

TREE FRUIT RESEARCH 1992

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APPLE RESEARCH 1992
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Due to the unusually early spring and warm summer, most apple cultivars (varieties) were harvested three weeks to a month earlier than their average picking dates. Use in the field of the iodine test for starch conversion was very helpful in determining correct dates for harvest. Most varieties performed very well, though it should be noted that some which are well adapted to the cooler climate that is more usual in this area suffered from high rates of water core and sunburn (e.g. Cox's Orange Pippin, Sunset).

Among the varieties fruiting for the first time, two McIntosh-type introductions looked very good, Acey Mac and Redmax. The former was especially noted for its early, heavy production. Further evaluation in a more normal year will be needed, however, before making any recommendation. Honeycrisp, a very promising high quality apple, revealed a serious defect when it was found to be susceptible to scald in cold storage. This does not affect its value to the home orchardist but may affect its potential for commercial market.

Several new varieties being tested in the Tree Fruit Research Commission plot have performed well in western Washington conditions, and could be included in future plantings. They are: Alkmene, a cross of Cox's Orange Pippin from Germany, ripe in mid September, that is very productive, easy to grow, and flavorful, though not suited to long storage; Aroma, a Swedish variety of unknown origin, ripe in early to mid September, that appears to have good scab resistance, and produces large, sweet-flavored fruit with a pronounced aroma, hence the name; and Fiesta, a cross of Cox's Orange Pippin X Idared from England, ripe in late September, that has larger fruit than Cox and a tree habit that is easier to manage, while retaining much the same flavor with superior keeping quality. Fiesta has commercial potential in western Washington.

Notes on the performance of specific varieties appear below, listed in harvest order within each category (date of 1992 harvest appears in parentheses):

Established Varieties:

- Ⓛ Red June (July 13) Very early ripening, good set, fruit size medium or slightly below, uneven ripening over 2 weeks, ripest fruits tend to drop; flesh rather melting but with lively subacid tang, backyard potential only
- ▷ Centennial (July 18) Crab, sweet edible, tree small and dwarfed, very productive and reliable, for home garden or landscape
- ▷ Discovery (July 27) Heavy set on mature tree, not highly vigorous, fruit size fairly uniform, medium and below; very attractive orange red color, little cracking this year, excellent flavor.
- ▷ NY 652 (July 31 to Sept 10) Too many small fruit, poorly thinned, runty tree, excellent wine red color, very good winey flavor, melting flesh
- July Tart (Aug 10) Heavy set on small young tree, size medium, fairly uniform, yellow-green, no blush, flesh a bit soft, subacid to tart
- ▷ Cascade (Aug 15 to Sept 9) Very uneven, gradual ripening, fruits mature over 3 week period - OK for backyard as late fruits are still flavorful and good BUT need for multiple picks disqualifies it for commercial use; very attractive color, pinkish red streaks 50-75% over lemon yellow
- Ⓛ Aalmo Sdlg. (Aug 18) Heavy set, medium size, color good, pink blush over yellow, some russet, tree vigorous

- ✱ Earligold (Aug 18) Heavy set, medium size or above, very good color and finish this year, little scab, good flavor, refreshing
- ✱ Cox's Orange Pippin (Aug 31) Heavy set on non-vigorous tree, fruit medium size, very uniform, exceptionally good color this year, almost as red as Cherry Cox; keep for standard
- ▷ Cherry Cox (Aug 31) Moderate set on rather vigorous tree, more vigorous than standard Cox; fruit v. similar to Cox but seems to show more reddish stripe
- AA 18 (Sept 8) Heavy set on small young tree, fruit size medium-large, ovate, yellow with occasional copper-orange blush, good flavor, needs further evaluation
- Acey Mac (Sept 8) Moderate to heavy set, fruit size medium even on tree that was loaded, uniform, attractive, excellent allover wine red color, harvest in one pick; good sprightly flavor, crisp and juicy, looks like a very good Mac type -better than Jonamac? See how it does in a normal year
- Charles Ross (Sept 8) Few fruit but enormous size, 400 g. plus, colorful orange red with broken stripes, lots of sunburn & bitter pit - may improve as trees get older
- Early Dawn (Sept 8) Moderate set, young tree, fruits medium large, attractive color, pinkish orange over yellow; tart flavor like Elstar, some water core
- Gnabasik Sdlg. (Sept 8) Moderate set, size medium, fairly uniform, nice finish on most, not highly colored, flavor ok, evaluate again in 1993
- Jimmi (Sept 8) (Tuell sdlg.) Very heavy set on small tree, size medium to large, excellent solid red color, oblong to conic shape, uniform, attractive
- ▷ NY 617 (Sept 8) Very heavy set, fruit large, uniform, appears somewhat uneven ripening; most not highly colored
- ▷ Redcort (Sept 8) Moderate-heavy set on all trees, size somewhat variable, medium and above, good color, slight preharvest drop; harvest 2 picks
- Red Cox (Sept 8) Small young tree, moderate set, size medium and above, very good allover red color, typical Cox flavor and firm flesh, looks good
- ✱ Royal Gala (Sept 8) Very heavy set, size medium and below, some areas should have been better thinned; excellent color, typical rich Gala flavor, selective pick gives some very high quality fruit
- ▷ Suntan (Sept 8) Moderate-heavy set, size medium, uniform, good color, finish somewhat russeted, flavor good, firm, crisp but on the tart side
- ✱ Ashmead's Kernel (Sept 17) Heavy set on mature tree, fruit medium size or slightly below, nice blush over russet on sun-side fruit; firm, crunchy, nutlike flavor, excellent
- ✱ Bramley's Sdlg. (Sept 17) Heavy set, fruit size above medium to large, color good, some sunburn on the most exposed fruits; standard high quality culinary
- ▷ Egremont Russet (Sept 17) Moderate set, size medium, color ok but even more russet than usual; flavor very good, dense sweet nutlike flesh not to everyone's taste
- ▷ Freyberg (Sept 17) Heavy set, size mostly below medium, more than the usual russeting but fruit quality very good, firm, sweet, one of the best

