoun†

This variety originated at the New York Experiment Station as a cross of McIntosh and Jersey Black and was introduced for trial in 1923. The fruit ripens 5 to 10 days after McIntosh, or about September 19 to 20 at Corvallis. Fruit is similar to McIntosh but small, more red-colored, and very attractive. The flesh is white, crisp, tender, juicy, aromatic, richly flavored,



MACOUN is a good keeper in cold storage. The apple ripens a few days later than McIntosh.

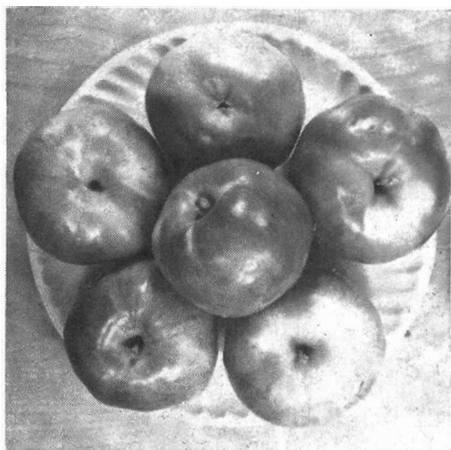
and pleasant. It is a dark fruit, too dark in some seasons, but of high quality. The trees at Corvallis were slow to come into substantial bearing. In cold storage tests it is a good keeper, lasting until January. Experience in Oregon indicates that it requires heavy thinning to obtain well-sized fruits. Macoun appears to be an excellent variety for areas that can grow the McIntosh-type apple and where that variety colors poorly. Macoun should be picked just a few days after McIntosh.



SPARTAN matures slightly later than Kendall and 2 weeks after McIntosh. Fruit is medium sized.

Spartan†

Spartan originated at the Dominion Experiment Station at Summerland, B.C., and was introduced commercially in 1936. This variety is a cross of McIntosh and Newtown. The tree is of the McIntosh type. Fruit is above medium in size, McIntosh in shape, but more symmetrical and uniform. The skin is thin, tender, with a solid, dark-red blush. Flesh is firm, crisp, juicy, and light cream in color. General quality is good, slightly different from McIntosh and slightly sweeter. Spartan matures a little later than Kendall and is harvested about 2 weeks after McIntosh. Some Spartan trees have a tendency to sport from the solid blushed type to a striped form of fruit lower in grade than the blushed type. Grafting wood and trees should be selected with care. Fruit of Spartan grown under normal orchard practices will store until January. When trees are grown under conditions of high vigor, fruit breakdown may occur in storage. Spartan is suggested as a variety only for limited grower trials at present.



IDAJON is a good apple ahead of Jonathan. Rapid quality loss after 10-12 weeks storage.

Idajon†

Idajon originated at the Idaho Experiment Station as a cross of Jonathan and Wagener, and was introduced in 1949. Idajon is harvested 10 days before Jonathan. The fruit is medium to large, larger than either parent, round to conic and regular in shape. Fruit finish is attractive, smooth, moderately thick, and a nearly solid red color. The flesh is almost white, juicy, crisp, tender, and fine grained. Flavor is very mild, from subacid to a light sweet, and very pleasant. Idajon holds well in cold storage until January. It is not a late keeping variety. As a variety its greatest interest in Oregon is for a good red apple ahead of the Jonathan season. It has performed well at Corvallis and is considered promising for further grower trials. Idajon should not be stored longer than 10 to 12 weeks as it loses quality rapidly.

Wayne†

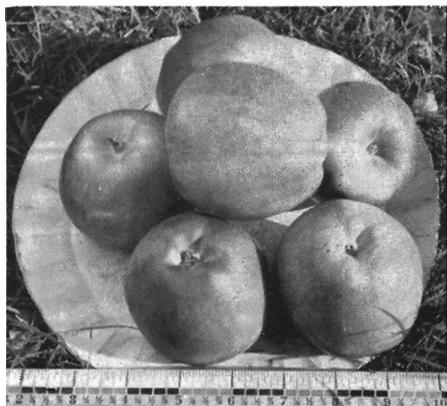
Wayne is a new Spy-type variety from New York derived from crossing

