

## Harvest Report 2001 – Tree Fruit

### Cherry

Conditions for pollination were good in spring 2001 and resulted in a full cherry crop on most varieties. Conditions at harvest were relatively dry, so there was little fruit damage from either cracking or rot. This increased the amount of good fruit that could be sampled and harvested. Cherry plots were covered by a netting framework for protection from bird damage.

#### Gisela Rootstock Plot

The Gisela rootstock trial was begun in 1995-6 and the oldest trees are now in their 7<sup>th</sup> leaf. Rootstocks included are **Gisela 5** (148-2), which is about 50% dwarfed compared with Mazzard, productive and precocious (i.e. trees begin bearing at a young age), **Gisela 6** (148-1), 50-70% dwarfed and also precocious, **Gisela 7** (148-8), which is similar to Gisela 5 in size and appears susceptible to some virus, and a few trees on **Gisela 8** (148-9) with characteristics that are not well known at this time.

**Lapins** on Gisela 5 rootstock has consistently produced good yields of fruit. This year yields were down but fruit size was larger. **Lapins** is potentially a heavy producer so for good fruit size, it needs to be pruned to reduce its yield somewhat. **Sweetheart** on Gisela 7 and **Hudson** on Gisela 6 were less productive than in 2000. **Sweetheart** trees are actually stunted in growth and will be tried on a more vigorous Gisela rootstock for higher productivity. Due to the small size of the trees, most of the fruit on Gisela 5 and 7 could be picked without ladders. **Early Burlat** on Gisela 5 has been productive; it ripens much earlier than the other varieties in this plot. Certain varieties such as **Rainier** have not been productive on Mazzard and similar common rootstocks. However, **Rainier** trees on Gisela 5, 7 and 8 have been quite productive and the amount of fruit drop is noticeably reduced.

#### Sweet cherries (dark flesh)

**Early Burlat** is the earliest ripening variety on trial (approximately 3 weeks ahead of any other variety), and though a bit soft in texture, is productive, sweet and flavorful. **Kristin**, **Hardy Giant** and **Angela** are reliably productive most years, and have proven to be good choices in our climate conditions. **Bing**, the standard for high quality, is susceptible to cracking due to its crisp firm flesh, but when conditions are favorable as this year, trees are very productive on Gisela rootstocks.

**Black Gold** (NY 13791), a large, blackish-red sweet cherry with excellent flavor, has looked promising. It is a Geneva selection named and introduced in 2001. **Hartland**, an attractive dark sweet cherry with somewhat softer flesh, ripens at about the same time, and yields very heavily on Gisela 5. In the late season **Lapins** and **Sweetheart** are both self-fruitful. **Lapins** has been more productive. It has excellent potential both for commercial niche markets and for backyards with space for only one tree. **Sweetheart** ripens about a week later. **Regina**, a dark cherry with firm flesh, is late ripening, after **Sweetheart** but ripening can be variable.

Two selections from New York were in their 3<sup>rd</sup> fruiting year. **RN02-7-304**, ripe with **Viscount**, sets well with very large, firm fruit but also shows more cracking. **RN02-4-242** is late ripening, after **Lapins**, and shows low cracking, but also is less productive, and might do better on a Gisela rootstock. Both will be evaluated in 2002 for provisional discard.

#### Sweet cherries (white flesh)

Several white-fleshed sweet cherries have been tested here over the years. **Rainier** is considered the prime variety for its large size and high quality, and its good cropping record on Gisela 5 rootstock (see above) makes this a promising combination. **White Gold** (NY 13688) is a new introduction from Geneva that has been very productive on Gisela 5. It is sweet and attractive with a bright red blush over 90% of the fruit.

**Emperor Francis** is an old standard of the "Napoleon" type, still setting reliable heavy crops, but is more tannic (astringent) in flavor than the varieties mentioned above. **Bada** and **Sweet Anne** have acceptable fruit but their quality does not compare with **Rainier**, and they are scheduled for discard. **NY 9295** is a very productive selection that ripens late, after **Lapins**, and has large bright red blushed fruit with sweet-tart flavor. **NY 518** is an all-yellow cherry that ripens late, quite productive on Mahaleb rootstock, and looks promising in our conditions.

#### Sour (pie) cherries

Sourcherries generally bloom and fruit later than sweet cherries, are softer and more resistant to cracking, and to diseases like bacterial canker. **Montmorency** is the standard for pie cherries, moderately productive, with tart bright red fruit and clear juice. Young trees of **Surefire**, a new tart pie cherry with red juice, produced a heavy set of fruit in the second year and look very promising. New trees that produced fruit for evaluation this year were **Galaxy**, with red fruit and clear juice, and **Danube**, with very small dark red fruit and red juice.

