

## Harvest Report 1998 – Tree Fruit

### Cherry

Conditions for pollination were good in spring 1998, and most varieties had a moderate to moderately heavy set for evaluation. **Angela, Viscount, Emperor Francis, Kristin, and Hardy Giant** were reliably productive. A netting framework was installed this year to cover the mature cherry plot, and as a result the crop was protected from bird damage. In the new dwarf cherry block on Giesela rootstocks, netting was also effectively used by stringing it on poles to cover those varieties that had a good fruit set. Two varieties on Giesela 5, **Lapins** and **Sweetheart**, produced impressive yields in their fourth and third leaf, respectively. Quality and size were good on both, ripening in the late season, **Sweetheart** being the later of the two by about a week. Trees of the newer varieties and selections are growing well, and we look forward to seeing samples of fruit from them in 1999.

Proposed Discard: **NY 11375** – tart cherry type, very late, unproductive in 8 years; **Craig's Crimson** – poor set, serious cracking

### Apricot

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### Peach

Conditions for pollination were unusual in 1998, and many varieties set fruit that had not done so in previous years. This allowed us to eliminate some varieties, particularly in the 1994 plot, which appear to be unproductive after 5 years on trial. Among the early season peaches, **Sentry** was again notable for good size, quality, and relatively few split pits; it ripens in mid to late July. **Harrow Diamond** is a productive early variety but fruits tend to be small. **Proud** peach clone is in process of being introduced, with the name of **Avalon Pride**. The fruit is large, highly colored, attractive, with little fuzz, and of good quality. It is being evaluated for its leaf curl resistance.

Mature trees in general did well, with reliable producers like **Harbelle, Harken, and Redhaven** carrying a good set of fruit. After several years on trial, **Newhaven** appears to have consistently high fruit quality, but is only moderately productive. **Harrow Beauty** continues to perform well with large flavorful fruit and attractive golden undercolor.

In the new stone fruit block, we were able to evaluate most of the varieties planted in 1994. **Rich Lady**, a yellow fleshed peach ripe just before Redhaven, had good red color, with very firm, sweet flesh. Notable were the white fleshed peaches, many very attractive with nearly 100% dark red skin color at harvest. **Snowbrite**, an early variety ripe about a week before Redhaven, is somewhat prone to split pits but attractive and tasty. **White Lady**, ripe with Redhaven, is very sweet and almost entirely free stone. **Sugar Lady**, about a week after Redhaven, had very high levels of sugar at harvest.

Varieties fruiting for the first time included **Harrow Dawn**. It is an early yellow fleshed peach, about two weeks before Redhaven, that was quite productive, although like many early peaches it had some split pits. We will give this one a closer look in 1999. Several selections from the Harrow program look promising, including **HW 271**, an attractive white flesh peach ripe with Redhaven. **Saturn** was a very interesting peach, with exceptionally sweet white flesh and a distinctive flat doughnut shape. **Starfire**, about two weeks after Redhaven, set well with very colorful yellow-fleshed fruit; it may be a promising late season variety.

Proposed Discard: **Delp Hale** – mediocre quality; **Mid-Pride** - unproductive, blooms too early most years though 1998 was an exception; **June Pride** - unproductive; **May Sun** – unproductive, disease prone; **Early White Giant** - unproductive

### Nectarine

The early season nectarine varieties were seriously affected by both cracking and rot, and set on most was poor. **Juneglo** and **Nectired** have both performed rather poorly for the last few seasons and we are looking for improved varieties to replace them. **Arctic Glo**, a white-fleshed nectarine ripe about a week before Redhaven, will get another look next year to see if it is more promising. Cracking and rot affected it this year, although fruit flavor was good.

Later on in August the warm, dry days contributed to better results with some of the midseason varieties. **Hardired** and **Tasty Gold**, both about 10-15 days after Redhaven this year, were the best of the newer yellow fleshed varieties. They have been consistently productive, and both are good flavored and attractive. Two new selections from the Harrow breeding program that did well in 1998 were **HW 108**, ripe with Redhaven, which had excellent color and firm flesh texture, and **HW 109**, ripe about 5 days later; both were quite productive. **Crimson Snow**, another white-fleshed variety, stood out for its excellent color, sweet flavor, and productivity, though fruits were rather small and some were cracked. Fruiting for the first time, **Crystal Red** and **Crystal Rose** both looked promising, with very sweet white flesh and good color.