N. W. Greening x Red Spy. It is a dual-purpose variety which matures between Jonathan and Golden Delicious. New York tests show it to be outstanding for canned and frozen slices and sauce. It has the Spy qualities of texture, flavor, and color, but without the susceptibility to bitter pit. An advantage is its early bearing tendency, because young grafted trees bear commercial crops within 4-5 years. Wayne is a very attractive apple, usually solidly blushed and washed with light scarlet, with no striping. In Oregon, its fresh eating quality is slightly lower than Northern Spy, but it is far more attractively colored. Wayne is a diploid and blooms late, indicating that it should be a good pollinizer for late-blooming varieties. Further evaluation is needed in Oregon, but it is worthy of limited planting on a trial basis. It is being extensively tested in variety trials in many areas of Oregon.

Jonwin

Plant Pat. No. 710

This variety was originated by Albert Etter as a cross of Jonathan and



JONWIN is a doubtful variety for Oregon growers. It does not store well and skin color is poor.

Baldwin and was introduced commercially in 1944. The fruit is large—2½ to 3 inches—conic in shape, regular, uniform, and symmetrical. The skin is moderately thick, tough, with a yellow undercover covered with splashes and streaks of light red. The flesh is white to light yellow, moderately coarse, tender, crisp, and juicy. Flavor is mildly subacid, aromatic, and pleasant. The apple is less acid than Jonathan, and the flavor is more like Baldwin. Jonwin ripens with Jonathan and should be harvested promptly, since

the fruit does not hang well on the tree. In storage tests, Jonwin keeps in good condition until December and January. Some fruits develop a type of Jonathan or Baldwin spot if kept too long in storage. Jonwin has not been particularly promising in Oregon tests, primarily because it does not color sufficiently, the skin lacks smoothness, and the fruit is not a good storage type. This variety has not been planted to any extent in Oregon and its doubtful if it ever will become a popular variety.

Varieties Ripening in October

Idared†

This variety originated at the Idaho Experiment Station as a cross between Wagener and Jonathan and was introduced in 1942. Idared is harvested with or a little later than Jonathan. The tree is moderately vigorous and resembles Jonathan, but it is more upright in growth. The fruit is medium to large in size, round in form, and somewhat variable in shape. Fruit color is attractive with rich yellow undercolor and a nearly solid, bright-red overcolor. The flesh is creamy-white, firm, fine textured, juicy, tender, subacid, and aromatic, with very good quality. Idared has excellent storage quality and holds until April. Idared appears to be a promising variety for Oregon as a replacement for Jonathan.

Jonadel†

This newly named variety, originated at the Iowa Experiment Station by H. L. Lantz, was released to nurserymen for propagation in 1953. It is a cross of Jonathan x Delicious. The fruit is larger than Jonathan in size, but similar in color, shape, and season



IDARED is not subject to Jonathan spot, internal browning, or scald. Rated as good to excellent.

of ripening. Skin color is a bright, clear red, superior to Jonathan, equal to the color of Jonared, and attractive. The flesh is firm, crisp, tender, juicy, medium grained, good flavored, and mildly subacid. The apple is less acid than Jonathan, but more acid than Delicious. The general quality, to date, has been very good to excellent. According to the originators, fruit is not subject to Jonathan spot, scald or internal browning, and keeps well in

storage until May. It is also excellent for dessert purposes and is reported to be superior for sauce and pies. Tree records of the originators also indicate that this variety has hardiness and regular annual production. Its performance in Oregon indicates that this is a promising variety for the Jonathan season, and a possible substitute for Jonathan. It merits additional grower trials in the various apple districts of Oregon.

Spigold†

This new variety, developed in New York, is derived from the cross of Red Spy x Golden Delicious. It is described here as a potential replacement for Northern Spy which it closely resembles. It is large-fruited with exceptionally high fresh fruit quality, having the same fine texture, pleasant flavor, and flesh color as Northern Spy. It reaches picking maturity a week before Northern Spy and in the same season as Red Delicious. Spigold is a triploid needing a pollinizer. Consequently, it is of no value as a pollinizer. The trees are strong, vigorous, and upright growing. The major advantages of Spigold over Northern Spy are its bearing of fruit on younger trees and less susceptibility to bitter pit. Disadvantages are the large trees and large fruit size and biennial bearing.