#### New

Trees from the Summerland, B.C. breeding program fruiting for the first time were **Skeena** (BC 13S-43-48), a dark red sweet cherry ripe just before **Lapins**, and **BC 13N-7-39**, a large sweet Rainier type ripe with **Lapins**. Another white flesh sweet cherry fruiting this year is **NY 7855** from Geneva. We look forward to seeing how they will perform in future years. Varieties added in 2000 that are not yet fruiting include **Almaden Duke**, **Balaton**, **Coe's Transparent**, **Governor Wood**, **Sonata**, **Tehranivee** and **Vandalay**.

### Apricot

The 2001 season was again a poor one for apricots at Mount Vernon. Conditions at bloom time were cold and wet. Even the most reliable apricots such as **Puget Gold** and **Harglow** failed to produce a crop, and most trees had no fruit at all. In the newer varieties, **Deatrich**, **Patterson** and **Westley** produced the most

fruits. We will be looking favorably at those in the coming year. Certain numbered apricot selections from the New York and Harrow, Ontario breeding programs that were planted in 1996 have not produced fruit in 6 seasons. Most of these are scheduled for discard. We continue to look for new apricot varieties that might have better potential.

## Peach

In 2001 the conditions for pollination of peaches were fair to poor. Bloom period was the first two weeks of April, similar to 2000 and later than in 1998 and 1999. Set was variable, but poorer overall than in 2000, with even some of the usually productive varieties falling below previous yields. Again, we are looking for consistent productivity as well as quality, and are removing varieties and selections that have not measured up. New material from various breeding programs is in the nursery and will be transferred to the orchard this year.

In the early season **Harrow Dawn**, ripe in early August, like many early peaches has a tendency to split pits. A new introduction in the **Flamin Fury** series (developed by a private breeding program in Michigan), **PF 5B**, looks promising, productive with excellent color and good flavor. **Saturn**, a flat "peen-tao" type peach with white, very sweet flesh is of high quality but may not be productive enough for commercial orchards.

In early-midseason, mature trees of **Harbelle**, **Harken**, and **Redhaven** provided a moderate amount of fruit for harvest days. **Starfire**, about two weeks after **Redhaven**, was very productive, and fruit was colorful and good quality. It looks like a promising variety for late midseason. **Harrow Fair** also looks good at this time. Late in the season, at the end of August, another **Flaming Fury** series, **PF 17**, seems promising after two seasons and is quite productive. **Harrow Beauty** also sets well on young trees.

Of the Harrow peach selections currently on trial, **HW 272** and **HW 264**, both with yellow flesh, have performed the best. **HW 272** in particular is very productive and the colorful fruit is high quality. A white-fleshed selection, **HW 271**, has excellent flavor but lacks productivity.

## New

Varieties with sample fruit for the first time in 2001 included **Carolina Belle**, a white fleshed variety, and yellow fleshed varieties **Beekman**, **Blazingstar**, **Ernie's Choice**, **Glohaven**, **Jim Dandee**, **Summer Serenade** and a new Harrow selection, **HW 273**. We look forward to seeing their performance in 2002.

## Nectarine

Bloom conditions for the nectarines were the same as for the peaches, and overall fruit set was below normal. The exception was **Hardired**, a yellow fleshed nectarine ripe about 10–15 days after Redhaven, which set heavily and produced a full crop of quality fruit, although there was some cracking. At present it is the only variety that is a reliable producer from year to year.

The white fleshed varieties **Crystal Red** and **Crystal Rose** have not matched their best (1998) and their future is doubtful if yields do not improve.

## New

Harrow selections **HW 111** and **HW 112** fruited for the first time in 2001. Both are yellow fleshed nectarines ripe in the late season. We look forward to seeing their performance in 2002.

## Plum

Poor weather conditions for the early blooming varieties resulted in the failure of most early blooming plums to set a crop in 2001. Usually reliable varieties like **Beauty** and **Methley** had no fruit at all, and **Cocheco** and **Hollywood** had only a few. This was the first year since 1980 that **Methley** trees failed to produce. **Early Laxton** produced half the crop compared to last year. **Obilnaja**, from eastern Europe, had its first significant crop this year, with flavorful fruit of small to medium size.