Proposed Discard: **Summer Beaut** – cracking, rot, unproductive; **Earliglo** – unproductive; **May Kist** – unproductive

## Plum

Plum varieties again looked promising in 1998. **Beauty** and young trees of **Methley** both produced good crops. **Early Laxton** had a moderate crop compared with 1997, but fruit quality was again excellent; its extended ripening period and spreading tree habit recommend it for home gardens. **Cochecho** and **Hollywood** were very productive in 1998, and their purple leaves give them ornamental value as well. **Cochecho** is upright-spreading and vigorous with pinkish orange, round fruit that is flavorful and attractive. **Hollywood** is a more broadly spreading tree, with sweet dark red fruit. **Imperial Epineuse**, a European type ripe in late July, is proving itself a consistent producer of excellent quality fruit. **Victory**, ripe in early September, is also very productive, and the sweet freestone plums are great for fresh eating, drying, or culinary use. The tree has an attractive upright spreading habit.

Trees of **Seneca** yielded a full crop of large, high quality fruit; it is still the standard for quality of the European type plums. Two promising yellow plums, **Fritz** seedling and **Coe's Golden Drop**, were both productive, with flavorful fruit. Among the plums fruiting for the first time were a large group of numbered selections from Geneva, New York. Several looked promising and we will check in 1999 to see if any will be introduced. Two recent Geneva introductions, **Longjohn** and **Castleton**, produced fruit this year. Both are European types; **Longjohn**, ripe in early September, rated moderately high in fruit production with distinctive long oval shaped fruit of good flavor, and **Castleton** is similar to a large Italian prune.

Proposed Discard: **AU-Amber** – unproductive; **AU-Roadside** - unproductive; **AU-Rubrum** – unproductive; **Earliqueen** – bland, watery, bad cracking & rot

## Pear

Opening the season for 1998 was a very early variety, **Ubileen**, which fruited for the first time. The pears were large, attractive, with a light, pleasant flavor, good right off the tree. Another early pear, **Bella de Guigno**, that did well in 1997 had no fruit this year, perhaps because it bloomed in the early cold spell when bees were inactive. We look forward to seeing how these will perform next season. **Harrow Delight**, ripe in early August, is a consistent cropper with good quality fruit. **Rescue** and **Orcas** are both summer pears good for canning and drying as well as eating fresh. The red pears **Starkrimson** and **Sensation Red Bartlett** continue to show good production. Young trees of **Cascade** are producing well, and so far do not show a tendency to alternate bearing.

Yields of **Bosc** were moderately high, though somewhat lower overall than 1997, and those of **Concorde** were moderate. **Conference** had moderately high to heavy yields of excellent quality, sweet flavored fruit. Trees of **Comice** on Quince A had only sample fruit in 1997, but this year they produced a heavy load of fruit. Much of the fruit was heavily russeted but flavor and quality were very good. Fruit from standard **Bosc** and from **Bronze Beauty** and **Golden Russet** strains all were fully russeted and quite attractive.

Elimination of certain tree fruit blocks along the station boundaries resulted in a number of pear varieties being removed. Some have been replaced with new trees not yet fruiting, others will be replanted in the Display Garden area.

Proposed Discard: **Roosevelt** – evaluation completed, mediocre; **Passe Crasanne** – v. late, hard, unattractive; **Passe Crasanne Rouge** – v. late, hard, unattractive, streaked dull red;

**Blancia** – unproductive

## Asian Pear

In 1998 conditions at bloom time were unfavorable for most Asian pears, and they produced much less fruit than usual. **Shinseiki**, **Yoinashi**, and **Chojuro**, generally reliable producers, had few fruit, though the quality of the fruit that was produced was generally good. **Ichiban Nashi** set a moderate crop, though some bird damage occurred before all the crop could be harvested. **Hamese #1**, usually the earliest-ripening variety, was later than usual but had a moderate set of sweet yellow-skinned fruit. **Mishirasu** had a full crop of very large roundish fruit. The unusual shape and thick russet brown skin look peculiar, but its excellent flavor, crisp texture, and reliable production recommend it for the home garden. Two selections from UC Davis also produced plenty of fruit, but at this point it does not seem that they will be introduced. Young trees of **Atago** produced specimens only, but the tan-skinned, attractive fruit had good flavor.