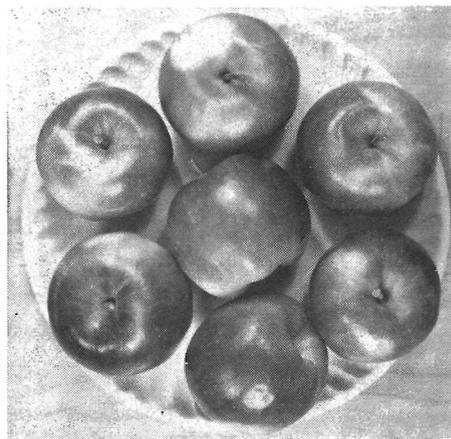
Mutsu†

This is a new Japanese hybrid originating in 1930 from a cross of Golden Delicious x Indo. It is attracting considerable interest in the eastern states because of its size, production, quality, and fruit finish. In Oregon, where good Golden Delicious can be produced, growers will find Mutsu undesirable since the quality is not gener-

ally considered as high, the fruit is larger in size, the flesh is coarser and less flavorful, and it is slower to attain an attractive yellow color. It appears to be a variety of interest only in areas where russetting and poor finish are problems. Hence, it may be of some interest only to apple growers in some sections of northwestern Oregon.

Redgold† Plant Pat. 720

This variety originated in Washington and was introduced commercially in 1946. It is reported to be a cross of



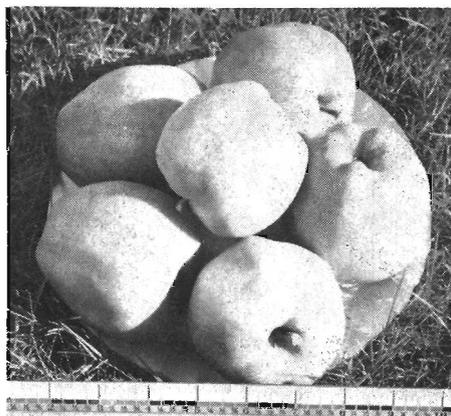
REDGOLD fruit is medium size unless heavily thinned. It is highly productive and bears early.

Golden Delicious and Richared Delicious. The fruit is only medium in size, unless *very* heavily thinned. Skin is moderately thick, tough, very smooth, and brilliant red in color with an excellent finish. The flesh is yellowish white, firm, aromatic, and pleasantly mild to subacid. Trees bear fairly early, like Delicious, and are highly productive. The keeping quality is equivalent to Delicious. Redgold will hold well until February. The general quality is excellent for those preferring

a mild flavor. This variety is worthy of limited trials for home use and roadside markets only.

Medina

This variety originated at the New York Experiment Station and was introduced for trial in 1922. This is one of the older varieties that has been tested extensively in Oregon. It is a cross of Deacon Jones and Delicious. Fruit is large—much larger than Delicious—rather angular, more oval, and with a less distinct crown. The skin is thick and tough, with a reddish-pink



MEDINA has not been popular in Oregon because of coarse fruit and lack of good red color.

blush. Color under Corvallis conditions is inferior to Red Delicious. Medina ripens 1 week after Red Delicious but has approximately the same storage life. This variety has not become popular in Oregon, primarily because of the rather coarse appearing fruit, the undesirable fruit shape, and the lack of good, clear, bright red color.

Jubilee†

Jubilee is a cross of McIntosh and Grimes Golden and originated at the Experiment Station, Summerland, B.C.

It was named and released in 1939. The fruit is of medium size, attractively colored—somewhat like Jonathan—with a bright, scarlet blush. The stem is of medium length, flexible, and not likely to puncture the fruit. There is some tendency for a few specimens to be brownish red and dull. The shape is only fairly regular. The flesh is firm, fine, crisp, greenish white to cream, and very juicy. The skin is moderately thick, slightly tough, and does not bruise as readily as McIntosh. Jubilee ripens about 3 weeks later than McIntosh and Delicious. With proper storage, Jubilee can be held until late February. Experience in Canada indicates that this variety is not as hardy as McIntosh. Under Oregon conditions Jubilee should be planted only on a limited trial basis.

