

Harvest Report 1999 – Tree Fruit

Cherry

Conditions for pollination were good enough in spring 1999 that most varieties set plenty of fruit for evaluation and harvest. **Angela, Viscount, Emperor Francis, Kristin, and Hardy Giant** were reliably productive. This year both the mature cherry plot and the Giesela rootstock test plot were covered by a netting framework protecting the crop from bird damage. Two varieties on Giesela 5, **Lapins** and **Sweetheart**, produced impressive yields, and **Early Burlat** and **Hudson** produced moderate to good yields.

Trees of the newer varieties and selections produced specimens for preliminary evaluation. Some late ripening sweet cherry varieties looked promising. These included **Lapins, Sweetheart, and Hudson**, also **Regina** on young trees. **Hartland** and **Attika**, both early midseason varieties, produced sample fruit with good appearance and flavor on young trees. **Bing** and **Rainier** looked good, and **Rainier**, which normally produces a light crop on standard rootstocks, cropped well on the Gisela stock.

Discard: Sunburst

Apricot

Most of the apricots set fruit in 1999, and evaluations were made this year on several new varieties. **Puget Gold** reliably set fruit, and though **Alfred, Harglow** and **Sunglo** did not have much fruit, the flavor and quality were good. New trees of those varieties on Citation dwarf rootstock will be planted in spring 2000, to see whether the productivity will improve when tree vigor is more restricted. Trees were rated for their susceptibility to pseudomonas infection in spring 1999, to add to our long term evaluations.

Discard: Royal Rosa

Peach

Conditions for pollination of peaches were not at the optimum in 1999. Weather was cool, and the bloom about 10 to 14 days later than in 1998. Set was poor in many of the peach varieties in the 1994 block, even though trees are in their sixth leaf and should be reaching mature production. Several varieties were marked for discard due to poor production. Among the early season peaches, **Sentry** had a moderate set and was again notable for good size, quality, and relatively few split pits; it ripens in mid to late July.

Reliable producers like **Harbelle, Harken, and Redhaven** consistently showed a good set of fruit. After several years on trial, **Newhaven** appears to have high fruit quality, but is only moderately productive.

In the new stone fruit block, we were able to evaluate most of the varieties planted in 1994. Unfortunately, most of the white flesh peach varieties tested in the 1994 planting cropped very lightly. **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. However, we would like to see more consistent productivity in these white fleshed varieties before recommending any of them, and will continue to bring in new introductions that may perform better.

Discard: Double Jewel, July Sun, Kern Sun, Nerland, Rich Lady, Snow King, Mary Jane (Strahl), Summer Sweet, Tuma, Zee Lady

Nectarine

At bloom time nectarines suffered the same cool, wet conditions as the peaches, and bloom was also later than usual for them. **Arctic Glo**, a white-fleshed nectarine ripe about a week before Redhaven, will get another look next year to see if it is worth keeping. 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 yellow fleshed nectarines ripe about 10-15 days after Redhaven, have been consistently productive, and both are good flavored and attractive. In 1999, however, **Tasty Gold** suffered from bad cracking, and many fruits were very small.

Discard: Arctic Queen, Heavenly White, Summer Beaut, Zee Grand

Plum

The late, cold spring adversely affected the set in many of the early-blooming plum varieties in 1999. **Beauty** and young trees of **Methley** both produced sparse crops. **Early Laxton** produced a heavy crop and fruit quality was again excellent though ripening was considerably later than usual. The two purple-leaf plums **Cocheco** and **Hollywood** both had little fruit in 1999. In the case of **Hollywood** this may have been partly due to the extremely heavy crop load the previous year.

European plums, blooming later, were little affected with respect to set, though they did ripen about 10-14 days later on average. **Imperial Epineuse**, **Valor** and **Victory** produced very heavy crops of excellent quality fruit, and many branches had to be propped for extra support. Trees of **Seneca** yielded a full crop of large, high quality fruit; it is still the standard for quality of the European type plums. The yellow plum tested as 'Fritz seedling' is now designated **Schoolhouse** plum; it is a productive late season variety, with flavorful fruit. Two European type plums, **Longjohn** and **Castleton**, have been introduced by Geneva. In particular **Longjohn**, ripe in early September, rated high in fruit production with distinctive long oval shaped fruit of good flavor. **Castleton** is similar to a large Italian prune, and this year suffered considerable cracking and rot. **Kirke's Blue**, an established English variety, looked promising this year; the roundish freestone fruit has dense sweet flesh suited to fresh eating, drying, and culinary uses.