Later blooming varieties were less affected in terms of overall yield but still below that in 2000. **Imperial Epineuse**, **Valor** and **Seneca** produced crops of high quality fruit, though yields were lower than usual. **Victory**, a recent Canadian introduction, and **Queen Victoria**, a classic English variety ripe in mid season, both produced normal good crops of flavorful fruit.

Numbered selections from Geneva, New York are in process of evaluation. Two of them have been designated as advanced selections that may be named in future. **NY 101 (NY 77.610.1)** is a pink blushed gage type with dense, richly flavored flesh, but several picks are needed for complete harvest. The second advanced selection is **NY 111 (NY 58.911.1)**, a small round damson-type plum that ripens in mid to late September and may be too late to develop best quality here. Two other selections that have done well here are **NY 71.387.1** and **NY 71.385.1**. Both are smaller Italian type plums, firm and sweet, ripe in early September.

## Pear

Bloom and fruit set were abundant on pears in 2001. Opening the season in mid July was a very early variety, **Bella de Guigno**, with attractive mild-flavored fruit good right off the tree. Three weeks later **Ubileen** and **Harrow Delight** followed, both with good quality fruit.

In the pear test plot, mature trees of **Starkrimson**, **Bosc**, **Concorde** and **Conference** again had heavy yields of excellent quality fruit, 400 - 500 pounds per 6-tree plot. Trees of **Comice** in the test plot were less productive than in 2000, but other **Comice** trees were moderately productive. Young trees of the russet sport **Taylor's Gold Comice** produced very attractive, uniform fruit. This variety appears to have good potential for commercial production in cool maritime climates like ours. Fruit from standard **Bosc** and from **Bronze Beauty**, **Golden Russet**, and **Wenatchi Gold** strains all were fully russeted and yields were good.

The trial of disease resistant pear selections from the Appalachian research station of the University of West Virginia is concluding this year. One selection has been named and introduced: **Blake's Pride (USDA 66131-021)** is a medium size pear with good flavor and attractive allover russet. Another that seems to do well in our area is **USDA 71655-014**, a rather small, red-blushed sweet pear resembling Comice in shape. **USDA 78304-057**, ripe in late September, is similar to Bartlett in appearance, with Bartlett's aromatic flavor, and is being considered for introduction. *New:* An unusual pear variety from Europe, **Stutgarter Gieshirtle**, had fruit for evaluation this year. Very small and sweet, they can be eaten right off the tree in late August to early September. Pear selections from New York were also evaluated in 2001. **NY 10346**, **NY 10348** and **NY 10365** are similar in appearance to Bartlett and ripen later than Bartlett in mid September. All of these selections will be evaluated further in 2002.

## Asian Pear (Nashi)

Most varieties of Asian pear set well in 2001. Earliest ripening in late August was yellow skinned **Hamese #1**, and **Ichiban Nashi** (with tan skin) ripened only slightly later. **Shinseiki**, **Chojuro** and **Yongi** all produced well in 2001 and the latter in particular had good flavor. **Kosui** was excellent this year in production, size and quality of fruit. **Mishirasu** fruit is very large, heavily russeted and not especially attractive but good flavor and productivity recommend it for home orchards and specialty markets. **Atago** continues to be a very promising late season variety, productive and flavorful with attractive pale tan skin.

## Apple

In 2001 the fruit set was good in general and hand thinning where needed resulted in acceptable fruit size for most varieties. 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 of most varieties were good and fruit quality was high.

### Standard / Commercial (sweets and tarts)

**Gravenstein**, in both red and common strains, is the classic culinary apple, unsurpassed in taste tests for applesauce. Several red strains of **Gala** are currently on trial. **Regal Gala (Fulford)** remains the overall leader due to its relatively large size and even color. **Ultrared** and **Brookfield** were notable for deep red, even color. **Brookfield** also appears to be about 10 days later than the other Gala strains evaluated. Trees of the **Galaxy** strain have good color, but appear to be smaller and less vigorous.

Strains of **Jonagold** being evaluated for their potential in both commercial and home orchards include **Jonagored**, **Rubinstar**, **DeCoster**, **Jomured**, **King (Jored)**, and **Jonica** as well as young trees of **Crimson Jonagold**. This season was very good for all the strains, with good color developing in time for harvest, and selective color picking for top quality fruit.