Galer

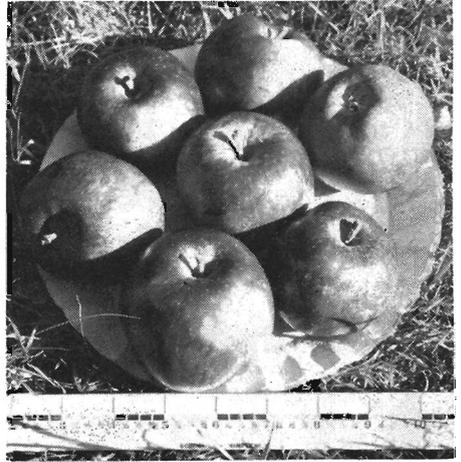
This variety originated as a seedling tree in Hood River County and was introduced commercially in 1950. Fruit is medium in size— $2\frac{1}{4}$ to $2\frac{3}{4}$ inches—round to distinctly conic, uniform, symmetrical, and attractive. The fruit appears intermediate between Red Delicious and Spitzenburg in shape, stem, and basin. Skin is thin, tough, smooth, and light yellow washed and striped with red, covering over half the surface. There are indications that the variety is susceptible to mildew and scab. Galer is a good keeping variety in common storage, holding well until January or February. It appears to have some promise, particularly as a home orchard variety, for cooking purposes, and for its long storage life in common storage. Commercial growers probably will not include this variety because of its lack of overall red color, its mild, sweet flavor, and its possible disease susceptibility.

Crandall

This is a new variety originated by the Illinois Experiment Station as a cross of Rome Beauty and Jonathan. It was introduced commercially in 1952. The tree is lowspreading, like Rome Beauty, with long, willowing lateral branches. Trees at Corvallis have been healthy and productive, and they have notably strong, wide-angled crotches. Fruit is medium to large—averaging larger than Jonathan—round to oblate, symmetrical, uniform, and with a fairly short, thin stem. The skin is thick, moderately tough, smooth, and striped brownish red. It is not especially attractive because of the abundance of green to yellow ground color. The flesh is mildly subacid, yellowish white, crisp, with some green color, but not appealing for dessert purposes. Observations to date indicate that both the foliage and fruit are tolerant of scab. Picking date under Oregon conditions is 2 weeks after Jonathan—about October 15 at Corvallis. Crandall will hold well in storage until April. In storage, Crandall tends to become waxy and slightly oily. Best quality is reached in February and March. Although it is too early to pass final judgment on this variety, it appears that the unattractive fruit color under Willamette Valley conditions will be undesirable.

Davey †

The Davey apple originated in Massachusetts and was introduced commercially in 1950. The fruit is round to slightly oblate, like Wealthy in shape, medium to slightly smaller in size, and very uniform. Skin is moderately thick, tough, brittle, and entirely covered with a dark red, almost solid blush. This skin bears prominent gray dots, with



DAVEY is a promising variety because the trees bear early and regularly with well-spaced fruit.

a smooth finish and a heavy bloom. Flesh is greenish-white, crisp, tender, mildly subacid, and pleasantly flavored. Davey ripens 6 weeks after McIntosh and 3 weeks after Red Delicious. The tree bears early and regularly with well-spaced fruits. Davey appears promising in Oregon, though the color is occasionally too dark and fruit size is lacking.

Newtosh †

This variety originated at the Central Experimental Farms, Ottawa, Canada, as a cross of Newtown and McIntosh. It was introduced commercially about 1950. The fruit is moderately firm, medium to large— $2\frac{1}{4}$ to $2\frac{3}{4}$ inches—conic to oblate-conic, uniform, nearly symmetrical, and attractive. Skin is moderately thin, tough, and well colored with a nearly solid red blush. Some fruits are only partially colored. The flesh is yellowish white, crisp, tender, sprightly subacid, pleasant, and rated as excellent. The fruit is harvested about October 20 to 25. The tree appears to bear annually and is tolerant of scab and mildew. Newtosh

is a moderately good storage variety; it keeps in good condition until February or March. It is one of the promising new varieties that merit additional grower trials to determine its local adaptability.