- D Malbon Sdlg. (Sept 17) Moderate-heavy set, good size, uniform, good solid blush red color, flavor good, refreshing, subacid to sweet
- Redmax (Sept 17) Young trees, rather light set, fruits medium size, uniform, excellent all over red color, flavor good, firm; looks promising at first season
- D Sunset (Sept 17) Moderate-heavy set, fruits mostly below medium size, some sunburn, occ. water core, flavor ok but not as good as past years
- Golden Noble (Sept 23) Moderate set, fruit size medium to large, good color and finish; flavor on the tart side, could be good dual purpose
- Honeycrisp (Sept 23) Heavy set, fruits large to very large, good color, strong red-orange stripe over yellow; very good flavor, subacid to sweet, well balanced, susceptible to scald in cold storage
- D Spigold (Sept 23) Moderate set, size above medium to large, better color this year, good flavor, subacid to tart; evaluate in 1993
- * Melrose (Oct 2) Moderate set on mature tree, size above medium, fairly uniform, good color and finish, v. little scab, usual excellent flavor; a standard
- D Red Melrose (Oct 2) Moderate set, size medium or occ. larger, color no better than standard Melrose this year; good flavor, high quality

Provisional (final year of evaluation before discard):

- D Geneva Early (July 27) Moderate set, fruits quite variable in size, some large to v. large; uneven ripening and color, not impressive
- D Mott Pink (Aug 18) Vigorous tree, moderate set, medium size, pronounced conic shape, typical pink tinge, pink flesh, flavor tart to acidic, novelty only
- D Honey (Sept 2) Moderate set, vigorous trees, size highly variable, medium to very large; green skin, very sweet flesh, water core, bitter pit. Not for dessert - too big, unattractive, sickly-sweet flavor, lacks crispness
- D Dexter (Sept 8) Moderate set on mature tree, enormous fruit 500-600 g., ugly, green-skinned, lumpy, pulpy texture, water core; No dessert potential, culinary use questionable
- D Russet King (Sept 8) Light set, 5 fruits only on small stunted tree; 2 were severely deformed by dry cracking, all very rough russet, dense chewy flesh, subacid to tart - backyard only & that doubtful if not more productive in future.
- D Sweet Sixteen (Sept 8) Heavy set on mature tree, size medium and above, color variable, some exposed fruit shows a lot of sunburn, shaded fruit poorly colored; flavor of anise disagreeable to some.
- D Winterstein (Sept 8) Moderate set, fruits large, flattish, ripen unevenly, some drop, color ok but flesh a bit soft, sour; primarily culinary use
- D Apple Babe (Sept 17) (62G-114) Genetic dwarf trees are small in size with upright growth habit, set heavy, fruits below medium to small in size; flavor acceptable but rather bland, sweet
- D Blenheim Orange (Sept 17) Moderate-light set, fruit size medium, color poor, rather dull reddish stripe, quality mediocre

- D Davies (Sept 17) Moderate set, fruit size medium, fairly uniform, color ok, acceptable quality but fully evaluated, not going anywhere
- ✓ Duchess of Oldenburg (Sept 17) Heavy set on small, runted out tree, fruit size medium to large, better color than most years; old variety, fully evaluated
- ✓ Glocken (Sept 17) Small, non-vigorous tree, moderate set, fruits medium size and below, oblong in shape, unattractive green skin color, mediocre quality
- ✓ Hubbardston (Sept 17) Moderate set, medium size, good quality, better color than most years but still no beauty; old variety, fully evaluated
- ✓ Lysgolden (Sept 17) Moderate-heavy set, size medium, fairly uniform, good color but some russetting, slight scab, flavor good, typical Golden, too late most years
- Opalescent (Sept 17) Heavy set on rather small runty tree, fruit size above medium to large, color very good this year; old variety, fully evaluated
- ✓ Rhode Island Greening (Sept 23) Heavy set on small non-vigorous tree, fruit size medium, occ. large; old variety, fully evaluated
- ✓ Stearns (Sept 23) Moderate set, size above medium, occ. large, color and finish ok but no better than past years, flavor tends to tart

Discard:

- Crimson Beauty (July 13) Moderate-light set on vigorous tree, fruits medium size, uneven color, striped red over yellow green - ripe fruits get very red but soften quickly, do not keep
- Devonshire Quarrenden (July 27) Light set on rather thin whippy trees, fruits uniform, small, variable in color; ripe fruits become deep brownish red but are soft, spongy, do not store, flesh aromatic but mushy
- Benham (Aug 10) Heavy set on mature tree, size somewhat variable, medium and above, unattractive flattish shape, good yellow color; going nowhere

DISEASE RESISTANT APPLES

1992

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This test planting of disease resistant apples, begun in 1990 with additions in 1991 and 1992, contains 57 different cultivars (varieties) and numbered selections. They represent the work of apple breeders at the NY State Agricultural Experiment Station, the cooperative program at Purdue, Rutgers, and Indiana universities, and in Canada, France, and elsewhere. This is the most comprehensive single-site planting of disease resistant apples anywhere in the state, and provides a valuable resource for both commercial growers and home gardeners who are interested in observing the performance of these varieties in the disease prone environment of western Washington.

We have been fortunate in receiving the support of the Western Cascade Fruit Society and the Western Washington Tree Fruit Research Foundation to maintain this planting, collect relevant data on the performance of the different varieties, and make the results available to interested persons. The prospect of continued support will enable us to add to the planting as new and promising varieties are introduced.

The 1992 harvest was the first year in which enough fruit was produced to conduct an initial evaluation for fruit quality, productivity, and harvest maturity. Use of the iodine test for starch conversion was very helpful in determining correct dates for harvest. Due to the unusually early spring and warm summer, most apple varieties were harvested three weeks to a month earlier than average; in some cases the longer season allowed late varieties to mature that might not do as well in a year of more normal temperatures. After harvest the fruit was placed in cold storage and taken out for post-harvest evaluation; the results where relevant are included in the notes on each specific apple. Varieties and selections are listed in harvest order within each category, with date of 1992 harvest noted in parentheses:

Established Varieties:

- | | |
|--------------|---|
| Prima | (Aug 7) Heavy set, size somewhat variable, most medium size, not highly colored even when testing fully ripe; flavor OK but not best |
| Redfree | (Aug 7) Moderate set, fruits below medium size, selective pick by color, about 30% of fruit; very firm and crisp, better flavor than usual |
| Chehalis | (Aug 18/Aug 31) First fruit on trees in organic plot, medium size and above, good flavor, skin bruises easily |
| Liberty | (Sept 8) Heavy set on mature trees in main orchard, young trees in organic plot had some fruits; size medium, uniform, very good color and flavor, rates high even compared with best of the newer releases |
| Novamac | (Sept 8) Moderate set, medium size, uniform fruits, good dark red color but not 100%, flavor refreshing, flesh a bit on soft side (Not yet fruiting in organic plot) |
| Shay | (Sept 8) Moderate set on mature trees in main orchard, size fairly uniform, medium, ovate shape; color quite variable, may be poor even on fruits that test fully ripe; flavor OK but not the best, keep only the young trees in organic plot |
| Nova EasyGro | (Sept 17) Moderate-heavy set, medium size and above, color ok but more than usual sunburn, also water core in some specimens (Not in organic plot) |
| Jonafree | (Sept 17) (Coop 22) Heavy set, size medium, fairly uniform, very good color this year, flavor |

good, somewhat tart to subacid (not in organic plot)

Macfree (Sept 17) Moderate set, size medium, color only fair, blush pattern 50-80% red over green; flavor ok but below the best (not in organic plot)

Promising:

Williams' Pride (July 20) Good set and size, excellent dark red color, flavorful, attractive, very best early scab immune apple, with roadside market potential

NY 74828-12 (Aug 18/Aug 31) Good set on young trees, most fruits above medium size; best color at later pick date, rather irregular shape, very good flavor; promising Mac type, stores well for early apple

NY 75414-1 (Sept 30) Young trees, first fruiting, Mac type, very dark wine red, conspicuous pale lenticels, irregular shape, size above medium, good flavor, keeps well, retains flavor and juiciness

NY 65707-19 (Sept 30) Moderate set, young trees, fruits very attractive, 80-100% clear red over yellow, glossy skin, long thin stems; crisp, juicy, refreshing flavor, retains firmness in storage

Enterprise (Oct. 10) (Coop 30) Moderate set, size above medium, deep wine red allover color, very firm, crisp, good flavor (hung on tree till December still very edible), may be too late ripening in a normal year

Needs Further Evaluation:

NY 66305-139 (July 31) First fruiting, few fruit, damaged by birds, some early drop; good color, pinkish red over cream yellow, oblate shape

Dayton (Aug 7) Heavy set, fruits above medium size, needs 2 or more picks (selective by color); attractive red blush 75-90% over lemon yellow, good flavor; not for long storage

NY 66305-289 (Aug 7) Moderate set on young trees, size variable, very attractive color, bright washed red over yellow; good flavor right off tree but stores poorly

Coop 28 (Aug 31) Moderate set on young trees, fruits above medium size, excellent color and appearance, flesh firm, juicy, good flavor; develops scald in storage, possible fresh market

CLR-20T-14 (Aug 31) Moderate set, young trees, size below medium to small, color unattractive, dull brick red over yellow-green, very firm, juicy, flavor subacid to tart, retains flavor well in storage

PSER-11T-27 (Aug 31) Moderate-heavy set, size medium or above, solid yellow color with slight orange blush, russeting, tough skin; good flavor, subacid, firm and juicy; probably not commercial - unattractive

PWR-37T-131 (Sept 30) Young trees, first fruiting, bicolor 70-90% red over lemon yellow, firm flesh, strongly acidic, flavor mediocre.

NY 61343-1 (Sept 30) Moderate set, size medium, bicolor 20-80% bright red stripe over yellow, considerable russet, very similar to Northern Spy in appearance; flavor good right off tree, skin shrivels after storage, flesh softens and develops off flavor

NY 61345-2 (Sept 30) Moderate set, size medium and below, Mac type, 90-100% wine red, good color, flesh juicy, breaking, flavor good, begins to soften in storage after 2 months, size a bit small

- NY 73334-35 (Sept 30) Young trees, first fruiting, long conic shape, very irregular, color unattractive, dull red, big open core, bitter pit, nice flesh texture, very crisp and flavorful, keeps well
- NY 73334-57 (Sept 30) Young trees, first fruiting, Mac type, 90-100% wine red, similar appearance to Empire, very dense hard flesh, flavor acceptable even after storage, potential late keeper
- NY 75413-30 (Sept 30) Rather light set, size medium or above, Mac type, dark wine red, somewhat irregular shape, some russet, flavor good, tends to soften and become bland in storage

Questionable (Problems and Drawbacks):

- NY 75441-67 (Aug 18/Aug 31) Moderate set on young trees, fruit size medium or somewhat below, color ok, finish poor, calyx scars, russeting (mildew); stores well but unattractive, undesirable astringent flavor
- CLR-12T-161 (Aug 31) Moderate set, young trees, size rather variable, color all over yellow, somewhat unattractive, acceptable flavor fresh off tree develops aftertaste in storage; inferior flavor to PSER-11T-27 and no better looking
- HER-10T-108 (Aug 31) Moderate set, vigorous young trees, variable size, unique appearance with very oblong shape, color golden yellow blushed pink, conspicuous purplish lenticels; flesh very yellow, hard, strongly acid, bland and sour after storage
- Coop 25 (Sept 30) Young trees, first fruiting, color dull red over yellow, russeting, yellow flesh, some moldy core; crisp breaking flesh, very good flavor but unattractive, no market potential
- Coop 29 (Sept 30) Young trees, first fruiting, unattractive green-yellow skin, russeting, prominent lenticels; flavor good, rather flowery taste, no market potential, shrivels in storage
- CLR-13T-45 (Sept 30) Young trees, first fruiting, very unattractive, dull copper blush 10-30% over yellow-green, mildew susceptible; flavor ok but flesh softens, becomes spongy after storage
- CLR-13T-49 (Sept 30) Young trees, first fruiting, very unattractive, yellow, small, very hard, tough flesh, mediocre flavor, probable discard
- CQR-10T-17 (Sept 30) Young trees, first fruiting, attractive bicolor, 60-90% orange-red stripe over lemon yellow, very juicy, firm yellowish flesh; good texture but off flavor, undesirable
- HCR-14T-125 (Sept 30) Young trees, first fruiting, greenish yellow with occasional pinkish orange blush, rather dense flesh, breaking, crisp, nice texture, flavor acceptable but appearance too poor for market
- Gold Rush (Sept 30) (Recently named; tested as HER-4T-16, Coop 38) Young trees, first fruiting, green-yellow, elongated shape, firm flesh, sweet-tart flavor. Highly unattractive, severely shriveled after storage, harvested too early, may be too late maturing in normal year
- HER-3T-175 (Sept 30) Young trees, first fruiting, very unattractive, dull copper blush 10-40% over yellow green, size below medium, bland mediocre flavor, bitter pit, probable discard
- HFR-22T-173 (Sept 30) Young trees, first fruiting, light green skin, pale bloom, irregular shape, rather flattish; bland flavor, probable discard
- PAR-4T-215 (Sept 30) Young trees, first fruiting, dark, dull purplish red 90-100%, rough, pitted skin, very tough, flavor ok but hard flesh, too tough to chew, probable discard