The new **Honeycrisp** block produced a heavy crop of large and colorful fruit in 2001. Some of the fruits were large to very large on these young trees, and provided good picking on the October harvest day. **Melrose** and **Red Boskoop** are reliable, late keeping varieties that produced very well this year. **Braeburn** and **Hillwell** (red) strain produced well with little russet. The first pick was in late October, and later picks were delayed into November. Boxes of **Braeburn** were not put in cold storage immediately after harvest, but held in a covered, unheated shelter for 10 to 14 days in an effort to eliminate fruit browning in storage. Young trees of the red sports **Braestar** and **Joburn** produced fruit for the first time.

### Japanese (mostly sweets)

Young trees of **Sansa** produced very flavorful fruit with excellent finish and color; in the early season this is one of the best quality apples. New trees of **Mikki Life** produced first fruits for evaluation this year; we look forward to seeing it in 2002.

Yellow apples worth noting for good flavor and keeping quality are **Shizuka** and **Mutsu**. **Shizuka** is very productive, flavorful, and more attractive than **Mutsu**, which ripens 7-10 days later in most years. **Mutsu** is of excellent quality but may not ripen fully in cooler areas. Young trees of **Mutsu** were not as productive this year as in 1999. **Orin** is best suited to warmer climate conditions where it develops good flavor.

**Beni Shogun**, a **Fuji** type ripe in late September to October, looks very promising for both home orchardists who want to grow **Fuji** and for potential commercial markets. It ripens well ahead of the standard **Fuji** strains, with very attractive color and full flavor, although russeting is sometimes a problem. It also keeps well for a midseason apple. **Jubile Fuji** is another early strain, ripe with **Beni Shogun**, that produced a few fruit in 2001, and we look forward to seeing it next year. Late strains of **Fuji (Standard, Yataka, and Akifu)** did poorly in 2001, and were not harvested until early November. With the equal quality and earlier ripening **Beni Shogun** performing so much better in our conditions, there is no reason to retain the late **Fuji**.

### Sweet

Ripe in the early season, **Sunrise** again proved to be a reliable, heavy producer of good quality fruit. **Aroma** is less productive, although individual fruits tend to be large. Repeated pickings are needed for both of these varieties. Sweet apples are popular in Japan and many Japanese apples such as **Sansa**, **Homei Tsugaru**, **Sayaka**, **Senshu** and **Fuji** (above) would fall into this category. **Gala** and its strains are noted for sweet flavor. Recent B.C. introductions **Silken** and **Creston** also fit this category. Both are yellow apples but **Creston**, ripe about 2 weeks later, often has a bicolor appearance with variable red blush and stripe.

### Cox Types (sweet-tart to tart)

**Alkmene** is a productive tree with medium-small, sweet-tart fruit. **Fiesta** is productive but lacks the spicy flavor of most Cox types, being rather sweet and mild; it also tends to biennial bearing. **Elista (Daliest)**, a red strain of **Elstar** from Europe, retains the lively tart flavor of **Elstar** and adds higher percent red color. **RubINETTE** has very good sweet-tart flavor, but its small size and russeted finish limit its use to home orchards. **Karmijn de Sonnaville** is only moderately productive but its high acid (tartness) and high sugar content make it very popular as a gourmet apple. From the New Jersey breeding program, **SunCrisp** ([Cortland x Cox Orange Pippin] X Golden Delicious) has milder flavor, hangs well on the tree, and stores well.

**Corail (Pinova)** is a new introduction from Germany, ([Cox Orange Pippin x Duchess of Oldenburg] X Golden Delicious). This apple continues to impress us in 2001. Ripe in early to mid October, it is an attractive yellow with reddish pink blush that may go up to 70-80% in sun-exposed fruit. An excellent keeper, it has very firm, crisp, sweet-tart flesh.

### McIntosh Types (mostly sweet-tart)

The **McIntosh** variety is very popular in the eastern States. Mac strains and crosses also adapt well to conditions here. **Jonamac**, **Spartan**, and **Empire** are all good choices. **Thome Empire** is eye-catching with its unusual blackish-red color, however, trees on M9 appear somewhat lacking in vigor. **Royal Empire**, another red sport of **Empire**, is also very attractive, with good red color, smooth finish, and lively flavor. Initial evaluation compares it favorably with **Thome Empire**, and the trees appear more vigorous than **Thome**. **Redcort**, a red sport of Cortland, has a unique tart flavor at first picking and retains its firmness for later pickings. **Empire** and **Redcort** store better than the other Mac types.