Melrose†

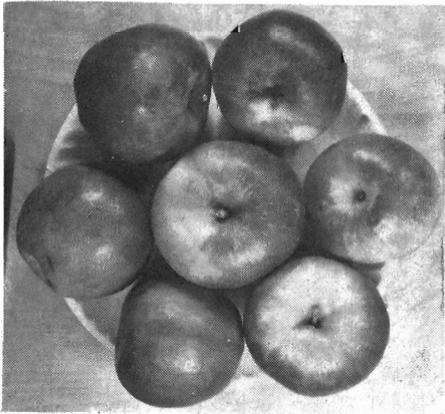
This variety was originated by the Ohio Experiment Station as a cross of Jonathan and Delicious. It was released for commercial trial in 1944. Crotch angles of the scaffold limbs are distinctly less narrow than Delicious. The fruit is medium to large, uniform, regular, round to oblate-conic, somewhat like Jonathan in shape, and fairly resistant to bruising. The skin is thick, tough, with a nearly solid, bright red washed and striped color. Flesh is firm, crisp, tender, aromatic, mildly subacid, and pleasant for dessert purposes. The harvesting season is 7 to 14 days later than Jonathan. Melrose has exceptional storage qualities, keeping until May under proper cold storage conditions. This is distinctly a winter vari-

ety that is picked about October 20 to 25. Fruits color uniformly and hang well on the tree until picked. Melrose is an appealing dessert apple, but is rated only good in processing since the sauce appears gray and rather dull. From a disease standpoint, Melrose appears to be as susceptible to scab as Jonathan, but more tolerant of mildew. Melrose is late in blooming, comparable to Rome Beauty.



MELROSE fruits color evenly and hang well on the tree until picked. Harvest time is mid-October.

Newer Varieties Ripening in November



MONROE has good processing qualities as well as being a good dessert apple. It stores well also.

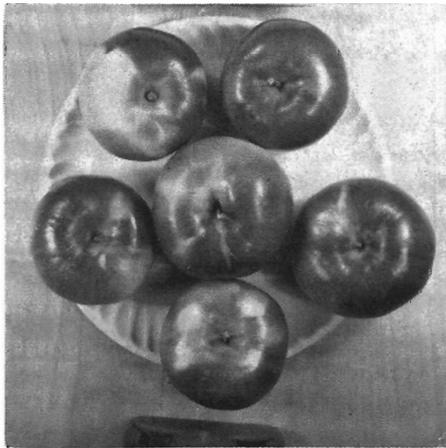
Monroe†

The Monroe originated at the New York Experiment Station and was named and introduced in 1949. It is a cross of Jonathan and Rome Beauty and was released primarily for its outstanding processing qualities. Fruit is large — $2\frac{3}{4}$ to $3\frac{1}{4}$ inches — uniform, round-ovate to conic symmetrical, and does not bruise easily. The skin is thick, tough, not subject to bruising, with a solid, light, pinkish-red blush that is not too attractive under Oregon conditions. In appearance, Monroe somewhat resembles a large Jonathan

or a moderately well-colored Baldwin in length of stem and shape. The red color of Monroe is duller than that of Baldwin under Oregon conditions. Flesh is firm, fine, crisp, moderately tender, yellowish white to light yellow with some light green, and of excellent quality. Monroe is picked 7 to 10 days before Rome Beauty, and after Baldwin. According to the originators, Monroe is notable for its processing quality as well as for dessert use. In test trials in Oregon, Monroe has not developed the attractive, deep, solid-red color needed for the best type of winter apple. It keeps well in storage until March. Monroe has been planted heavily in New York since 1949.

Sandow†

This variety is an open-pollinated, Northern Spy seedling introduced about 1940 by the Central Experimental Farms, Ottawa. Fruit is medium sized—2½ to 3 inches in diameter—round to oblate, regular, uniform, but bruises fairly easily. The skin is

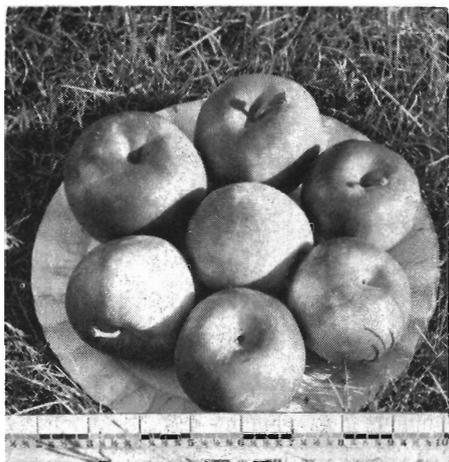


SANDOW is a hardy variety and usually annual in bearing. A winter variety of excellent quality.