Proposed Discard: None

## Apple

In 1998 fruit set in most apple varieties was good, and there were very few instances where productivity was low. Ripening dates were relatively consistent, and though some varieties ripened earlier than usual it was not a uniform trend. In determining optimum harvest for a specific variety, we relied more this year on indices of starch conversion, fruit firmness, and soluble solids (sugars) as well as external color. Yields in general were good and fruit quality was high, with many new young trees producing enough fruit for evaluation this year.

**Early Season (Disease resistant varieties are covered in a separate section, below.)**

Among the early season varieties ripe before Gravenstein that did well this year are **Sunrise** and **Homei Tsugaru**. Just after Gravenstein season, **Aroma**, **Alkmene**, and **Sansa** all were productive. In particular **Aroma** set well but like many early varieties, variable color and ripeness make it necessary to do repeated pickings.

### Midseason

The red strains of **Gala** being evaluated all produced good quality fruit this year. **Regal Gala (Fulford)** is distinguished for its size, uniformity, good flavor and even color, nearly 100% bluish red. **Scarlet Gala** was smaller and less colorful. Young trees of **Royal**, **Ultrared**, and **Galaxy** strains all had very good color, as expected in small trees with high light exposure. In season with Gala, **Honeycrisp** had plenty of large, very crisp fruit, and the young trees were notably productive.

**Hatsuaki** did not color well this year but flavor and yield were both very good.

**Cox's Orange Pippin** produced fruit of excellent quality and good color, but wasn't as productive as the **Queen Cox** or **Cherry Cox** strains, both of which had very good fruit. **Fiesta**, another Cox cross, produced only a moderate crop but quality and size were good. **Karmijn de Sonnaville**, a Cox cross very popular as a gourmet apple, produced well although subject as usual to some sunburn and water core. **Daliest** and **Daliter**, red strains of **Elstar**, continue to perform well, more colorful than the standard and equally flavorful.

Several strains of **Jonagold** are being evaluated for their potential in both commercial and home orchards. **Jonagored**, **Jomured**, **DeCoster** and **Rubinstar** have the most red color of the strains tested here, followed by **King (Jored)**. All of these strains yield some fruit with 100% red color, the difference being that the first four seem to produce a higher amount of all-red fruit per tree. Fruit of **King (Jored)** were very attractive this year and can sell well if a bicolor apple is desired.

### McIntosh Types

The **McIntosh** variety is very popular in New England and the eastern U.S., and several strains that we are testing have done well here. **Jonamac** in early mid

season, **Spartan** in late mid season, and **Empire** in the late season are great Mac crosses that adapt very well to our area. **Redcort**, a red sport of Cortland, has a unique tart flavor at first picking in mid September, and retains its firmness for later pickings as a rich spicy flavor develops. The different Mac types and strains ripen at various times throughout the season. **Marshall Mac** appears to ripen about a week earlier than **Pioneer Mac**. **Compact Mac**, ripe with Marshall, is a tree of upright-columnar habit with good quality fruit, useful where space is limited. **Redmax**, ripe with Pioneer, did not set well this year though its flavor was excellent. **Acey Mac** ripens about three weeks later, and is very similar to **Spartan**.

## Late Season

Two late yellow apples from Japan did very well this year. **Shizuka** and **Mutsu**, both Golden Delicious crosses with a livelier flavor and better keeping quality, had good crops of large, attractive fruit. **Mutsu**, the later ripening of the two, is best planted on M9 rootstock, as it is quite vigorous, and sometimes ripens too late under our climate conditions. **SunCrisp**, a New Jersey introduction, has good flavor, very firm texture, and hangs well on the tree into November.

Among the older varieties, **Melrose**, **Red Boskoop**, and **Bramley's Seedling** are all reliably productive. **Melrose** is a dual-purpose apple that stores well, while **Boskoop** and **Bramley's** are known as good culinary varieties.

**Braeburn** produced a full crop of fruit with good color and little russet, and fruit size and quality were excellent. Harvest was completed in two picks, in late October for the best-colored fruit and a final "cleanup" in early November. Young trees of the **Hillwell** strain with redder color had their first fruit in 1998. Commercial production of **Braeburn** is a possible consideration, especially on M9 rootstock, which contributes to earlier ripening. Several strains of **Fuji (Standard, Yataka, and Akifu)** were harvested in late October and early November. Much of the fruit had water core and russeting, which would seriously reduce the quality for commercial markets. However, the fruit ripened better than most years and would be perfectly good for home growers' use. **Beni Shogun**, a new earlier ripening Fuji type, looked promising. It ripened about a month ahead of the standard **Fuji** strains.