**Compact Mac** is a tree of upright-columnar habit with good quality fruit, useful where space is limited. Young trees of **Morspur Mac** and **Improved McIntosh** appear to be earlier ripening than most of our Mac types, and may have a place in the early mid-season. **Royal Court**, a sport of **Cortland**, looked good again this year, with high color and very firm, rather tart flesh. Fruits hang a long time without getting soft.

From the Geneva program, **NY 428** is a selection of McIntosh type, that is productive and stores well, with very good quality. We will report on whether it is likely to be named in future.

### Russet Types

Russet in apples can range from a light netting of tan skin to thick, lumpy and brown. Often russet apples have denser flesh than non-russet types, and many have good storage quality. **Roxbury Russet** is one of the earliest known American apples, dating to 1639. It has good reported disease resistance, sweet-tart flavor, and is moderately productive. **Ashmead's Kernel** is a classic late keeping russet variety of very good quality, with sweet-tart flavor. **Canada Grise** (Reinette Gris du Canada) is a late ripening apple, very tart with dense, hard flesh, primarily for culinary uses. A Geneva selection, **NY 486** has lightly russeted golden skin and complex sweet-tart flavor; it is still being evaluated.

## 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. The plot established in 1994 contains five trees each of the varieties **Brown Snout**, **Foxwhelp**, **Muscadet de Dieppe**, **Taylor's**, **Vilberie** and **Yarlington Mill**. 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**. For anyone who is interested in hard cider making, contact Chuck Holland (P.O. Box 66, Port Gamble, WA 98364 or e-mail at [dahcah@aol.com](mailto:dahcah@aol.com)) of the Northwest Cider Society.

## New

In the **Colonnade** series, **Emerald Spire** had a full crop of orange-blushed green fruit with sweet-tart flavor and rather tender flesh texture. **Crimson Spire** was less productive than in its first season, but the dark red fruit is attractive and flavorful. **Golden Sentinel** is small in size but with good flavor and aromatic, dense flesh. Young trees of **Scarlet Sentinel** and **Northpole** had a few fruit but not enough for evaluation. The **Colonnade** apples with their narrow upright growth habit are well suited for small yards and container growing.

Numbered selections that produced fruit in 2001 included **NYB 298** (early-mid), an attractive bicolor with bright red-orange stripes over yellow, **GRE 11-97** (mid), also bicolor with very good, sprightly flavor and **TWI 300**, a sweet flavored Gala type with excellent allover red color.

## Disease Resistant Cultivars and Selections

In December 1999 a new disease resistant apple plot established, including varieties and selections that performed well in the 1990-99 trial as well as new trees that have just begun to be evaluated. In the 2000 season no fruit evaluation was made, because due to the stress of transplant, in most cases the fruit was untypical and of lower quality. Evaluations were resumed in the 2001 season.

**Pristine** remains the outstanding early variety, attractive yellow, crisp and tart. Flavor is good on **Wynooche** but its tendency to drop and uneven ripening requires careful watching and multiple picks. **Enterprise** is a good choice in the late season, attractive with good flavor and stores well. **Florina** is better adapted to a climate with higher heat levels; when there is not enough sun to develop its natural sweet flavor, fruit is bland and mediocre.

## New

This year **Vanderhoek** produced fruit for evaluation, similar in appearance to Gravenstein, large, rather tart, with red stripe over a yellow background. Among the selections that showed promise, **NY 79529-70** is an attractive dark wine red, crisp and sweet-tart in flavor. **Coop 33** also looked good, bright red, firm and crisp. **CLR 20T-60** is a bicolor with very nice finish that hangs well on the tree, but in its first year the flavor was not outstanding. **HER 4T-16** sized well, with tart lively flavor, but may be too late ripening for this area. **CMR 2T-13** and **Coop 44** did not produce enough fruit for evaluation this year. Young trees that did not produce fruit in 2001 were **Belmac**, **Coop 43**, **QOR 10T-17**, and **NY 81204-42**. We look forward to seeing what they will do in future.

## Unusual Fruit

In 1997 a planting of unusual fruit was initiated, and has been added to in 2000-01. 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 note 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 seedless grape varieties. Some of the uncommon bush fruits include aronia, mulberry, elderberry, honeyberry, sea buckthorn, mountain ash, cornelian cherry, azerole, and sorbus.

This year, with the cooperation of Georgene Lee, WWFRF Treasurer and preserve maker, we harvested fruit from the black, red and white **currants**, and the **aronia**, which Georgene processed into jams, juice and conserves. She also processed blueberries and tart pie cherries from our plots. These samples were made available for taste testing at the fall Harvest Festival (October 13) and rated much appreciation.