ASIAN PEAR RESEARCH 1992
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In 1992 an unusually mild winter was followed by a warm, early spring and a long warm summer, with relatively little rain. The warm spring weather made for good pollination, and the warm summer provided excellent conditions for developing good fruit flavor. Fruit maturity was about 3 weeks to a month earlier than normal; in this case the problem was bird damage, especially from crows that seemed to make the Asian pear block their second home. Trees were less seriously affected by pseudomonas and other diseases than in 1991, but some damaged trees did not recover well.

The best of the established cultivars (varieties) were Shinseiki, a productive yellow-skinned pear with sweet crisp flesh, and Chojuro, a russeted, tawny brown variety with firm, mildly spicy flesh, very well adapted to Puget Sound conditions and reliably productive. Ichiban Nashi, one of the newer brown-skinned types, performed well in its second year of fruiting; it is attractive, sizes well, and has a good flavor. Two new varieties also appear promising: Hamesi #1 is early ripening, yellow skinned, productive and very sweet; while Mishirasu seems to be a bit slower coming into full production, the brown-skinned fruits are large, crunchy, and very flavorful. Unfortunately, trees of Kosui were severely damaged by disease and did not recover in 1992; this disease susceptibility makes the variety a poor choice despite the high quality of the fruit produced.

A summary of the different varieties and their performance follows, listed in approximate harvest order:

Established Cultivars:

Yoinashi	Heavy crop, attractive cream colored fruit was large and tasty, seems to have some disease resistance, promising
Ichiban Nashi	Fruit looked good again this year, productive, ripe just before Shinseiki; attractive golden-brown solid russet, medium size, flavor sweet and good, pleasant texture; little evidence of pseudomonas infection, may have some resistance, promising
Shinsui	Similar in appearance to Ichiban Nashi, ripe with Shinseiki, rather slow to begin full bearing; fruit good quality but quickly began to get soft; needs more evaluation
Shinseiki	Probably the best yellow-skinned type for this area at present. Fruit generally size well, trees are productive, and quality is much better than 20th Century
UC 17-63	Best of the UC selections at Mount Vernon, large yellow skinned fruit with heavy russet streaking and rounded pyriform shape. It is really quite unattractive but the flavor is good and the texture pleasing
UC 8-46	Tree productive, fruit attractive, similar to Conference pear; however, flavor was rather bland
Chojuro	Still one of the best, reliable, productive; russet skinned, round, good-sized fruit with crisp, spicy, cream colored flesh, flavor good to very good. Ripens in late September to early October in a normal year, about 2 weeks after Shinseiki.
Yongi	Very similar to Chojuro in appearance, size, harvest date, and productivity; flavor similar, may be even more spicy

Recent Additions:

Hamese #1 Young tree produced a good crop of fruit, early ripening, medium size, thin yellow skin, very

good flavor; promising

Mishirasu Young tree, vigorous, long whippy branches, not yet in full production; fruits very large, pyriform shape, dark brown skin, good flavor and pleasing crunchy texture, promising

Discard:

Yakumo Mediocre quality, small fruit, tends to be shy bearing

Shinseiho Probably our most attractive pear, yellow skinned with pronounced lenticels; however, the flavor is poor

Hosui Fruit quality is good but the tree is very unproductive and highly susceptible to pseudomonas and canker

Kosui This year the trees did not recover from last year's severe pseudomonas strikes and canker. One tree died and the others are in poor condition. Too disease susceptible despite high quality of fruit

Seigyoku Although fruit quality is quite acceptable, tree is not very productive here, fruit drops readily; Shinseiho is the better choice

Nijisseiki (20th Century) Flavor varies, some good and some mediocre, small size is a problem, needs heavy thinning; Shinseiho is the better choice

Kikisui Mediocre quality, unattractive, small fruit

Seuri Fruit extremely spicy, not for every taste, stores poorly; tree unproductive, most likely due to very early bloom, lacks a pollinizer

Ishiwase Large fruit, mediocre quality, very unproductive

Shinko Quality mediocre at Mount Vernon in most years, just on the borderline of maturing. Probably a good choice in slightly warmer area, as it produces large fruit that hangs well on the tree, and in warmer areas flavor would improve

Niitaka Tree productive, flavor fair to good in some years, better in a slightly warmer area

Golden Russet Very poor quality

UC 12-43 Doesn't mature properly, mediocre quality

Charles Harris Doesn't mature properly; large fruits tasted like a piece of wood, needs a warmer climate for fair trial

Imamura Aki Doesn't mature properly, needs longer growing season

Arirang Doesn't mature properly, needs longer growing season

Kimizukawase Doesn't mature properly, unproductive

Meigitsu Doesn't mature properly, unproductive

PEAR RESEARCH 1992
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In 1992 an unusually mild winter was followed by a warm, early spring and a long warm summer, with relatively little rain. Pears are well adapted to a cool maritime climate so although pollination and fruit maturity were about 3 weeks to a month earlier than average, performance of a given cultivar (variety) was not noticeably different in most cases. Bosc was most impressive this year, with high yields of uniform, attractively russeted fruit; it could adapt well to commercial plantings. In the early season, Orcas and Rescue did well as usual, and Harrow Delight was both flavorful and highly productive, in fact could have been thinned harder for best fruit size.