## New Evaluations

In the early season, **Arkcharm**, a recent introduction from the Arkansas program, is an attractive bicolor with good sweet-tart flavor that needs several pickings. Slightly after Gravenstein, in late August to early September, two red dessert type selections from B.C. stood out for attractiveness and flavor. **11W-12-85** and **11W-19-18** are crosses of Summerred X Discovery; **11W-19-18** appears to keep longer. Most of the B.C. selections performed better this year than in previous years with respect to color and fruit maturity. **8S-29-18**, **8S-27-2** and **8S-31-56** all showed good overall appearance and flavor; **8S-27-2** had some scab. **Chinook** (BC 8S-27-51) was productive, and fruits were very firm with good flavor but the size was small, and color quite variable.

**Greensleeves**, an English introduction, continues to look good in the mid-September season, an attractive green-skinned fruit with lively subacid flavor. **RubINETTE** is small, with russeted yellow skin, but is very productive and its excellent flavor recommends it for home gardens. One of the **Colonnade** series, **Emerald Spire**, fruited for the first time at the station. The fruit was green with a smooth, attractive finish, sweet-tart flavor, and rather tender flesh texture. The **Colonnade** apples with their narrow upright growth habit are intended for small yards and container growing. In early October **Thome Empire** continues to draw attention with its unusual blackish-red color, and its good Empire flavor.

## Scab Immune Cultivars and Selections

These trees did not receive any fungicide treatment, so that their resistance to disease could be evaluated. Though bred for scab immunity, the resistance to other diseases such as powdery mildew can vary from resistant to quite susceptible, as has been shown in ratings taken over the years. In 1998 the same outbreak of black spots on the fruit was seen, and samples resubmitted for analysis; the cause still has not been identified. This emphasizes the point that growing scab immune varieties does not guarantee a trouble-free orchard or undamaged fruit.

In the early season **Pristine** showed promise as a very early yellow apple, ripening two weeks before Gravenstein. **Williams' Pride**, about a week after Pristine, was productive and the fruit good though with considerable russet due to mildew. Ripe about a week after Gravenstein, **Wynooche** was very productive: its biggest drawback is fruit dropping before fully ripe. **Dayton** has crisp, juicy, flavorful fruit, relatively unaffected by fruit blemishes. It has better quality than **Prima** in the same season, and keeps longer. **Liberty** ripens about two weeks later; fruit is on the small side, with good color and flavor. In the late season **Enterprise** was again quite productive, with large attractive fruit that stored well, though some fruit was damaged by black spots. Flavor is fair, but it is one of the best keepers among scab immune varieties. In some warmer areas **GoldRush** may be an alternative; it has sprightly sweet-tart flavor when ripe but is very late, hanging on the tree well into November, and often has unattractive russet.

**Coop28**, ripe in mid October, is an attractive bright red, crisp, with sweet-tart flavor. **PAR-12T-101** ripened this year in early October, about 2 weeks earlier than 1997, with attractive, uniform fruit, dark wine red, firm and flavorful. **P15R-3T-86** is a productive tree with fruit similar to Melrose, ripe in late October. Three selections from Geneva, ripe in late September, continue to look good. **NY 75414-1** is productive, and the sweet-tart fruit is an attractive deep wine red. **NY 65707-19**, similar in appearance to Red Delicious, combines good mildew resistance with good quality and attractive appearance. **NY 75413-30** was very productive, with large, dark red fruit that hangs well on the tree. **TNR-10T-11** is on the late side, ripe at the end of October, with excellent color and good sweet-tart flavor.