thin, tender, smooth, well finished, and attractively marked with heavy red striping. The flesh is yellowish white, tender, crisp, juicy, aromatic, and pleasant for dessert use. In general, Sandow resembles Northern Spy, ripening at approximately the same time, except that it colors better, begins to bear much earlier, is more hardy, and is usually annual in bearing. Sandow is less subject to bitter pit than Spy. It keeps moderately well in cold storage until February. This variety is worthy of further grower variety-testing for a winter variety of excellent quality.

Redwell†

This new variety originated at the Minnesota Fruit Breeding Farm as an open-pollinated seedling of Scott's Winter. Redwell was introduced commercially in 1946. In Oregon, it matures for picking November 1 to 5. Fruit is large—2½ to 3½ inches—round to conic, uniform, and symmetrical, with a large core and a strong stem. The skin is smooth, thick, tough, has a good finish, and is striped and blushed with red. Color and striping is reminiscent of a Rome Beauty with small, russet dots. The flesh is yellowish white, tinged with green, firm, mild in flavor, nonacid, and pleasant. According to the originators, Redwell is excellent for baking, dessert, and sauce. Redwell keeps in good condition in storage until February, but is prone to scald if stored at temperatures below 36° F. It is doubtful if Redwell ever will become a commercial variety in Oregon. Growers likely will prefer a more highly colored variety with a more sprightly flavor, and one that holds longer in storage without scalding.



RUBY is fairly tough and does not bruise easily. The fruit is medium to large, round, and smooth.

Ruby†

This new variety originated at the Ohio Experiment Station as a cross of Gallia Beauty and Starking. It was introduced commercially in 1952. Ruby attains full bloom rather late, blossoming with Rome Beauty. The fruit is medium to large, round to slightly oblong-conic, uniform, smooth, well finished, and quite firm—equal to Rome Beauty. Skin is moderately thick, fairly tough, does not bruise easily, and is attractively colored with a washed and blushed deep red over most of the fruit. The flesh is yellowish white, firm, tender, crisp, aromatic, mildly subacid, and pleasant. Ruby is ready for picking about November 5 to 10, or about the same time as Rome

Beauty. Storage tests have been limited, but indications are that it will keep in good condition into April and May. In this respect, Ruby may be superior to Rome Beauty. While Ruby is comparatively new, it shows promise as a new winter variety for Oregon. It is suggested for limited grower testing trials as a promising late variety.

Fireside

This variety originated at the Minnesota Experiment Station of unknown parentage. Fireside was introduced commercially in 1943. The fruit is large to very large— $2\frac{1}{2}$ to $3\frac{1}{2}$ inches in diameter—round to conic, regular, and uniform. Skin is thick and tough, medium dullish red, lightly striped with darker red bands. The flesh is yellowish, medium coarse, moderately tender, very firm, only moderately juicy, and rather sweet. The general quality is rated good, especially for dessert purposes, but only fair for cooking. This variety ripens late—November 10 to 20—and requires a long season to mature properly. The fruit hangs well on the trees and is easily picked. This winter variety holds in storage until April or May. It is promising in Oregon, but the fruit lacks a vivid, clear, red color. One apparent defect of Fireside under Oregon conditions is the tendency for many of the fruits to crack around the stem. Another disorder is susceptibility of the fruit to sunscald.

Neither the Department of Horticulture nor the Oregon Agricultural Experiment Station will have trees of these varieties available for general distribution or sale. For those interested in obtaining scion wood or trees, contact nurserymen who are propagating these varieties.