In its first season of full fruiting, Cascade appears to be a very promising red pear variety; the possible drawback for commercial markets would be its round, un-pearlike shape. Starkrimson (Kalle strain of Red Clapp Favorite) continues to be an excellent early season red pear, attractive, uniform, and productive.

A summary of the different varieties and their performance follows, listed in harvest order (1992 harvest dates in parentheses):

Established Cultivars:

- Rescue (July 31) Mature tree, not highly vigorous, very productive, large, attractively blushed, uniform fruit, smooth texture, mild sweet flavor; early season pear, not for long storage
- Harrow Delight (Aug 1-7) Mature very vigorous trees, highly productive, fruit size medium and below, could have used more thinning; uneven early ripening, firm flavorful pear keeps well for early type
- Clapp Favorite (Aug 6) (Standard) Very productive, uniform medium large fruit, good color due to exposure on rather long, sprawling limbs. Mild, sweet flavor, more than usual internal breakdown.
- Clapp Favorite (Aug 11) (Bennett strain) Mature vigorous tree, productive, uniform attractive fruit, some nicely blushed. Good early pear but not highly flavorful. Virtually identical to standard Clapp but not quite so well colored, larger tree is more shaded
- Starkrimson (Aug 11) (Kalle strain) Mature vigorous tree, highly productive, large uniform fruit, excellent solid red color. Flavor mild, sweet, non-aromatic; fruits keep very well for early type; promising
- Orcas (Aug 18) Mature vigorous tree, heavy set, large fairly uniform size fruit, most with blush. Productive, reliable, excellent fall pear
- Colette (Aug 24) Heavy set of medium size fruit, roundish to turbinate, some blush, russeted; very sweet & flavorful
- HW 606 (Aug 31) Vigorous upright tree, appears shy bearing, few fruit, small. Evaluate in 1993
- HW 605 (Sept 8) Vigorous upright tree, light set, fruits variable size, medium and above. Evaluate in 1993
- Cascade (Sept 10) Red pear, first season of full fruiting, appears productive, vigorous after a light first crop; roundish fruits, large, quite uniform, good solid color, attractive. Looks very promising
- Comice (Sept 11) Light set in D, better on trellis; medium size fruits with some limb rub and other skin

marks, otherwise good. High quality late keeper, trees seem to need spreading for good production

Conference (Sept 11) Moderate to light set on trellis and freestanding young tree; fruits tend to small size, elongated pear shape. Trellis is shaded by larger trees. Small harvest but good quality

Highland (Sept 11) Moderate set on large freestanding tree and trellis both, variable size, most medium; a standard high quality winter pear

Bosc (Sept 12)(Golden Russet) Mature vigorous trees, productive, large uniform fruit, attractive allover russet, good to best quality late dessert pear, also good culinary

Recent Additions:

Mericourt (Aug 24) Young tree, long whippy branches, light set, fruits variable in size, distinct pear shape, smooth finish. Evaluate in 1993

Spalding (Aug 24) First year full bearing; moderate-heavy set, size and shape both highly variable, most fruits on small side. Tree leggy and sprawling. Fruit good to very good, crisp off tree like Asian pears

Passe Crasanne (Sept 24) Few fruits, seem very late ripening, small, rather lumpy appearance. Evaluate in 1993

Not yet fruiting:

Beurre Alexander Lucas
Blancia
Concord
Passe Crasanne Rouge

Red Comice
Red D'Anjou
Roosevelt

Provisional (final year of evaluation before discard):

Sensation Red Bartlett (Aug 18) Moderate set on mature, rather leggy tree, fruit size variable, below medium to small. Color OK, good on most but less attractive than either Starkrimson or Cascade

Sirrine (Aug 24) Mature tree, small, shrubby, moderate-heavy set but fruit size variable, most below medium; russet also variable, some fruit wholly russeted, most are about 30% russet. High quality for fresh eating, drying. Seems to be going nowhere in nursery plantings

Crimson Gem Comice (Sept 11) Unproductive tree, color very poor, a few pale red stripes over green. No competition for Cascade in color, standard Comice easier to manage

Discard:

Tim Harris (July 20) Mature upright tree, productive, fruits small, very early, ripen unevenly over 3 weeks, flavor unacceptable, chemical aftertaste, does not keep

Surecrop (Sept 14) Mature vigorous trees, productive, uniform medium size, some skin scars, lumpy, greenish skin, unattractive, mediocre quality, late

Turnbull (Sept 24) Mature vigorous trees, moderately productive, roundish medium size fruit remain hard as rock, coarse and grainy, unacceptable for fresh eating

PLUM RESEARCH 1992
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In 1992 an unusually mild winter was followed by a warm, early spring and a long warm summer, with relatively little rain. Conditions at pollination were generally favorable but even with these unusually good conditions some of the Japanese plum types such as Simka and Santa Rosa did not set adequate fruit. Most of the European types set well and though there was some pre-harvest fruit drop it was not excessive. Warm dry weather allowed for good flavor and little rot even in those cultivars (varieties) where cracking was observed. The most serious damage was caused by birds and by wasps and other insects.

Of the Japanese types, two early varieties continue to stand out: Beauty is a round, red skinned plum with yellow flesh, and Shiro is a very productive yellow plum; both do very well in western Washington conditions. Seneca is the best all-purpose plum of the European type, good for fresh eating, drying, and canning.