Discard: **Earliqueen**, **Vanier**, **64-339**, **7404-1**, **8155-70**, **8327-65**

Pear

Set was good to very good on most of the mature trees. Opening the season in early August was a very early variety, **Bella de Guigno**, which fruited for the first time. The pears were attractively blushed, with a light, pleasant flavor, good right off the tree. About two weeks later **Ubileen** and **Harrow Delight** followed, both with moderately heavy crops of good quality fruit. **Ubileen** has rather melting flesh with light, sweet flavor whereas **Harrow Delight** is firmer and denser in texture, and stores better. It is also consistently productive.

Youngtrees of **Cascade** are producing well, and so far do not show a tendency to alternate bearing. Among varieties fruiting for the first time in 1999, among the most interesting was the late ripening German variety **Forelle**, so named because the large, conspicuous white spots on the red blushed areas of the fruit are similar to those of the trout (forelle in German). We look forward to seeing how this variety performs in the coming year.

Yields of **Bosc** and **Concorde** were high, and **Conference** again had heavy yields of excellent quality, sweet flavored fruit. The latter variety is a consistent producer of excellent quality fruit that stores well, a great choice for growers in western Washington. It is the number one commercial pear in Holland and Belgium. Trees of **Comice** on Quince A produced a moderate crop of fruit, but less than in 1998. Fruit from standard **Bosc** and from **Bronze Beauty** and **Golden Russet** strains all were fully russeted and quite attractive.

A new pear block was established with introductions of European and Asian pear varieties, along with some trees transplanted from the pear blocks that were removed in spring 1999.

Discard: **Blancia**, **Warren**

Asian Pear

In 1999 conditions at bloom time were less than ideal, and the fruit set of the different varieties varied from heavy to fairly light. Young trees of **Hamese #1**, the earliest-ripening variety, produced a good crop of sweet yellow-skinned fruit. **Ichiban Nashi**, **Chojuro**, and **Yongi** set a moderate crop, and ripened to good quality as the weather improved in August and September. **Shinseiki** had a lighter set in 1999 than usual. **Yoinashi** was severely damaged by *Pseudomonas* this year. In previous years it had seemed to be resistant to this disease, which also reduces bloom and fruit set in affected trees. Young trees of **Atago** are just beginning production, and look promising for high quality fruit in the late season, with tan skin, uniform size, and good flavor. **Mishirasu** produced some good fruit on young trees; these trees replace the original one which was removed in 1999.

Discard: None

Apple

In 1999 fruit set for apples was good, and there were very few instances where productivity was low. Ripening dates were approximately two weeks later than 1998 due to the slow late spring, although certain varieties appeared very little affected by this difference in temperature. The latest ripening varieties were still in the orchard as late as mid November, which is quite unusual. In determining optimum harvest for a specific variety, we relied extensively 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.

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

Several red strains of **Gala** being evaluated produced good quality fruit this year. **Regal Gala (Fulford)** is distinguished for its size, uniformity, good flavor and even color, nearly 100% blush red. Young trees of **Royal**, **Ultrared**, and **Galaxy** strains all had very good color, as expected in small trees with high light exposure. Red color in **Scarlet Gala** was only marginally better than standard **Gala**.

Several strains of **Jonagold** are being evaluated for their potential in both commercial and home orchards. **Jonagored**, **Rubinstar**, **DeCoster** and **Jomured** 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.

In the same season, **Honeycrisp** produced large, very crisp fruit with good color. The fruit was from young trees well exposed to sun. This variety looks good for potential commercial production in our area. If harvested when fully ripe, fruit stays crisp in storage well into spring. Fruit picked too early will develop scald in storage, and it is recommended that storage temperatures be kept at 34-36° F for best results.