A Suggested List of Varieties for the Home Orchard

Variety	Color	Approximate ripening date	Use
<i>Early Varieties</i>			
Early Red Bird	Red striped	July 1 to 15	Fresh and cooking
*Transparent	Yellow	July 10 to 30	Fresh and cooking
*Lodi	Yellow	July 15 to 30	Fresh and cooking
Melba	Red striped	August 10 to 25	Fresh and cooking
<i>Midseason Varieties</i>			
Beacon	Red	September 1 to 10	Fresh and cooking
*Gravenstein	Red striped	September 1 to 10	Fresh and cooking
Red Wealthy	Red	September 7 to 15	Fresh and cooking
*King	Red striped	September 15 to 25	Fresh and cooking
Jonathan or Blackjon..	Red	September 20 to 25	Fresh and cooking
Idajon	Red	September 20 to October 1	Fresh and cooking
*Golden Delicious	Yellow	October 1 to 15	Fresh and cooking
*Starking Red Delicious	Red	October 1 to 15	Fresh
Newtosh	Red	October 20	Fresh, cooking, and winter storage
<i>Late Varieties</i>			
*Melrose	Red	October 15 to 30	Fresh, cooking, and winter storage
*Red Rome Beauty strains	Red	November 1 to 15	Cooking and winter storage
Sandow	Red	November 1 to 15	Fresh, cooking, and storage
Ruby	Red	November 1 to 15	Fresh, cooking, and storage
Yellow Newtown	Yellow	November 15 to 20	Fresh, cooking, and storage

* Designates varieties which are preferred and considered the most successful in home orchard plantings.

Hardiness

Certain so-called test years or test winters may reveal lack of hardiness or lack of early fall dormancy. Hardiness or cold resistance in apples is related to the degree of hardening-off of the wood by successive exposures to near freezing or below freezing temperatures. When wood is well matured in midwinter, many varieties acquire

considerable cold resistance. Wood that is not well matured by late autumn may be seriously injured by sudden low temperatures. This often occurs with young trees growing at high altitudes in rich soil. In such areas, only varieties which ripen early and are often more hardy and cold resistant should be planted.

Pollination

Most of the varieties listed in this bulletin are self-fruitful and may be planted in solid blocks of one variety. A few commercial varieties, however, are self-unfruitful. Such varieties have no viable pollen and require the presence of a pollinizing variety nearby.

Self-unfruitful varieties and their blooming periods are as follows:

Early

McIntosh
Early McIntosh
Cortland
Gravenstein
Melba

Midseason

Common Delicious
Starking Delicious
Stayman Winesap
Fameuse
King
Spigold

Late

Northern Spy

In general, a variety that is a good pollinizer for one variety may also be considered satisfactory for others. In selecting pollinizers, the two varieties must be in bloom at the same time. Early-blooming pollinizing varieties include Yellow Transparent, Winter Banana, Early Harvest Duchess, and Lodi. Varieties blooming in midseason are Jonathan, Wealthy, Golden Delicious, Grimes Golden, and Yellow Newtown. Late-blooming pollinizers are the Rome Beauty and Jonagram.

To be certain that pollination occurs during unfavorable weather, it now seems advisable that no tree should be planted more than two permanent rows (80 feet to 100 feet) from the pollinizing variety. This allows pollination of blocks of four rows, if a pollinizing variety is placed on each flank. An alternative planting plan, which places a pollinizing variety at every third permanent tree in every third permanent row, also appears satisfactory. This arrangement places a pollinizing tree adjacent in one direction to every permanent tree needing pollinizing. Bees are needed for cross-pollination of most apple varieties.

Crab Apple Varieties

Crab apple varieties are hardy and especially excellent for jellies. Many varieties have large, showy blossoms that are appreciated as much as the aromatic and spicy flavor and attractive color of the fruit.

Suggested Crab Apple Varieties

Variety	Skin color	Approximate ripening date	Flesh characteristics
Whitney	Red striped	September 1 to 7	Subacid, pleasant, juicy
Dolgo	Solid red	September 7 to 14	Very juicy, sprightly
Transcendent	Yellow with red over-color	September 10 to 15	Crisp, juicy, subacid
Chestnut	Yellow with red stripes	September 15 to 20	Crisp, juicy, spicy flavor
Hyslop	Yellow with red over-color	September 25 to 30	Firm, astringent fine
Red Siberian	Red	October 1	Firm, astringent
Yellow Siberian	Yellow	October 1	Firm, astringent
Red River	Solid red	October 5 to 15	Firm, crisp, juicy, and aromatic
Piotosh	Yellow with red over-color	October 10 to 15	Crisp, hard, juicy, and pleasantly flavored

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