**Proposed Discard:** **Cox, Red** – Red sport, less productive than Queen or Cherry Cox; **Cox, Cherry** – Red sport, smaller than Queen Cox, tree too vigorous; **Discovery** – Fully evaluated, excellent flavor, early, poor storage, cracking; **Egremont Russet** – Fully evaluated, unattractive, dense flesh, home orchard only; **Freyberg** – Fully evaluated, excellent flavor, row being eliminated; **Lysgolden** – Fully evaluated, not best Golden type for flavor; **Macfree** - Fully evaluated, not outstanding, row being eliminated; **NY 617** – Fully evaluated, very large, not being introduced; **NY 632** – Fully evaluated, not outstanding, not being introduced; **NY 652** – Too similar to Empress in same season; **NY 674** - Check w/NY for status, otherwise fully evaluated; **NY 61343-1** – Disease spots, pale color, unattractive; **Russet King** – Fully evaluated, block being eliminated; **Sunset** – Nice small apple but fully evaluated, no commercial potential; **Swaar** – Fully evaluated, late green subacid, row being eliminated; **Tydemans Late Orange** – Unattractive, blossom end crack/rot, woody flesh, late; **Winterstein** – Fully evaluated, Gravenstein cross, later ripening, block eliminated

## Unusual Fruit

With the help of a special donation in 1997, we initiated a planting of unusual fruit for evaluation that we hope to increase in future. We will test a number of uncommon kinds of tree and bush fruit to see if they are well adapted to western Washington conditions, and to look at any specific cultural needs that may apply to growing them in our area. Among the fruit kinds that have been planted are figs, kiwi varieties from England and Switzerland, black, red and white currants, persimmons, paw paws, and some new seedless grape varieties. Some of the uncommon bush fruits include aronia, mulberry, elderberry, honeyberry, sea buckthorn, mountain ash, cornelian cherry, azerole, and sorbus.

We have also been managing trial plots of strawberry, raspberry, and blueberry varieties and selections, which are part of the research program of Dr. Pat Moore at the Puyallup research station. Anyone interested in the results of these projects can obtain specific reports from him.

# Crabapple

The evaluation of ornamental crabapples for disease resistance begun in 1984 continues with new additions as well as the establishment of several proven varieties in a rootstock trial. The established varieties chosen for the rootstock trial included those with high resistance to scab, excellent ornamental quality, and a wide range of tree habits and bloom times (see table, below).

Name	Bloom Color	Bloom Time	Tree Habit	Fruit Color
<b>Sugar Tyme</b>	white	early	large upright	red
<b>Evereste</b>	white	mid	mid spreading, large fruit	red
<b>Molten Lava</b>	white	mid	large weeping	red
<i>M. x zumi 'calocarpa'</i>	white	mid	large spreading	red
<b>Christmas Holly</b>	white	mid-late	small rounded spreading	red
<b>Prairifire</b>	red-pink	late	mid rounded, bronze leaves	dk red
<b>Golden Raindrops</b>	white	late	mid spreading, cut leaf foliage	yellow

The rootstocks used in this trial include M 27, M 9, M 26, M 111, Budagovski 118, Budagovski 490, Cornell Geneva 228, Cornell Geneva 778, and Domestic seedling. Measurements of tree diameter were taken at planting in April 1997, in March 1998, and November 1998 to see if any significant differences in size were observable. The data are in process of being analyzed; preliminary observation seems to indicate that there are size differences between the rootstocks that are consistent across the different crabapple varieties. We hope to continue the trial for several more years to see the effects in more mature trees.

Several introductions being evaluated for disease resistance and ornamental quality look promising. **Adirondack** is a white-blooming, upright tree with good scab resistance and small, persistent pinkish-orange fruit. **Purple Prince** also appears quite disease resistant, and its purple-green leaves are ornamental, but its tree habit has become more spreading as the trees mature. Still needed is a pink flowered crabapple with upright habit and disease resistance. **Prairie Maid** has deep-pink flowers in contrast to green leaves slightly tinged with bronze. It shows good disease resistance, and the small red fruits color up early, but birds like them so the tree has little color after the leaves are gone. We hope to acquire some new crabapple introductions also, such as **Lollipop**, **Guinivere**, and **American Spirit** that may fill in some landscape niches in future.

Some seedlings of local origin may have potential for future development. **Pink Cloud** has pink double flowers, bronze leaves and large, tart red fruit. Another seedling cross is a semi-double, white flowered tree with narrowly upright habit which would be suitable for street side planting, especially as it seems to have little or no fruit. A cross of Alkmene X Prima made here at the station in 1990 resulted in an upright-spreading crabapple with scab immunity; it has white flowers and large, persistent bright yellow fruit, tart but edible. Pollination trials in 1998 showed that this seedling will pollinate both Jonagold and Fuji. These seedlings are being evaluated for possible introduction.

## Acknowledgments

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