Fiesta, a cross of Cox's Orange Pippin very successful in our area, produced a good crop, and **Karmijn de Sonnaville**, another Cox cross, produced well although subject as usual to some sunburn and water core. Karmijn's high acid and high sugar content make it very popular as a gourmet apple. Two red strains of **Elstar** that we have evaluated since 1987 have recently been named. **Elista (Daliest)** and **Elton (Daliter)** both have the lively flavor of **Elstar**. We are keeping **Elista**, which usually has more highly red colored fruit.

McIntosh Types

The **McIntosh** variety is very popular in 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; **Empire** and **Redcort** store better than the other Mac types.

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. **Thome Empire** is eye-catching with its unusual blackish-red color, and exhibits the good **Empire** flavor and keeping quality. Two new Mac types, **Morspur Mac** and **Improved McIntosh**, produced their first fruit in 1999 and await further evaluation

Cider Apples

Trees in a replicated plot of cider apples -selected for hard (fermented) cider production- were harvested for pressing by a group of local cider makers, coordinated by Bruce Dunlop (360-468-4620). The plot established in 1994 contains five trees each of the varieties **Brown Snout**, **Foxwhelp**, **Muscadet de Dieppe**, **Taylor's**, **Vilberie** and **Yarlington Mill**. A planting of variety specimen trees established in 1976-80 was removed this year after some of the best performing varieties were propagated to the nursery in 1998. The young trees were added to the replicated plot in late 1999 and included **Brown's Apple**, **Chisel Jersey**, **Dabinett**, **Harry Masters' Jersey**, **Kingston Black** and **Michelin**.

Late Season

Although the 1999 season was later than 1998, the weather continued good through the end of October, which allowed many of the later varieties to ripen successfully. The yellow apples were particularly good. **Shizuka** ripened slightly earlier than last year, with excellent quality. **Orin**, **SunCrisp** and **Mutsu** all developed good flavor, though fruits of **Orin** were small due to insufficient thinning.

Reliable varieties **Melrose**, **Red Boskoop**, **Empire** and **Sayaka** were all very productive. **Braeburn** produced a good crop of fruit, sized medium and above, with plenty of color and little russet. Young trees of the **Hillwell Braeburn** (red) strain yielded several boxes of very attractive fruit, most of which was 90% colored or better. The storage quality of Braeburn is very good, and fruit of both standard and **Hillwell Braeburn** that had been left in the field were still hanging on the trees in good eating condition in early January. 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. **Beni Shogun**, a new earlier ripening Fuji type, is very promising for both those home orchardists who want to grow **Fuji** and for potential commercial markets. It ripened about two weeks ahead of the standard **Fuji** strains even in this late year, with very attractive color and full flavor, but like standard Fuji it has some russet.

New Evaluations

Chinook (BC 8S-27-51) was productive, and fruits were very firm with good flavor but the size was small, and color quite variable. Recent B.C. introductions **Silken** (ripe late September) and **Creston** (ripe early October) were topworked on mature trees and had their first fruit in 1999. Both had large yellow apples and we look forward to seeing what they will do in the coming season as the trees settle into production.

New varieties that caught our attention in the mid season were two selections from the Delbard Nursery breeding program in France. **Delroval** is a very pretty roundish red apple with a smooth finish and sweet-tart flavor, and **Deljeni** is an attractive yellow apple, often with a blushed cheek, and sweet flavor. Also from Delbard, ripening in mid to late October, were **Delblush**, a yellow apple with attractive coppery pink blush and excellent flavor, and **Chevadel**, a bright red, firm apple with very good sweet-tart flavor.

Greensleeves, an English introduction, is 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.

In the **Colonnade** series, **Emerald Spire** had a full crop of orange-blushed green fruit with a smooth, attractive finish, sweet-tart flavor, and rather tender flesh texture. **Crimson Spire** also fruited heavily in its first season, with attractive round dark red fruit with a lively sweet-tart flavor. The Colonnade apples with their narrow upright growth habit are well suited for small yards and container growing, as is the **Maypole** red-flowering crabapple (see below).