A summary of the different varieties and their performance follows, listed in harvest order (1992 harvest dates in parentheses):

Established Cultivars:

- | | |
|------------|--|
| Beauty | (July 6) Light set on mature tree, good size, excellent flavor, juicy; considerable cracking and rot after rain, still the best early Japanese type |
| Methley | (July 6) Good set, typical small fruit (but larger than Methley B-20 and with much better flavor), excellent color, some cracking noted after rain |
| Shiro | (July 13) Good set and size, very juicy and sweet, reliable, productive, best yellow Japanese type, well adapted to most sites |
| Au-Crimson | (July 27) Vigorous tree, light set, medium size ovate fruits, attractive red skin, yellow flesh, rather dense, sweet, flavor similar to European, free stone |
| NY 858 | (Aug 6) Mirabelle type but better, very heavy set, small round yellow fruits, good sweet flavor, dessert and culinary uses, no rot or cracking |
| Seneca | (Aug 12) Good set and size on all mature trees, some skin scars, ripened over 2 week period, excellent flavor, productive; still the best |
| Stanley | (Aug 18) Considerable pre-harvest drop but very heavy set left plenty of good fruit; medium size, sweet flavor, less freestone than Seneca, typical Italian |
| Valor | (Aug 25) Some early drop, moderate set, variable ripening, good sized fruit, very dense sweet flesh, good Italian type |

Recent Additions:

- | | |
|--------------|---|
| Methley B-20 | (July 6) Moderate-heavy set, small, flavor fair to good but definitely inferior to standard Methley; <u>note</u> yellow flesh color, not red like Methley |
| CB-68 | (July 25-31) Young tree, few fruits, ripens unevenly, small reddish purple, flavor sweet, fair to good |
| CB-15 | (July 31) Young vigorous tree, few fruits, may be shy bearing; fruit medium size, oblong to |

heart shape, purplish red, sweet, juicy

4285 (Aug 15) Tall upright vigorous tree, few fruits, small, purple skin, yellow flesh, very sweet like French prune

Schultz (Aug 18) Young tree, moderate-heavy set, fruit medium large, ovate, yellow skin frequently blushed pinkish orange, sweet, European type

Not yet fruiting:

AR -13	Bruce 12-4
Au - 1	CB-28
Au - Amber	CB-71
Au - Roadside	Methley FL-1-1
Au - Rubrum	Sentry 1080-1-1
	Songold

Provisional (final year of evaluation before discard):

Biringer (July 27) Oullins type, dull greenish yellow with grey bloom, not highly attractive but very sweet, may be more productive than most Gage types; tends to rot in wetter conditions, gum pockets

Redheart (Aug 6) Large vigorous tree, shy bearing; fruit medium size, oblong pointed, wine red skin with very numerous, conspicuous tan spots, deep red flesh, sweet but with chemical, astringent aftertaste. All mature fruit cracked badly after rain

Early Italian (Aug 15)(Sehome) Moderately productive mature tree, late ripening, just before Stanley, typical Italian type, medium size, sweet, inferior to Stanley

Verity (Aug 18) Italian type, medium size fruit, good flavor, not highly vigorous, only moderately productive

Discard:

Laroda (July 15) Good flavor but unproductive, aphids love it

Simka (July 27) Vigorous mature trees, shy bearing, rather large, dark reddish purple fruit, ovate to heart shaped, yellow orange flesh, bitter chemical aftertaste, gum pockets

Frontier (July 31) Very good heavy set, large oblong-pointed fruit, purplish red skin, red flesh, flavor fair to poor, acidic, bird damage

PP 6973-2 (Aug 6) Early Italian type, heavy set, fruit tends small, a lot of skin blemishes, no cracking, OK sweet flavor but not the best, unlikely to be named

Santa Rosa (Aug 6) Vigorous trees but shy bearing even in this year's favorable conditions. Not well adapted here no matter how we try

Ume Japanese type, very early blooming (in February-March, with or before apricots) has not set fruit in 8 years

CHERRY RESEARCH 1992
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In 1992 an unusually mild winter was followed by a warm, early spring and a long warm summer, with relatively little rain. Under these favorable conditions cracking was low in most cultivars, and fruits generally ripened to good quality. Harvest was about three weeks earlier than normal, with some variation in the usual ripening order.

Among the established cultivars (varieties), Hardy Giant, Stella, and Angela were very good in terms of overall performance: productive, high quality fruit, low cracking. Kristin trees were not highly productive but fruit quality was very good and cracking low. Van set too heavily, producing smaller fruit and crowded bunches where rot developed. Emperor Francis, a very productive white-fleshed cherry with attractive bright red blush, was especially good this year, and is better adapted to local conditions than Rainier, although fruit quality is not as high.

A summary of the different varieties and their performance follows, listed in harvest order (1992 harvest dates in parentheses):

Established Cultivars:

- | | |
|-----------------|---|
| Early Burlat | (May 25) Moderate set and size, low cracking, bird damage in tops; good flavor, better than Moreau this year |
| Moreau | (May 30) Low to moderate set on large mature tree, medium size fruit, cracking low to moderate, flavor fair; keep as early pollinizer for Early Burlat. |
| Bada | (June 2) Upright tree habit leaves most fruits reachable only from ladder; moderate set, low cracking, large attractive fruit, yellow blush; good flavor, firmer and more productive than Merla |
| Kristin | (June 2) Small non-vigorous trees, light set; fruit size medium or below, low to moderate cracking; very good flavor and quality, suited to home gardens |
| Angela | (June 7) Heavy set, dark red fruits medium size, low cracking, good flavor; standard good quality |
| Hardy Giant | (June 7) Moderate set, large fruit, attractive dark color, low to moderate cracking, very good flavor; high quality |
| Bing | (June 25) Moderate to heavy set, fruit size medium large, cracking moderate to high, good color and flavor; standard high quality, known defects |
| Van | (June 25) Heavy set, small to medium size fruit, low cracking but some rot due to crowded bunches, overall quality good; drawback is disease susceptibility |
| Emperor Francis | (June 30) Heavy set, very productive, medium size, low cracking, bright red blush over yellow, sweeter than normal; not as sweet as Merla but much firmer and more productive |
| Royalton | (June 30) (NY 11390) Poor set, very few fruit, all cracked; good flavor, large, very firm and crisp; evaluate in 1993 |
| Stella | (June 30) Heavy set, quite productive, medium size, low cracking; overall good performance and |

quality

- Montmorency (July 5) (Starkspur) Pie cherry, culinary use only, very productive, medium size, bright red fruit, tart, no cracking, standard pie cherry
- North Star (July 5) Pie cherry, culinary use only; good set on low shrubby tree, very small bright red fruit, tart, no cracking
- NY 11375 (July 10) Pie cherry, culinary use only; few fruit, some small, low cracking; low shrubby tree; evaluate in 1993

Recent Additions:

- Merpet (June 15) Moderate set but birds ate all, left only pits on trees
- Columbia (June 25) Light set on young trees, good quality, attractive yellow blushed pink, firm, not very sweet
- Craig's Crimson (June 30) Light set on young trees, firm, good flavor, evaluate in 1993
- Bergie New tree to replace the ones removed in old cherry block, not yet fruiting
- King New trees not yet fruiting
- Tulare New trees not yet fruiting