Fruit in the **currant** plot was harvested and data collected on the sweetness and other characteristics of the juice. In general, the black currant varieties had the highest sugars, ranging from 13 to 21 brix, and the red and white currants were the easiest for extracting juice. Brix for the red and the white currants was in the range of 11 to 13. A rating of mildew susceptibility was also made of the plants in the replicated plot, with the cultivars **Rovada**, **Minn 69**, **Viking** (red), **Primus**, **Blanka**, **Mason's** (white), **Ben Alder** and **Titania** (black) recording no sign of mildew damage.

Two plants of **aronia** (*A. melanocarpa*) planted in 1998, yielded nearly 27 pounds of clean berries per bush this year. Bushes must be netted to keep birds away but yields otherwise can be very high. There also appears to be potential for blending aronia juice with apple juice, and in hard cider and wine to improve the color, tannin level and sugar of grape wines (aronia has measured up to 24 brix when fully ripe.) Aronia has potential in our area for an alternative fruit crop in commercial production.

**Thesea buckthorn** was very productive; fruits are yellow-orange, small (about 3/8"-1/2" in length) and oval-cylindrical and the juice is yellow-orange, subacid to tart and very similar in flavor to citrus. Effective harvest of fruit from the very spiny branches is the challenge. Young plants of the variety **Leikora** began producing fruit in 2001.

Varieties of cornelian cherry (*Cornus mas*) that were evaluated in 2001 included (in approximate ripening order) **Elegant**, **Redstar**, and **Pioneer**. The plants were moderately productive but fruits ripen over a considerable period so multiple picks are necessary. Seeds are large compared to fruit size, and some evaluators found the flavor strong and unpalatable when eaten fresh. Recommended use is in preserves or jellies.

We have also been managing trial plots of 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. Since that time, several outstanding disease resistant varieties have been identified, making them prominent candidates for the home landscape as well as for parks and public areas (see EB 1809, Crabapples for Western Washington Landscapes.) A rootstock trial initiated in 1997 was concluded this year and the data analysis is in process, leading to a report of the results in early

2002. New trees planted in 1999-2000, evaluated for the first time in 2001, included **'Tea Crab'** (*M. hupehensis* from NCEP), **'Red Jewel'**, **'Cinderella'** (Lake County Nursery), **'Lollipop'**, **'Guinevere'** and **'American Spirit'** (Hilltop Nursery) and **'Pink Princess'** (J. Frank Schmidt Co.).

On first impression the most interesting is **'American Spirit'**, which has large, maroon flower buds, opening to bright magenta red single flowers. The early leaves are bronze-green to olive, and growth habit is rather upright. Little sign of scab infection was found and the fruit is small, dark red and persistent. **'Red Jewel'** is a crabapple favorably reported in trials in other areas, suggested for adding to our test plot. It has white flowers, and attractive bright red berries that hang on well into the winter. Observations so far have rated it with very good disease resistance. **'Tea Crab'**, while not a new introduction, has proven to have fair disease resistance and a most attractive pale pink bloom in spring, with small red-orange fruit in fall. **'Pink Princess'** is very late blooming, with flowers small, maroon, very profuse but rather inconspicuous. Tree habit is spreading and the early leaves bronze-purple, darkening to bronze-green. On initial evaluation its scab resistance appears only fair and its dark, dull leaves are not attractive in the fall season.

Three of the new introductions have a very distinctive dwarf tree habit, that may handicap them in the field where taller trees shade them out but would be ideal for small yards, patios and container culture. **'Guinevere'** bloomed this year with bright pink buds, opening to rose pink flowers. It is a small plant of low, spreading habit with greenish bronze leaves, some attractively lobed. **'Lollipop'** and **'Cinderella'** both looked especially good in the fall evaluation, with clean, small leaves an attractive light green, and a very dwarf, rounded tree habit. The fruit is tiny and pearl-like; **'Cinderella'** is yellow and **'Lollipop'** is red.

Seedlings of local origin may have potential for future development. A seedling cross is in process of patent and introduction by Marvin Jarmin. It 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. Other seedlings include **'Pink Cloud'** (pink double flowers, bronze leaves, red fruit) which has some resistance to apple scab, and a cross of Alkmene X Prima made here at the station in 1990. This is an upright-spreading crabapple, scab immune, with white flowers and large, persistent bright yellow fruit, tart but edible, useful for jelly, pickled fruit, and hard cider blending. Pollination trials in 1998 showed that this seedling will pollinate both Jonagold and Fuji.

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