Disease Resistant 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 1999 the same outbreak of black spots on the fruit was seen as in the two previous years, although most varieties were not as severely affected as in 1998. 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, and that an organic spray program may still be needed. This year the test block first begun in 1990 was removed and a new disease resistant plot established. Those varieties and selections that performed well in 1990-99 were moved to the new plot, as well as the young trees planted in 1998-99 that have just begun to be evaluated. Many selections that have not done well were eliminated and only the best were kept.

In the early season **Pristine**, a yellow apple ripening two weeks before Gravenstein, is emerging as one of the best early varieties, with a fine smooth finish and crisp texture. **Williams' Pride**, about a week after Pristine, is flavorful and productive but susceptible to mildew. **Dayton** has crisp, juicy, flavorful fruit, relatively unaffected by fruit blemishes. It has better quality than **Prima** in the same mid September season, and keeps longer. **Liberty** ripens about two weeks later, but fruit is on the small side and needs heavy thinning; it has 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 to good, and it is one of the best keepers among scab immune varieties, with fruit quality similar to **Rome Beauty**. While **GoldRush** has sprightly sweet-tart flavor when ripe and is an excellent keeper, it has serious drawbacks in the Puget Sound region. The fruit is late ripening, may fail to reach good flavor even hanging on the tree well into November, and often has unattractive russet. Only try it in the warmer climate areas.

Three selections from Geneva, ripe in late September, continue to look good.

Discard: BC 8C-28-27, Chehalis, Delbardestivale, Elton (Daliter), Fushai, Gala, Scarlet, NJ 112, NY 652, NY 674, Orin, Senshu, Sunset, Ultragold

Discard: Scab Immune Varieties/Selections: GoldRush, Jonafree, Novamac, Prima, Redfree, Shay, Coop 27, Coop 28, Coop 29, Coop 39, Coop 42, NY 61343-1, NY 61345-2, NY 66325-139, NY 74828-12, NY 74840-1, CMR-4T-18, CQR-10T-17, PAR-14T-238, PWR-31T-131,

PSWR-11T-48

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 are testing 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 (both *Actinidia deliciosa* and *A. arguta* clones), 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.

In 1999 we saw some fruit on the aronia and the sea buckthorn; the latter in particular appears to be very productive even when young. The sea buckthorn fruits are yellow-orange, small (about 3/8"-1/2" in length) and oval-cylindrical; the orange juice is subacid to tart and very similar in flavor to citrus.

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. The varieties are **Christmas Holly**, **Evereste**, **Golden Raindrops**, **Molten Lava**, *Malus x zumi 'calocarpa'*, **Prairifire** and **Sugar Tyme**. 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. 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 about three 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, pinkish-orange fruit that lasts well into the winter. **Morning Sun** also keeps its lemon yellow fruit to January and beyond. Two varieties that continue to be outstanding and highly recommended are **Golden Raindrops** (yellow fruit) and **Evereste** (large red orange fruit). Both are immune to scab. Other varieties noted for winter color this year were **White Angel** (very profuse dark red fruit), **Donald Wyman** (small bright red fruit), **Indian Magic** (orange fruit), **Lancelot** (small yellow fruit, compact growth habit) and **Sugar Tyme** (dark red fruit).

Still needed is a pink flowered crabapple with upright habit and disease resistance. **Maypole**, from the Colonnade series, is very narrowly upright with profuse deep pink flowers and bronze green leaves, but is also somewhat scab susceptible. **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; birds like them so the tree has little color after the leaves are gone but also no messy fruit. In 1999 we acquired some new crabapple introductions that may fill in some landscape niches in the future. They include **Cinderella**, **King Arthur**, and **Pink Princess**.

Some seedlings of local origin may have potential for future development. **Pink Cloud** has pink double flowers, bronze leaves and large, tart red fruit. It also appears to have some resistance to scab. Another seedling cross is a semi-double, white flowered tree with narrowly upright habit which would be suitable for street side ornamental planting, especially as it sets little or no fruit to drop and make a mess. 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.

For a copy of the complete Harvest Report - 1999, including tables of harvest data on all the tree fruit varieties that were evaluated this year, please send \$10 to Fruit Horticulture Department, WSU - Mount Vernon, 16650 State Route 536, Mount Vernon, WA 98273 Checks should be made payable to Washington State University.

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