Provisional (final year of evaluation before discard):

- Merla (June 2) Moderate set, medium-large fruit, yellow blushed pinkish red, very soft, flavor good, low cracking but too soft, severe bird damage
- NY 6476 (June 2-12) Moderate set, ripens over 2-3 weeks, light cropper, size above medium, very firm, excellent flavor and quality for those that escaped rain when ripe, cracking susceptible
- Cavalier (June 10) Poor set, a few large fruits, moderate cracking, good color and flavor
- Lapins (June 28) Trees show variable productivity, fruits medium size, low cracking, but flavor and quality not impressive
- Compact Stella (June 30) Reverted in size, moderate to heavy set, medium size, good color and flavor, low cracking; acceptable quality
- Rainier (June 30) Light set, fruit size above medium to large, attractive blush on most, cracking moderate to high; good flavor but too many other problems (cracking, premature fruit drop, unproductive)
- Sweet Anne (June 30) Variable performance, only 1 of 3 trees set well; fruits attractive, red blush over yellow, medium to small size, cracking low to moderate, flavor good, firm
- Viscount (June 30) Variable set and ripening, some trees unproductive, good size and color, low cracking, good flavor
- Hedelfingen (July 5) Good set, fruit size medium to small, cracking moderate; late ripening, ripens unevenly, mediocre quality, final evaluation in 1993

Lambert (July 5) Good set, medium size fruit, dark heart shaped, attractive, but late ripening, severe cracking of almost all ripe fruits

Discard:

Vogue (June 7) Very heavy set, much small fruit, low cracking, some rot due to crowded bunches; good flavor, a bit soft, vigorous and productive but fruit too small

Starkrimson (June 30) Too big for true dwarf; size medium-large, soft, high cracking combined with rot

Utah Giant (June 30) Unproductive; poor set, fruit size and quality good in uncracked specimens but overall performance is poor, very high cracking

Merton Bigarreau No fruit, performed poorly since planting

PEACH AND NECTARINE RESEARCH 1992
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In 1992 an unusually mild winter was followed by a warm, early spring and a long warm summer, with relatively little rain. Conditions at pollination were favorable and in most cases fruit set well on both peach and nectarine cultivars (varieties). Warm weather also allowed fruit to mature fully and develop good flavor. Harvest dates for most varieties were three weeks to a month earlier than would be expected in a normal year, and thus allowed for accurate evaluation of varieties that might not fully mature under the usual conditions.

The earliest ripening peaches, Early Glory and Harrow Diamond, both performed well this year; the latter had somewhat smaller fruit but this is likely due to the fact that the tree was transplanted last year and needs another season to get back to full production. Otherwise it looks very promising. Harken remains the standard for a good quality peach, not leaf curl resistant but otherwise well adapted to the western Washington climate. Frost is the standard curl resistant peach, and we hope to have virus-free trees soon, in order to make a complete evaluation of its quality. Vanity remains the best late ripening peach for local conditions.

The best nectarines in terms of overall performance were Junglo and Nectired, though the latter needs further evaluation. Harko was a reliable producer as always, but appearance and flavor of individual fruits was quite variable.

A summary of the different varieties and their performance follows, listed in harvest order (1992 harvest dates in parentheses):

PEACH

Established Cultivars:

- Early Glory (July 2) Good quality early peach, good flavor, colorful, productive; compare with Harrow Diamond
- Harrow Diamond (July 2) Very early ripening, with or before Early Glory; productive, good flavor, fruit rather small (tree was transplanted in 92 which may have affected fruit size), may be best quality early peach but not quite as colorful; promising
- Brighton (July 6) Early peach, 2 weeks before Red Haven; over half split pits, fruits size well and have good flavor, Early Glory has better color
- Earliglo (July 13) (Stark) Moderately productive, mature trees, fruits of variable size, most slightly below medium; fair flavor, good color
- Harken (July 20) Large vigorous tree, moderately productive; fruit size variable, most above medium; very good flavor, good color, consider as standard
- Nerland LCR (July 31) Productive, tree looks healthy; fruit medium size, not highly colored, flavor on the bland side
- Redhaven (July 31) Large trees, moderately productive, very good flavor, good color and size; some rot, about 30% split pits
- Tuma LCR (July 31) Both trees set well, size somewhat variable, most fruits medium size, flavor and color good, few splits

Frost LCR (Aug 6) Moderately productive, good size fruit, some do not color well, flavor only fair. Standard curl resistant cultivar, needs virus free tree for full evaluation

Vanity (Aug 12) Not highly productive, flavor and color good, best late peach for W. WA conditions

Recent Additions (young trees not yet fruiting):

China sdlg.	Mericrest
Delp Hale	Mid-Pride
Double Jewel	Newhaven
Har Beauty	Springold
Harcrest	Summer Beaut (Stark)

Leaf Curl Resistant Clones:

Early Charlott
Etter
Proud
Roaf
Vera

Provisional (final year of evaluation before discard):

Early Loring (July 6) (Stark) Productive mature trees, fruits size well with very good flavor and good color; about half split pits

Sweet Haven (July 6) Early peach, 2 weeks before Red Haven; over half split pits, fruit tends to be small and not as flavorful as Brighton

Harbelle (July 13) Large vigorous trees, reasonably productive, fruit medium size and above, most not well colored, flavor fair to good

Bellaire (July 27) Productive, heavy set, fruit somewhat bland in flavor but good sized, very colorful. Worth keeping

Strohl LCR (July 27) Moderately productive, good size and color, flavor only fair, melting texture. Seems to have few splits, some insect damage and rot. Ripe slightly before Tuma and Nerland

Herb Hale (July 31) Many split pits, moderate set, fruits size well, color acceptable not outstanding, fuzzy; flavor fair to good, skin noticeably astringent

Zachary Taylor (July 31) Large low trees, moderately productive, fruit sizes well, flavor and color fair to good, color poor on shaded fruits; some rot, about 40% split pits

Lieser(Zeiger) (Aug 6) Very productive, tree more dwarfed than most by Citation stock. Fuzzy skin, pale color, fruit size medium, slight astringent aftertaste

Discard:

Candor (July 6) Small tree, very productive, fruit size above medium, good color & flavor but almost all split pits

Cole LCR (Aug 6) Moderately productive, late ripening, fair color, flavor inferior to Tuma in LCR peaches

Rosy Dawn (Aug 6) Productive, fruits size well, color and flavor OK but far from the best, color and

ripeness somewhat variable; fully evaluated

Ranger Unproductive, no fruit

NECTARINE

Established Cvs:

Juneglo (July 15) Good flavor, attractive red color, some cracking and variable fruit size; tree on Citation productive, looks good

Nectired (July 15) Promising bright red nectarine, ripe with Juneglo; good flavor, appears to set well, had some cracking this year

Harko (Aug 6) Reliable producer, size quite variable, not highly colored, low cracking this year, looks good again

Discard:

12-14 nect. (July 31) Some cracking and considerable rot, not highly productive, few splits, good color, flavor fair to good

APRICOT RESEARCH 1992
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In 1992 an unusually mild winter was followed by a warm, early spring and a long warm summer, with relatively little rain. These were favorable conditions both at bloom and at harvest, and provided an opportunity to judge the best performance of apricot cultivars (varieties). Because of the unusual conditions, harvest dates for most varieties were three weeks to a month earlier than in a normal year. Harglow was the best apricot in terms of overall performance; both fruit flavor and appearance rated high. Puget Gold was productive but some trees had a high percentage of shriveled fruit; flavor and quality of good fruit also seemed somewhat below standard. Rival had a good load of quality fruit, but it should be noted that in most years it is much less productive. Alfred fruit was rather small, though of good flavor; trees were healthy but not highly productive for their size.

A summary of the varieties under test appears below, with 1992 harvest date in parentheses:

Established Cultivars:

- Rival (July 2) Very good set on mature tree, productive, excellent flavor; tree shows signs of dieback on ends of branches
- Alfred (July 13) Vigorous healthy looking trees but not highly productive; fruit medium to small size, good sweet flavor
- Harglow (July 15) A fairly new introduction, the most attractive of current apricot cultivars, bright orange color, moderately productive; tree seems disease resistant and healthy; flavor good, looks promising
- Puget Gold (July 15) Performance this year not at its best; some fruits shriveled up, maybe due to lack of irrigation; most trees produced fruit
- Harlayne (July 22) Tree on St. Julien X appears stunted, may be worth budding on different rootstock; flavor is good but some fruits were shriveled

Recent Additions:

- Flavor Delight Aprium, not yet fruiting
- Goldenglow Genetic dwarf, not yet fruiting, in landscape garden
- Katy Young tree not yet fruiting
- PA 7005-2 (July 15) Young tree, attractive fruit, bright orange blush, good flavor
- Royal Rosa Young tree not yet fruiting

Provisional (final year of evaluation before discard):

- Gold Strike (July 2) Not productive, large attractive fruit but very few of them
- Sunglo (July 6) Several diseased limbs, healthy areas set moderate load of fruit, good size and color, some cracking

Wilson Delicious (July 15) Not highly productive but good flavor

Discard:

Blenril (July 13) Cracks heavily, productive but any rain brings on immediate rot

Harcot (July 13) Tree diseased, poor set; fruit size, flavor and quality good but trees unproductive

NY 544 (July 15) Flavor bland, not highly productive

DWARF CITRUS
1992 Progress Report

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For a number of years we have maintained a small collection of dwarf citrus, of various kinds and cultivars, at the Mount Vernon research station. At first they were planted in large containers kept in greenhouse conditions, but shortly the trees began showing recurrent signs of nutrient deficiency, production was generally not high, and insect infestations (particularly scale and resultant sooty mold) frequent and severe.

The trees were moved into a plastic-covered "tunnel", and in 1991 were removed from containers and planted to in-ground beds. The tunnel is 20 X 50 feet in area, with a double layer plastic cover supported by arches of metal tubing that rise to a center height of approximately 10 feet. Trees are planted down each side in a single row, spaced from 4 to 6 feet apart depending on size. The structure is unheated except during the infrequent periods of freezing weather; over the winter of 1992-1993 low temperatures reached a minimum of 7 degrees F. and there were several periods of 25 degree F temperature. When supplementary heating is necessary it is supplied by a small kerosene heater. In general use this heater runs for about 24 hours on one filling of its tank.

Under these conditions the trees responded well, and were considerably more productive. Set of fruit on most, even the smaller dwarf trees, was quite heavy, and the resulting fruits were collected for evaluation from December of 1992 to February of 1993. Notes on specific varieties are given below:

Robertson Navel Orange: Productive tree, good flavor, best of the oranges, sweeter than most, quite juicy

Valencia Orange: Acceptable quality but a little sour, not as productive, very juicy, good texture

Washington Navel Orange: Productive tree but fruit tended to be dry inside, with unpleasant fibrous texture

Dancy Mandarin: Attractive, productive, easy to peel, flavor not bad but too dry

Dwarf Satsuma Mandarin: Not highly productive but fair to good quality, easy to peel, juicy, earlier specimens had better flavor

Red Blush Grapefruit: Good production on very small tree, rinds quite thick, attractive, yellow flesh, very good flavor, juicy

Minneola Tangelo: Very attractive tree, productive, good flavor, very juicy, some fruits were slightly fibrous and occasionally sour

Improved Meyer Lemon: Productive, ornamental tree, fruits of good quality, juicy, though rather on the small side

These results were sufficiently encouraging to raise interest in a modest extension of the current program, which would include the acquisition of newer and/or more promising kinds and varieties of citrus, replacing the plastic tunnel cover, putting up a second tunnel and covering it (the framework is available, disassembled in storage), and a possible program to investigate and update IPM methods for controlling pests. The estimated cost of such a program for one year would be approximately \$4,250, with the major expense being the cost to re-cover the two tunnels (\$1,500) and the labor to plant and care for the trees (\$1,800 + \$150 to cover benefits). Supplies, which would include fertilizers, pesticides, heater fuel, and irrigation equipment, is estimated at \$800. Annual reports, including evaluations of the different varieties as well as cultural practices and pest control, would be made public to anyone interested. Without support the current program must be discontinued.